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PLANT COLLECTING IN YUNNAN.

HOW many of those who wander through English gardens pause to ask where the different flowers come from and what their natural habitats are like?

A Primula, for example, a Phlox with lovely pink flowers, or a Didymocarpus arrests the eye; but can we picture them in their native home? It may be that great naturalist-traveller Fortune introduced this plant from China more than 30 years ago; that, perhaps, was brought back from Bhotan some 70 years since by the late Sir Joseph Hooker.

Of more recent collectors, Dr. Augustine Henry and Messrs. Wilson and Forrest have introduced many a beautiful plant from remote China. The great mountain ranges of the world—the Andes and the Rockies, the Himalayas, the Karakorum, and the vast ranges of Western China—have been put under tribute to make our English gardens what they are to-day.

It is worth going a long way to see an Alpine slope purple with dwarf Primulas or scarlet with Azaleas, to behold a rich meadow full of waving grasses yellow with Meconopsis integrifolia, or to gaze upon groups of the magnificent Lilium giganteum herded together in the forest, each stem 10 feet high and bearing aloft a dozen immense white, trumpet-shaped flowers.

But to see a single plant of the Cambridge-blue Meconopsis, even though its specific rank be as yet undetermined, is worth a lifetime or a king's ransom. Picture the scene as we approach the limit of plants on the great rocky mountain chain which separates the Mekong from the Yang-tze, barely 30 miles distant from it as the crow flies.

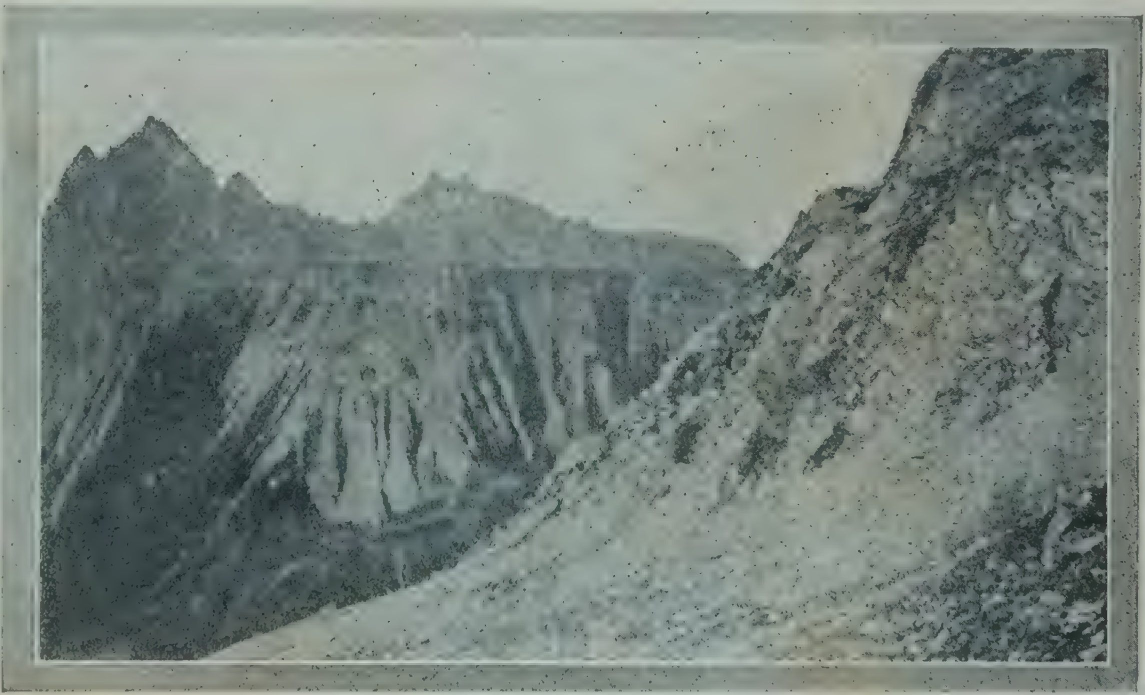


FIG. 1.—THE MEKONG-YANG-TZE WATERSHED, SEEN FROM THE TSA-LEI-LU, AT 15,800 FEET ELEVATION.

The forest has long since died away, the last straggling dwarf trees lie 1,000 feet below us. The shrub belt has also been left, and the scrub Rhododendron has dwindled to dwarf species rising only a few inches from the ground; soon these too die out, and we reach a short turf with tufts of Saxifrage amongst the rocks. Bleak and bare the precipices tower above us, and vast screes, with huge, angular lumps of rock, litter the slopes. A biting wind comes screaming over the pass and chills us through, hot from our long climb; wraiths of cloud form out of nothing, disappear, and re-form around the limestone towers.

We are over 17,000 feet above sea-level, but, save in the deep corries and in the shelter of rocks, there is no snow here from June to September. Grim and forbidding, the great, grey masses of rock lie in confusion everywhere, silent memorials of the glaciers which long ago moulded these hanging valleys to their present form.

And amongst these grey boulders we must look for the Cambridge-blue Poppy. We shall never find it in masses, nor even several plants together, but "remote, unfriendly, alone." Despite its solitary state, we see it from afar.

Well do I remember the first plant I saw—I thought at first that it was a blue stone, yet I climbed over the scree to make sure, for a light blue stone in a grey world is not a thing to pass by at 17,000 feet. Even then I could not believe my good fortune. I thought it was a "sport," handsome, no doubt, but not likely to be repeated. Nor was it a very good specimen, for it had opened early; it was only the end of June, a bitter grey day, with scudding cloud, which obscured the sun and toned down the overwhelming brilliance of the light at these altitudes.

But in July I returned, and there were scores of these wonderful Poppies peeping up from the dark cavities of the scree or sheltering beneath scattered boulders. Each flower was an inch across, of a bright Cambridge blue, with a mass of golden stamens in the centre.

I had to hunt for them, but though they were in hiding, there they were; rarely did the plant exceed 12 inches in height, but 8 or 10 flowers, each borne on a short pedicel, springing up parallel to the main axis, was no uncommon sight.

Then the full joy of collecting in the waste places of the earth burst upon me, and my heart rejoiced.

Can anyone call to mind a flower of a perfect Cambridge-blue which is not "washy"? Probably not, for it is an uncommon colour. Imagine, then, these glowing gems in that cold, grey desert of rock up at the extreme limit of flowering plants, towards the everlasting snows of north-western Yunnan. A field of such Poppies would be a sight for the gods to feast their eyes upon, and for mortals too great a joy.

In autumn, when the wind was ripping to ribbons the blasted vegetation, and the snow was creeping down, I returned to the haunt of the blue Poppy and harvested great quantities of seed, some of which has already germinated at the Edinburgh Botanic Garden.

The plant is not, I believe, new to science, but new to horticulture it certainly is, and, should it survive, it will, we may hope, find its way into many famous English gardens and rank for all time amongst the unsurpassables.

On the more rainy mountain barrier which separates the Mekong from the Salween, we passed through meadows of sulphur-yellow Meconopsis integrifolia—a plant which grows in its thousands, sufficient almost to colour the stream sides; but here we are only 13,000 feet above sea level, and the summer rainfall is enormous. Even more beautiful perhaps are the damp, grassy meadows above the villages in the valley, where, at 12,000 feet, the yellow Primula sikkimensis grows in dense masses, with many other flowers. But enough has been said. Beautiful as are our English gardens, their fascination pales before that of the untamed plants in their savage haunts.
F. Kingdon Ward.

PROBLEMS OF PROPAGATION.*

I believe that all plants may be propagated vegetatively—some easily, some with more or less difficulty; and, therefore, in view of the widely-spread impression to the contrary, I think it is worth while to endeavour to remove the misconception. No more appropriate opportunity could come to me than this occasion, when we commemorate the service to horticulture of Dr. Masters, whose life was devoted to establishing a solid groundwork of scientific truth for the practice of horticulture.

It must be said at the beginning that, for practical gardening purposes, vegetative propagation of many plants is a matter of no moment—it is not worth while. Annual plants, for instance, provide in their copious seed production all that the gardener wishes for. But the knowledge that there is no reason why every desirable plant should not be perpetuated and multiplied by the vegetative process of cuttings—provided that insistent requirements are properly attended to—ought to be an encouragement to all gardeners, and should stimulate further endeavour with difficult subjects of the plant world. "It can't be done," in reference to such propagation, is a phrase that should not cross the lips of a gardener.

In order to demonstrate the soundness of the view which I have expressed and wish to sustain, I must, in the first place, recall the construction of an ordinary flowering plant, so far as it relates specially to this question.

The essential thing to remember in regard to one of these plants is that it is composed of a sheet of protoplasm (living substance) stretched over a skeleton. From root-tips to stem-tips and leaf-points there is this living substance distributed in plant-cells—some in more active state, some in less active state, but each cell of it having to start with and retaining more or less for a time the potentialities of every other cell. The plant is, in fact, a colonial organisation.

In ordinary conversation we speak of a plant as an individual, but it is not an individual in the sense in which one of the higher animals is an individual.

From such an individual no part grows up into a new individual, no part can be removed without mutilation. Its organs are highly specialized, and for its individuality it pays the penalty of being mortal.

From the colonial plant, on the other hand, parts may be removed and others formed to take the place of those removed, and, as you know, a removed part may form an entire new plant again. A new plant may grow up from anywhere. Sucker shoots on roots of Cherry, for example; young plantlets on the margin of leaves of Bryophyllum are familiar objects in gardening. All this is possible because every young, active cell has the capacity of every other cell—and the plant is potentially immortal.

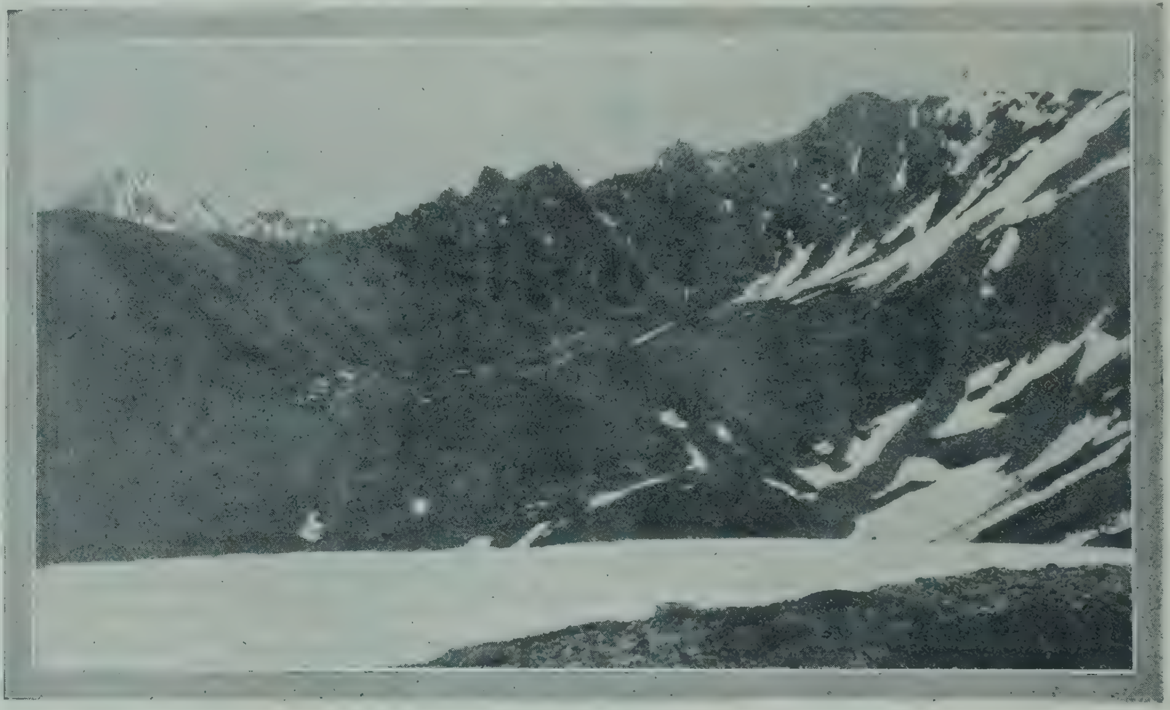
Take the case of an Iris. The plant creeps along in the soil, forming additions to its body, branching, growing onwards, whilst its older parts die off. If accident be excluded, there is no reason why the plant should not live for ever.

Apply to a forest tree the conception thus derived from an Iris. The extension here is into the air; but it is of the same character. There is dying off behind of old parts in the heart of the tree, and in the bark that is shed; but a support remains for the copious canopy of branches and leaves. Of the great age reached by some trees we are all cognisant.

There is, then, in the constitution of the plant everything conducing to perpetuation of a vegetative kind. If we wish to utilise the organisation of the plant for multiplication of individuals, it is from Nature herself that we must learn in the matter of vegetative propagation, and all our practice must be based upon and developed out of the principles that we see in operation in Nature.

Let us take a very simple case—that of the Strawberry, or of Saxifraga Brunoniana. Here long branches are sent out, trailing on the surface of the soil. The bud in the axil of the small leaf on such a branch is nourished by the mother-plant at first. Then the stimulus of moisture at the position of the bud evokes the formation of roots below it, the bud shoots out into a branch, absorbs food from the soil and the air, and becomes an independent plant, ultimately losing connection with the mother-plant through withering and breakage of the linking portion of branch. In this we have a process of normal vegetable propagation in Nature, of which the following are the conditions:—

1. The young bud has an ample food-supply from the mother-plant until it has rooted itself.
2. The roots develop in response to the prolonged stimulus of water and at the expense of food supplied by the mother.



[*Photograph by F. Kingdon Ward.*

Fig. 2.—HOME OF THE MECONOPSIS: NORTH-WEST YUNNAN, 16,000 FEET ELEVATION.

These two factors are primary. They underlie all vegetative propagation. Without food-supply, without water, vegetative propagation is impossible, and the gardener has to secure the presence of both of these if he is to succeed in any propagation.

A like case is often seen in large trees of which some of the branches have reached the ground. They are still attached to the mother-plant, but at the point where they touch the ground the stimulus of moisture induces the development of roots, and the end of the branch above this point becomes an independent tree.

What in the tree is usually self-extension in branching, here becomes self-propagation, and the tree imitates the condition of many herbaceous plants.

In the Strawberry and Saxifraga Brunoniana, the mother-plant does not part with the young offspring until the latter is self-established.

But take the case of Dentaria bulbifera. Here there are the so-called "bulblets." What are they? Merely buds in which some leaves have been developed as fleshy stores of food material, and, being thus supplied, the mother-plant casts them early. In contact with water as a stimulus, they form roots at the expense of their store of food material, and the bud elongates as an incipient shoot. The two factors—food store and water stimulus—are operative here.

That such separable propagative bulblets or tuberous bodies of various kinds are not nearly so common amongst dicotylous as amongst monocotylous plants is a fact of phyletic interest, and it is one, too, of this practical import in gardening—that, without these bulblets, corms, or the like, our gardens would be deprived of the enrichment they derive through the free and rapid propagation of monocotylous plants.

But Nature proceeds in another way at times. Supposing an injury has been done, say, to a branch, by which it is broken off near the base. Nature tries to protect the wound and repair the injury by the familiar process of forming a callus. If the stump of the branch be too long, this is ineffectual, and rotting passes down to the centre of the tree. But if the stump be short, or if we assist Nature by clean cutting the base of the broken branch, as in sound pruning, the callus covers the wound entirely, all trace of it disappears, and from the margin of the healing cushion there may be formed many small shoots—miniatures of the branch that was lost. All know also that if a tree has been felled, say, for coppicing, and the clean-cut stump left, from the callus formed all round the margin of the tree many stool-shoots may be formed, and the tree may, in time, through one or more of these, replace the head that has been removed.

This callus is of supreme importance in relation to propagation. It consists of a quantity of indifferent meristem-cells—cells, that is to say, which are capable of dividing and multiplying, but whose fate has not been definitely determined. Circumstances and relative position will determine that. Callus may arise from any mass of living cells under the stimulus of wounding.

In an ordinary dicotylous stem or root, it may take origin in the pith, in the medullary rays, in the cortex, or in the active wood-cambium, and it forms lobulated projecting masses at the point where it occurs. Perhaps, in most cases, the wood-cambium is the most important seat of its formation.

In a monocotylous stem where callus develops, the cortex is the chief seat of formation, but there is a noteworthy difference from dicotylous plants observable in monocotylous ones. They more rarely form a callus, but are content to heal wounds by a cork covering only.

In a leaf, the callus comes from the living cells of the veins.

In all situations the callus has the same potentialities. It is a wound-protecting tissue to begin with, but its cells may be absorptive, and may also take on the work of restoration of the plant-body by producing organs that have been removed by wounding. It is a sign of the colonial organisation of the plant.

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* Lecture delivered by Professor I. Bayley Balfour, F.R.S., at the meeting of the Royal Horticultural Society, on June 4, being the eighth Masters Memorial Lecture.

In the light of the knowledge of the facts to which I have referred, the gardener has to solve the problem of propagation by cuttings.

Multiplication by layering is simply putting a mother-plant in a position in which its shoots have ample opportunity of rooting at the nodes, and so initiating new plants.

Multiplication by division is merely the following of Nature's own process, as seen in the increase of an Iris by the dying off behind of its older parts and consequent separation of its newer ones.

Propagation by Cuttings.

Multiplication by cuttings means the isolation from their previous food and water supply of parts not specially prepared to lead an independent existence, and the art of the gardener is devoted to calling out the exercise by the severed part of the plant of potentialities in the direction of wound-protection and in organ-restitution. He has to secure that the part used as cutting retains adequate moisture until such time as new water-absorbing organs are formed through the utilisation of such food material as is already in the cutting, or which it may acquire. The water-relation is the primary one. Once the severed part provides itself with the means of getting a continuous water supply, it is in the state known as "struck." Further development is a matter of time, and, although often very slow, is open to hastening by appropriate stimuli.

The enormous variety of constitution exhibited by plants makes the problem one of no ordinary complexity. Some plants—so-called soft-wooded plants—offer no difficulty. Hard-wooded plants frequently do, and the reasons are obvious. The key is in the water-relation. For other reasons, which I shall afterwards refer to, resinous plants and those that are rich in the milky fluid called "latex" may also be difficult subjects for propagation by cuttings.

Of the many factors which the gardener ought to consider in relation to propagation by cuttings, I can only refer to a few, and I shall begin by saying something about the parts of the plant used.

The most common procedure in propagation by cuttings is that by shoot-cuttings, and the operation is familiar to everyone.

Take an ordinary example of a dicotylous plant. A short terminal portion of shoot, with buds, is cut off from a mother-plant, and the cut end is placed in a nidus of moist sand or other material.

Sooner or later, if the cutting is inserted at a right depth so that aeration is adequate, as the result of wound-stimulus callus forms on the basal end of the stem of the cutting in the soil, and mainly from the cambium. Then roots shoot out. These roots may emerge from the callus, but may come from the stem above the callus as well, or may emerge from there alone, and we see in this how the stimulus spreads from the point of application. The cutting is thus established as an independent plant. The portion of shoot actually placed in the soil elongates at the top, forms more branches and leaves, and we get thus simply an extension of growth of a shoot which is now no longer attached to the mother-plant.

There has been much discussion amongst propagators over the question—ought the leaves at the base of the shoot used as a cutting to be removed or not? Some propagators remove them, others prefer to leave them. I know of no definite comparative experiments bearing on the advantage of one practice over the other. The practice of leaving them has these advantages:—

(a) The cutting is saved the healing of the wound caused by the severance;

(b) the lower leaves sunk in the soil may root like the stem;

(c) the lower leaves will aid in the manufacture of food for the cutting.

No doubt, in many cases, retention or removal is a matter of little import; but the choice might be critical in a particular species, and the point ought, therefore, to be in the mind of the gardener.

Certainly of more importance is the place on the stem of the mother-plant of the mother-shoot where the severing cut for the base of the cutting is made. In some species of plants this makes all the difference between immediate, belated, or no success.

Commonly, the incision is made just below a node, and, for most plants, this seems to be satisfactory. There are, however, plants which propagate far more readily if the cutting be made through an internode.

Take Clematis by way of illustration. The common belief is that species of this genus are difficult to strike, and propagation by grafting and other methods is frequently adopted. They are really not difficult to strike from cuttings if the cutting be made through an internode. Internodal cuttings may be struck within a fortnight. It is otherwise if nodal cuttings are used. These callus well—profusely, indeed; but refuse to form roots, either from the callus or from the internode above. And it is this circumstance which has given rise to the widely-spread belief that it is difficult to strike cuttings of Clematis.

Now, it is well known that once callus formation is started at the base of a cutting, it often continues until a large nodular ball is formed. Some plants—particularly hard woods—appear to possess this habit in a remarkable degree, and it is no uncommon experience to read that certain plants will callus freely but will not root, or only after so long a period—a couple of years or more is not an unusual time—that the patience of the propagator is exhausted before rooting occurs. Lonicera Hildebrandtii is a conspicuous example.

If one appreciates the fact that the primary impulse to callus formation is that of the wound-stimulus, one may find a remedy for this partial or complete failure. Where the immediate influence of the stimulus is slow, and the product in formation of callus is slight, betterment can be brought about by repetition. The effect of intermittently repeated wound-stimulus is wonderful in the massive development of callus upon stems in position where no special function beyond that of healing is required. Its effect upon callus in position where there is demand for new absorptive organs imperatively required for the life of a cutting is no less remarkable. The wound-stimulus induces root-formation. By paring off the surface of the callus-tumour, it is possible to stimulate almost immediate root-development. If a first paring is ineffectual, a second or a third will bring about the desired growth.

Thus Proteaceæ, which are regarded as difficult subjects, readily respond to the stimulus of callus paring. The callus itself here forms the roots in the first instance. If one pares the callus of a nodal cutting in Clematis, roots are formed, but always from the internode above the callus.

Why there should be this difference between nodal and internodal cuttings I cannot yet say. But the knowledge that repeated wound-stimulus will neutralise the difference should be an aid to the gardener.

Hard-wooded Cuttings.

In contrast with plants which readily and rapidly form an abundant callus—and that is a characteristic of soft-wooded species, species, that is to say, which are in possession of a copious store of water in their tissues, and, therefore, are supplied with the prime necessity for successful propagation by cuttings—there are the dicotylous plants we speak of as "hard-wooded" plants, which are attuned to live in conditions where water is physically and physiologically scanty, and which, if they have enough to satisfy their requirements, only live by the exercise of the strictest economy of the resources available to them. Leguminosæ, for example, such genera as Hovea, Eutaxia, Kennedya, Dillwynia and Eumacea.

In them, then, there is none of the lavishness observable in the soft-wooded, although the processes are the same. The march of events is relatively slow. Wound-stimulus is not transmitted rapidly. The initiation of callus is late, is often not abundant, and formation of new absorbing roots is delayed. It is these elements that govern the difficulties that are held to exist in the propagation of such plants. The drought attunement of such plants makes special demands for nice adjustment of aeration of the nidus. Their slow development prolongs the period during which these have to be maintained. The double danger of wilting of the cutting from insufficient water and of suffocation from want of air becomes therefore a very real one. These considerations should serve to suggest particular conditions that require attention in propagating such plants, and not the least important of these is the necessity of using as small cuttings as possible. Size of cutting is a matter of relatively less moment in the soft-wooded plants.

(To be continued.)

NURSERY NOTES.

SWEET PEAS AT MARKS TEY.

The county of Essex is, thanks to its soil and climate, world-renowned for excellence of its seeds; and it was on this account that Messrs. Dobbie & Co. established seed grounds of their own in the county. The firm has, at the present time, an area of upwards of 60 acres devoted to the production of seed crops. I am not prepared to say how many kinds of plants are dealt with at these farms, because on the occasion of my visit it took so much time to inspect the 10 acres of Sweet Peas. Let the reader think what it means to have 10 acres of Sweet Peas, all trained on sticks and grown exclusively for seed production!

It was interesting to compare the relative progress made by plants from seeds sown out-of-doors in the autumn, in pots in cold frames in the autumn, and in pots in the spring. The first were cropping splendidly, as also were those of the second group, while the third were only now promising that later they would render a satisfactory account of themselves. In numerous instances seed pods were setting magnificently, and although the plants have not the height of those grown expressly for exhibition, they have that sturdy, thrifty aspect which promises seeds in abundance.

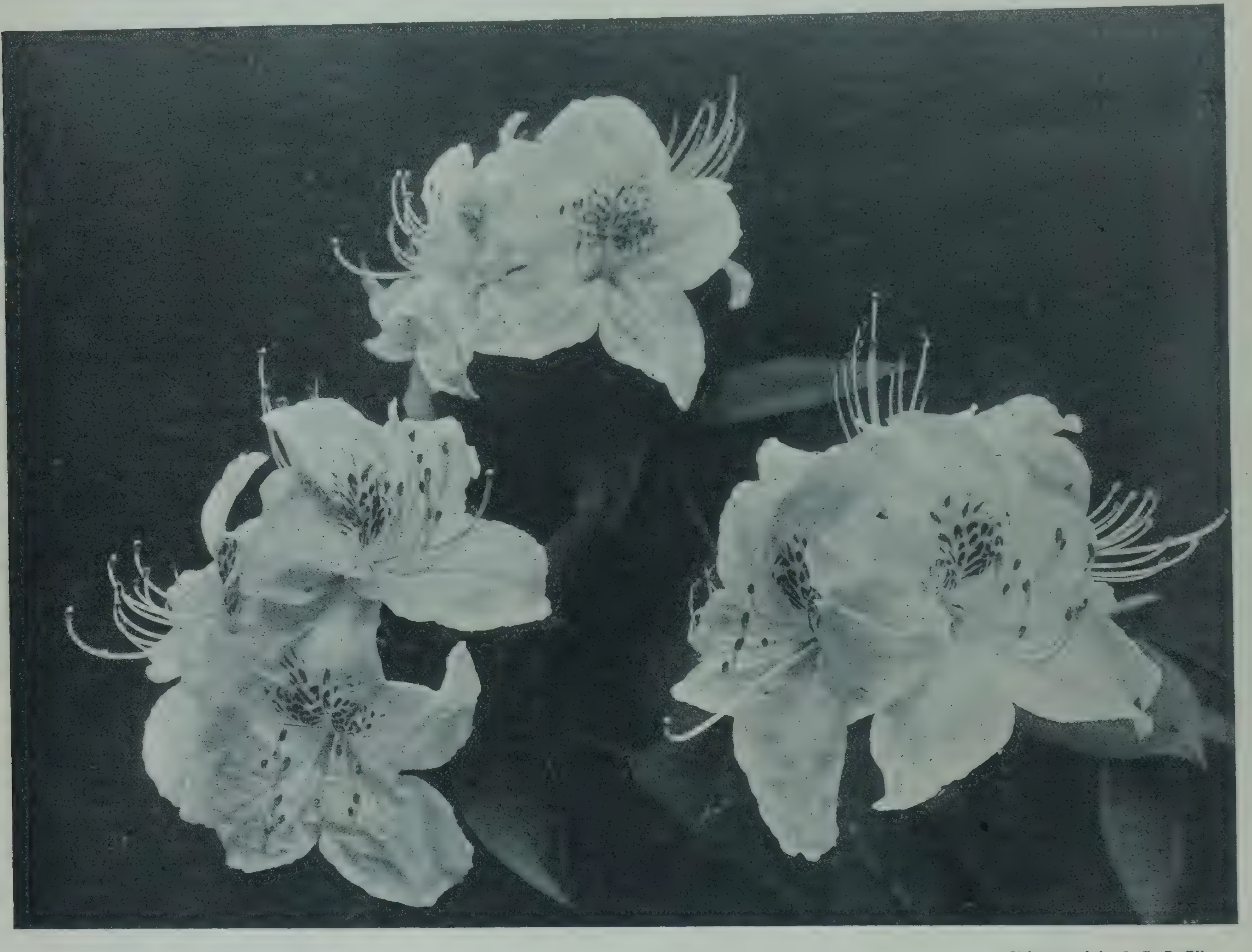
Of the principal favourites, the number of plants runs into thousands, while of seedlings and novelties under trial for the first time there are only half-a-dozen or a dozen specimens. Last season the Floral Committee of the National Sweet Pea Society reserved Messrs. Dobbie & Co.'s stock of Thomas Stevenson for the premier award this year—a Silver Medal—provided that the flower maintained all its qualities. At Marks Tey there are thousands of plants all alike, producing superb blossoms, and, much to the delight of the owners, plenty of seeds. If these glowing orange varieties did not "burn" or deteriorate in bright sunshine, I should certainly say that this was one of the most charming Sweet Peas for garden decoration that one could grow.

Another variety that is grown enormously is Lavender George Herbert, which is indispensable for exhibition, and one of the finest for the garden. A third is Elfrida Pearson, an exquisite blush flower of perfect form and wondrous freedom of flowering. Those who admire bicolours will find themselves in doubt as to whether they ought to grow Mrs. Cuthbertson or Mrs. Andrew Ireland. Let them not worry for long, since the correct way out of the difficulty is to have them both. The plants yield abundant spikes, and the rows remain bright and attractive for a long period.

To cheer up the stand or the garden we must have richness of colour. Here are two varieties which no one can afford to omit—Dobbie's Scarlet and Sunproof Crimson. In their respective colour groups they stand supreme. To lend variety to the collection we must have Brunette, which is at once one of the most distinct and meritorious Sweet Peas that has been shown of late years. The colour is a reddish mahogany. As a cream Dobbie's Cream is refined and beautiful, while Edrom Beauty, Mauve Queen, Lady Miller, Duplex, Mrs. Hugh Dickson, Etta Dyke, Marquis, and Audrey Crier are fully entitled to places in all gardens. *W.*

RHODODENDRON AUGUSTINII AND R. FARGESII.

Rhododendron Augustinii (see fig. 3), named in compliment to Dr. Augustine Henry, is one of the best of the more recently introduced species of Rhododendrons from China. The plant forms a neat, compact evergreen bush, and flowers freely when quite small. The stems are slender, twiggy, free branching, hairy, and, when old, silvery-grey in colour. The leaves are elliptic or lanceolate, 2 to 4 inches long, beautifully tinted or suffused with red when young, and hairy on their upper and lower surfaces. The hairy character of the leaves changes with age, only the hairs along the petiole and midrib being retained in the adult state. The petioles are from $\frac{1}{4}$ to $\frac{1}{2}$ inch long. The inflorescences are rarely more than five-flowered, there being usually three or four blooms in a truss. The flowers are $2\frac{1}{2}$ to 3 inches in diameter, white, pink, or lilac in colour, with yellow or orange-coloured spots on the dorsal petals; the tube is short, limb large, whilst the petals, which number five, are reflexed with wavy margins. There are 10 stamens, each produced on a long, yellow filament, which is hairy on the lower half. The style is 2 inches long and the stigma capitate. The whole plant is strongly aromatic, and the undersides of the leaves and young growths are densely lepidote. The plant is a native of the mountains of Western Hupeh, Central China, and wild specimens grow to a height of from 4 to 10 feet.



[*Photograph by C. P. Raffill.*

Fig. 3.—Rhododendron Augustinii: flowers white to lilac with yellow spots.

Rhododendron Fargesii (see fig. 4).—This species flowered for the first time in this country in March, 1911, in the garden of Mr. J. C. Williams, Caerheys Castle, who exhibited a specimen at a meeting of the R.H.S. The plant is very closely allied to R. Fortunei, and in general effect is so much like some of its forms that when I first saw a specimen I concluded it was a hybrid of which R. Fortunei was one of the parents. The plant however agrees so exactly with specimens in the Kew Herbarium, collected by Mr. E. H. Wilson and others in Central and Western China, as to leave no doubt that it is a distinct species. It is dwarf and compact in habit, the shoots growing 6 to 12 inches in length each season. The flowers appear in March and April. The inflorescences are few flowered, usually with about 8 or 10 blooms in each truss. The flowers are broadly campanulate, 2 inches in diameter, rosy-lilac in colour, and spotted a wine-red colour on the upper petals. The petals are usually 8 in number, occasionally fewer, bilobed, with wavy margins; the tube is about 1 inch long, whilst the limb is spreading. The stamens number from 10 to 16 and are shorter than the tube. The yellow filaments are slender, glabrous. Style scarcely as long as the petals, stigma capitate, ovary glandular, $\frac{1}{3}$ inch long. The calyx is very minute. The pedicels are from 1 to 2 inches long and hairy. The branches, in their upper parts, are red; the stem at the base of the inflorescence is glaucous. The leaves are ovate, 2 to 5 inches long, dark green above, and slightly glaucous beneath; the petiole is 1 to 2 inches long, red and slightly glaucous. There is but very little doubt that the species will prove to be quite as hardy as R. Fortunei, as it is found wild on mountain ranges at altitudes of 7,800 to 9,000 feet. *C. P. Raffill.*

THE ROSARY.

CULTURAL NOTES FOR JULY.

Budding.

The budding of Roses is a very important operation. Certain choice varieties can only be cultivated successfully by increasing the stock annually by this means. Some varieties give flowers of much better quality as "maiden" or one-year-budded specimens, and the budding of these is essential to the exhibitor. Xavier Olibo, Horace Vernet, Louis van Houtte, A. K. Williams, and Duchess of Bedford are examples from the Hybrid Perpetuals; while Lady Mary Fitzwilliam and Mildred Grant are Hybrid Teas of the same nature.

To be successful with budding, it is necessary to have both the bud and stock in good condition, which means that they should be sufficiently matured to cause little or no trouble in removing the bud, or in raising the bark upon the stock. The sap must be active. If the stock and Rose bud are in a suitable condition, the bark of the stock will lift away from the wood without any forcing, which would bruise and otherwise disturb the soft tissues lying between the bark and wood. Special knives, with flattened bone handles, are made for the purpose of lifting the bark; but a thin piece of hard wood or a label will answer the purpose where only a few stocks have to be budded. A cut 2½ inches in length is ample, and the point of the knife must not be inserted too deeply into the wood when cutting previous to gently lifting the bark. It should just penetrate the bark. Many failures are due to rough treatment and cutting too deeply.

Taking the Bud.

This is done by inserting the knife about a third of the way through the shoot containing the eye or bud to be transferred to the stock. Slip the knife down to an inch or so below the bud, tearing off the bud with some of the bark attached. By bending this strip back a little, the bark will part from the small piece of Rose wood still covering the seat of the bud. Remove this portion of wood by a gentle snatch. If the bud is in a suitable condition, the seat or heel of it will then be exposed and will be prominent enough to ensure its resting well down upon the wood beneath the lifted bark of the stock or growth to be operated upon.

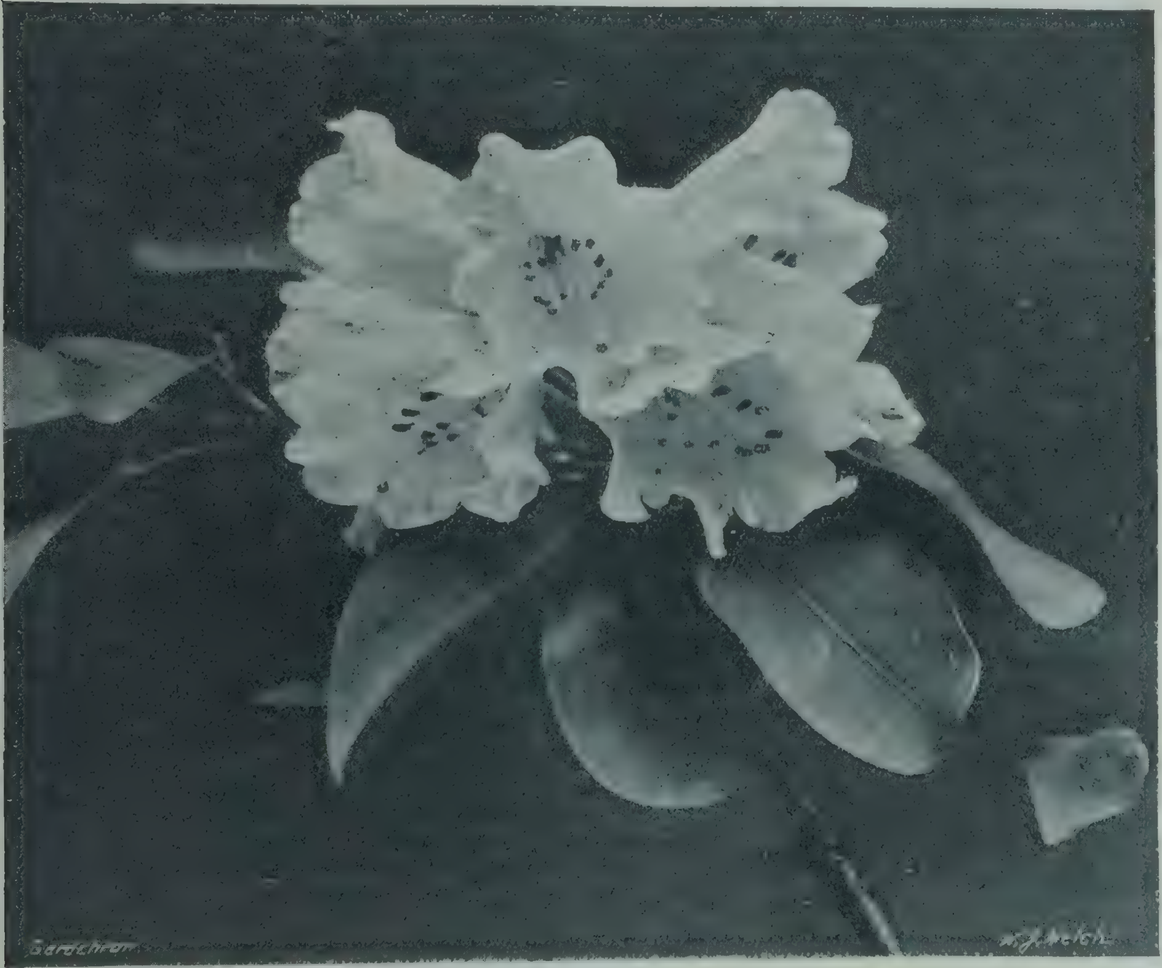


Fig. 4.—Rhododendron Fargesii: flowers rosy-lilac with red spots.

Unless this seat is well developed, it is not much use inserting the bud. Should the growth be either too forward or backward, there will not be a prominent seat, but a slight hollow at the base of the bud, and another should be tried that is either a little more advanced or younger, as the case may be.

Cut off the bark behind the bud, leaving about three-fourths of an inch on that side and 1 inch upon the other. Now gently lift the bark from the stock, and slip the prepared bud beneath it. The cleaner and more expeditiously this operation can be done the better, always avoiding any bruising or forcing in of the bud. Tie the bud in firmly, either with raffia, matting, or strands of coarse worsted. It is essential that the tie should be made from just behind the bud, to ensure the seat or heel fitting well down upon the wood. At the same time, no undue constriction should be employed.

Do not "open" up the bark of any stock or prepare the buds until all is quite ready, otherwise there is risk of the natural sap drying in the air. If the bark does not lift readily, water the plants well, and delay operations for a few days, when you will generally find the stock in a right condition. Do not trim off any superfluous growth immediately before budding, or a check will be caused to the sap.

When cutting a shoot for buds from the Rose tree, remove all leafage at once, with the exception of half an inch or so of the shield above the bud to be used. Always work the Rose bud as closely as possible upon the roots of dwarf stocks and near into the main stems of standards when working buds upon shoulders of the latter. The object of this is to leave the smallest quantity of wood likely to produce stock suckers.

In about three weeks from budding, any failures will become apparent, as such buds will have become brownish-black. In these cases a second bud may be inserted close to the first, or in another shoulder, in the case of standards.

As the growth swells it is advisable to look over the buds and loosen any ties showing constriction, but do not be too free in this respect, or the cut may open too far and prevent a desirable union.

General Work Out-of-Doors.

The usual routine of work in the matter of watering, hoeing, thinning, syringing, and tying needs attention. By the end of July several of the early-blooming varieties may have some of the lately-flowered wood cut away. This is only in the case of climbers and what are generally referred to as "summer bloomers," a rather peculiar name given to those that bloom only once during the season, or seldom produce more than a few extra blooms upon early summer-matured growths.

In most cases these Roses depend chiefly upon wood made this summer for their main crop next year, and this young growth should be encouraged, removing only such shoots as will not be required.

Occasional dressings of artificial manures may still be given, either watering and hoeing as soon as convenient after application, or choosing a showery time for applying them. It is while the Roses are in active growth that they need stimulants, and they obtain results when these can be continued in small doses that do not burn the roots. Should the nights be dry, a thorough syringing with clear water at sunset is very refreshing to the dry foliage.

Roses Under Glass.

Most of the pot Roses will be the better if conveyed to the open air, selecting a sheltered spot, and half plunging the pots. Syringe them frequently.

Plants in borders need all the air possible; even a draught will do little harm where the foliage is matured. A rather dry root-medium and free overhead syringings are necessary. The absence of night dews under glass is not borne in mind sufficiently, with the result that there is often an arid atmosphere, which encourages red spider, thrips, and many other insect pests.

Strong and still actively-growing plants of Maréchal Niel and other climbing varieties in pots will be better if not turned out until their points of growth are more completed; but they must be kept thoroughly clean, and with ample ventilation. The long growths upon Ramblers, whether in pyramid or standard form, also need the same care for a little time longer before removing them out of doors next month. *Practice.*

NOTICES OF BOOKS.

Story of a Rock Garden.*

Mr. Malby has written a very interesting little book about his rock garden, and it may at once be commended to those who have been bitten with the love of the Alpines. He gives admirable instructions for building the rockwork, and his success with difficult plants entitles him to hold views respecting the moraine which are not necessarily those which obtain in all quarters. Anyhow, it may well be that the special arrangements he adopts for watering may suit his climate, and the photographs he gives of at least some of his plants are sure to arouse feelings of envy. Indeed, the illustrations are a strong feature of the book, and this applies to the black-and-white as well as to the coloured plates. An excellent description of a most useful kind of frame is given, and this will prove valuable to many who have experienced the trouble often involved in keeping, or germinating, the seeds of Alpine plants. It will be seen that the author has deserved well of those who are embarking on this fascinating branch of gardening, and who want to profit by the experience of one whose efforts have been crowned with no small measure of success.

Fruit-growing in British Columbia.†

Emigrants to British Columbia who intend to engage in fruit-growing would do well to obtain a copy of Mr. Bealby's book, which is full of useful advice to persons who are strangers to that country. The author insists upon the need of personal inspection before purchasing land, stating that many people have written to him to the effect that they have purchased some which they have not seen, relying foolishly upon the description of the sellers. The land varies greatly in character, some soils being admirably suitable to fruit, and some quite unsuitable, while the like differences in situation have to be considered. Advice is given in reference to soil, situation, and aspect; but the author thinks that a stranger to British Columbia and its system of fruit-growing would do well to engage the services of an experienced grower in the country, whose advice would be valuable both in the selection of land and in the use to be made of it. Such expert advice, he says, can be secured at a moderate cost. With respect to the capital required to start a fruit ranch, Mr. Bealby estimates that, putting the cost of the land at £20 per acre, and that of clearing it at the same sum, allowing for the building of a house, all expenses in equipment, cultivation, and planting, and reckoning the proceeds of crops grown between the trees until the latter come into profit, a man who will do all the work himself will be able to get through with £700 for 10 acres, but may require £1,200 if he has a family and engages assistance in his operations.

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* *The Story of My Rock Garden*, by R. A. Malby. (London: Headley Brothers.) 2s. 6d. net.

† *How to Make an Orchard in British Columbia*, by J. T Bealby, B.A. (London: Adam and Charles Black.)

Oxford Gardens.*

This book contains an interesting mass of information on the botanic garden in Oxford. The style is often "guide-booky," and the attempts to enliven it with rather poor jokes are not always very successful. Still, it is useful at the present time, and it will be even more so in the future, to have an accurate account of the oldest botanic garden in this country, as it exists to-day, placed on permanent record. There is much miscellaneous information scattered through the pages, and evidence in plenty of scholarly erudition.

A chapter on the lecture-rooms and laboratories, which also includes an account of the development of the botanical teaching connected with the gardens, is of interest, and a list (not quite accurate) is given of papers published from the laboratory. A curious chapter on finance finds its place here, and the ingenuousness with which the author ventures upon criticism of the garden accounts seems almost to justify Cecil Rhodes's estimate of the financial understanding of the Fellows of colleges. The volume closes with notes on the gardens of the colleges, in which, as might be expected, Magdalen figures rather largely. It is a pity, perhaps, that the fine collection of rock plants in St. John's College gardens is dismissed with a bare mention.

A book of this kind is not easy to write, and, in spite of certain obvious peculiarities of style, Mr. Gunther may be congratulated on the success of his "labour of love."

Botanical Terms.†

Many beside gardeners will find this a useful book. If anything, perhaps it errs in fulness, for it contains many outlandish names and terms not in general use. This is no real disadvantage, so long as the words one wants are there, and, so far as we have tested the volume, it does not often fail in this respect. The explanations are short and to the point, the type is clear and good, and the book may be recommended as supplying a definite need which many feel, and of doing away with what, to some people, is a bugbear in things horticultural, viz., the difficulties incident to a technical nomenclature.

TREES AND SHRUBS.

DIPTERONIA SINENSIS, OLIVER.

Dipteronia sinensis forms a bush or small tree; it is a native of Central China, where it grows at elevations ranging to 5,000 feet. Specimens have been grown for some few years past at Coombe Wood and Kew, and they are quite hardy. The genus Dipteronia belongs to the Natural Order Sapindaceæ, being closely allied to the Acers (Maples). Considerable interest attaches to the tree botanically, as it is a monotypic genus, and, presumably, unisexual, there being only staminate flowers on the specimen at Kew, which is flowering for the first time.

Dipteronia sinensis has deciduous pinnate leaves, the largest exceeding 1 foot in length, and 5 inches to 6 inches in width. Mature leaves are generally composed of 11 or 13 leaflets; they are opposite, 3½ inches long and ¾ inch wide, ovate-lanceolate in shape, coarsely serrate, green on both surfaces, slightly paler beneath, downy on both sides, with small tufts of down in the axils of the main veins. The rachis also is downy, and of a pleasing reddish tint. The flowers are greenish-white, and borne in a terminal panicle 9 inches in length. Mr. Wilson describes the tree as "having a marked beauty of flower and leaf, as well as very interesting fruits."

The specimen at Kew is about 8 feet high, and attractive in its elegant, pinnate foliage. The flowers at present hardly fulfil the collector's description, though they will probably be finer on older specimens, or it may be that the pistillate flowers are the more ornamental.

D. sinensis thrives in loamy soil, and is readily propagated from cuttings of half-mature growths, inserted during July and August in a propagating frame, provided with a little bottom heat. The plant may also be readily increased by layering. *A. O.*

THE JUDAS TREE.

Effects of the glorious sunshine of the summer of 1911 are apparent in the profusion of blossom displayed by almost every flowering shrub and tree. Upon none has it exerted a more powerful influence than upon the Judas Tree (Cercis Siliquastrum), a native of the Mediterranean region. Neither in Southern Europe nor in this country have I ever seen so fine a specimen as that shown in fig. 5, which gives but a poor impression of the mass of vieux rose blossom, without a green leaf visible. This tree is in the grounds of Twyford Lodge, the residence of Mr. Alfred Gilbey, near Winchester. It measures 35 feet high, and is probably about 100 years old.

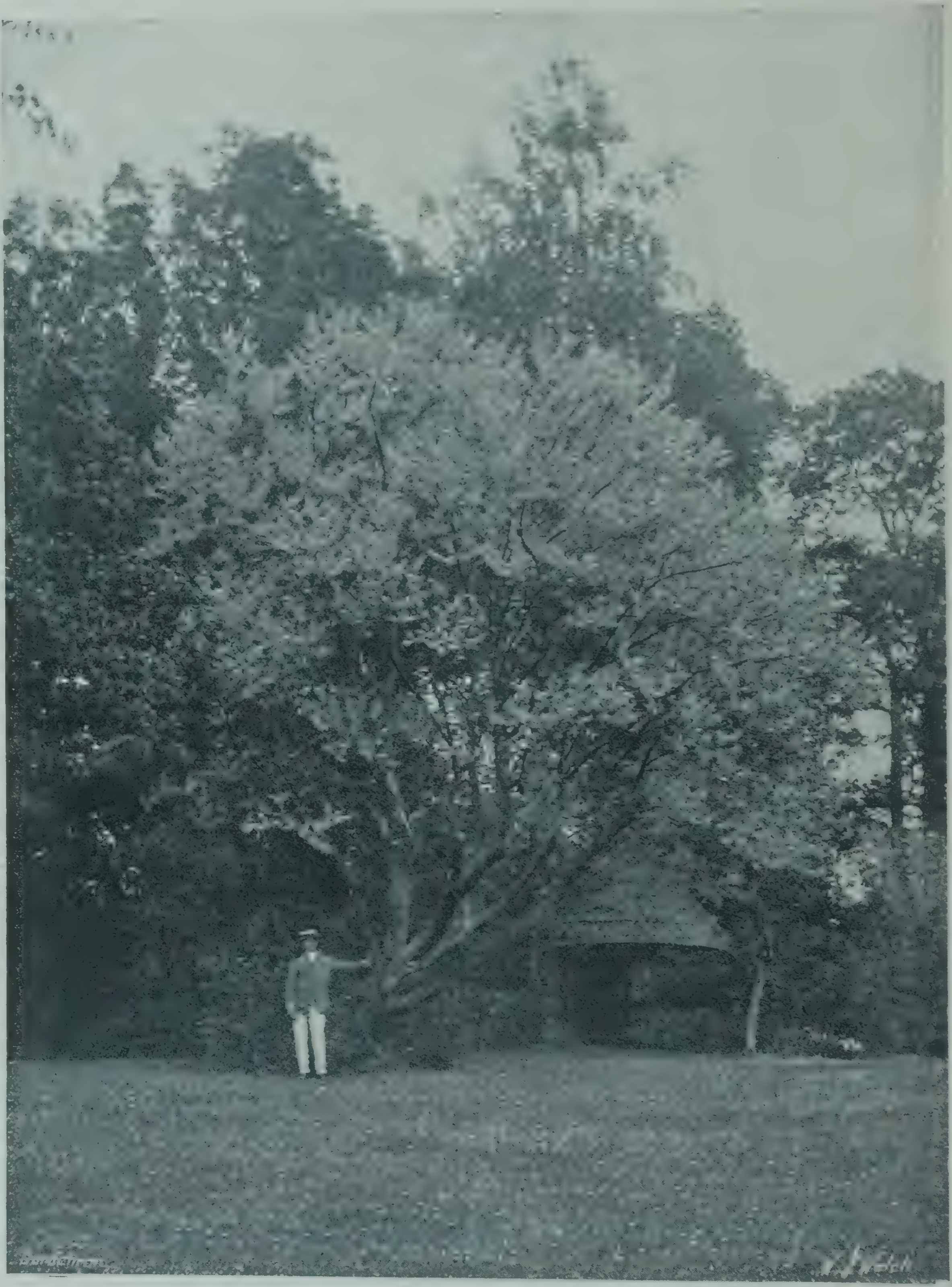

Fig. 5.—Cercis Siliquastrum at Twyford Lodge, near Winchester: height 35 feet.

The Judas Tree (so called because, according to tradition, it was upon one of this species that the recreant Apostle hanged himself) belongs to the great Order of Papilionaceæ or Pea-flowered plants. Though hardy in all but the coldest districts, it does not often get enough sunshine in the greater part of these islands to enable it to flower so freely as it has done this season. *Herbert Maxwell, Monreith.*

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* *Oxford Gardens*, based upon Daubeny's popular *Guide to the Physick Garden of Oxford*, with notes on the gardens of the colleges, and on the University Park, by R. T. Gunther, M.A. (Oxford: Parker & Son. London: Simpkin, Marshall & Co.) 1912. Price 6s.

† *A Popular Dictionary of Botanical Names and Terms, with their English Equivalents.* By G. F. Zimmer. (London: G. Routledge & Sons, Ltd. New York: Dutton & Co.) 2s. 6d. net.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Horticultural Education.—Circumstances prevented me attending the late conference on horticultural education at the International Exhibition, much to my regret, because, on reading the report on pp. 398-399, vol. li., it appears to me that the needs of private gardeners were scarcely touched upon. Since the conference, various references to horticultural education have appeared in your pages and in the columns of *The Times*, and the subject has been mentioned more than once in the House of Commons; but, as your excellent leader (p. 420) says, there is a painful impression among horticulturists. The young men we are training in private gardens, nurseries, public parks and market gardens will at some future date have the whole of the nation's horticulture in their hands; it stands to reason, therefore, that, if horticulture is to be improved, it is the young men in training who need most attention. I admit that a gardener's education begins at school, as was emphasised by some of the speakers at the conference. I would go farther and say that no lad should be trained as a professional gardener unless he has been through a secondary school or had shown extra proficiency in his primary work, because he will not be able to grasp scientific teaching unless he can read, write and calculate easily and intelligently. Many lads leave the primary schools now with a very meagre education, and, what is perhaps worse, they have no inclination to add to the little knowledge they have obtained; many of the schools in rural districts and in some of the towns have small plots of land for the elder boys to cultivate; this helps to teach them some of the rudiments of gardening, which are, no doubt, useful, but this is just the point where the young horticulturist's education fails. As at present arranged, he goes to work in a garden as garden boy on leaving school, being probably 14 years of age; from this time forward it is no person's business to teach him anything about his work. If he is quick and intelligent he may possibly pick up some information for himself; whether he does so or not, he has to earn a living in some way, and when a vacancy occurs he is promoted until he gets a journeyman's position. He has no knowledge of the science of his profession, and in most instances does not endeavour to obtain any, partly owing to lack of opportunity. The best years of the young man's life are wasted, so far as obtaining a thorough knowledge of his profession is concerned, but he must stick to his occupation, because there are very few opportunities of changing it. If he cannot obtain further promotion as a private gardener he drifts into some other branch of horticulture, such as nursery work, commercial fruit and vegetable growing, employment in public parks, &c., being but poorly equipped for any such work. The remedy is for the Board of Agriculture to provide centres at convenient distances where the young men may study the scientific side of their profession under suitable teachers and without giving up the practical work they are engaged in; this could to a large extent be carried on side by side with teaching agriculture: both require many things in common, including a knowledge of soils, their formation and treatment; plants, their structure and conditions of growth; insects and fungi injurious or beneficial to plant-life; and many other things. If the Board will proceed on a system such as this, horticulture will benefit greatly; if it only intends to set up an office and a few clerks in London, we shall be much better without its assistance. To get the practical part of the gardener's education on a regular plan we must have the suitable young men apprenticed for a time; there is no place like a good private garden for learning gardening; many other plans have been tried, but none has succeeded so well. A list of suitable gardens could be arranged where the employers were willing for their gardeners to take one or two apprentices; this would be to their advantage, because they would get a better class of men eventually; it should also be to the gardener's advantage. There is no reason why he should have lads learning the profession under his superintendence without being compensated for it; the lads should have opportunities by arrangement for attending the centres at intervals for scientific instruction, which they would have to follow up in their spare time by preparing for examinations, both practical and theoretical. By this means every young professional gardener, whether employed in nurseries, public parks or private gardens, would be able to obtain a good scientific education in his profession, and should be compelled to pass a certain standard after a period of training. I must refrain from going further into details; these remarks are only intended to suggest a framework for building upon. The experiences during a fairly long life spent in some of the best gardens of the kingdom convince me that we must work on such a plan in order to educate young gardeners as they deserve to be educated, and this not only for their own good, but for the good of the nation, whose very existence may almost be said to depend on the intelligent and economical cultivation of the land. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

The Education of the Gardener.—I heartily support your correspondent (see p. 430) in reference to horticultural education. But it is not so much education that the rank and file of gardeners require, but "better conditions." The gardener already spends many years' study both in the theoretical and practical side of his profession. His remuneration is far below that of the average mechanic, who after five years' or so apprenticeship demands a fair wage and gets it. The British Gardeners' Association launched the "lifeboat" in the year 1904, the aim and object being the emancipation of the gardener, but success is not yet obtained. Mr. Weather suggests a National Institute of Gardeners. May I suggest a National Union of Gardeners, with a policy not like that of a mutual improvement society, but of educating the gardener to the advantages of being organized? *Charles H. Harris, The Gardens, Branksome Hall, Durham.*

London's Vacant Land as Gardens.—The latest of the Church Army's eight "city gardens," which is parcelled out into ten plots, is bursting with promise under the care of its smallholders in Arnside Street, Walworth. These green and fruitful oases beside the streets of London, which turn vacant bits of building land into vegetable and flower beds, are doubly productive of help. Their preparatory clearing and levelling gives winter work to respectable unemployed married men, and their cultivation affords healthy spare time occupation, the means of earning a few extra shillings, and fresh vegetables for family use, to married working men who are in regular work. At present the Society's London smallholdings number 84. If any London householder has a back garden to spare for such a purpose, we should gratefully accept the loan. *H. T. Bennett, Hon. Secretary City Gardens Department, Church Army Headquarters, 55, Bryanston Street, London, W.*

The late William Fyfe (see p. 434).—The late Mr. Fyfe was loved by all those who have worked under his supervision. Considerate and just, he was always anxious for his young men to succeed. As a gardener he had few equals, for he possessed many original ideas, and he carried them out with skill. He was particularly fond of fruit-culture, and it will be remembered that his last public exhibit consisted of 12 grand bunches of Grapes staged at the Royal International Show, perhaps the best-finished Grapes at that exhibition. In former years he frequently exhibited at the Temple Shows of the Royal Horticultural Society. The out-door flower gardening at Lockinge was of the highest order; indeed, every department testified to the sterling qualities possessed by our late friend. Mr. Fyfe's career began in northern gardens, but he came south about 38 years ago to fill the general foreman's place at Lockinge, a post he held for four and a half years. Leaving Lockinge, he proceeded to Thames Ditton, as head gardener, where he remained for six years. He was then appointed by the late Lord Wantage to the charge of Overstone Park Gardens, Northamptonshire, where he remained for six years, finally being appointed to Lockinge Gardens, a post he has filled successfully and faithfully for 20 years. The funeral service took place in the pretty little church in the Lockinge pleasure grounds, close to the brilliant flower beds Mr. Fyfe had recently furnished with plants, and the interment was made in the cemetery a quarter of a mile distant. Lady Wantage journeyed from London to attend the last ceremonies, and many friends gathered from near and far to do honour to the memory of this respected gardener. *George Ellwood (one of deceased's old pupils).*

Curious Nesting-places (see pp. 415, 431).—The tomtit referred to in my note was, as Mr. Nicholson surmises, a great tit. The exact diameter of the pot inside was 12 inches at the bottom, $8\frac{1}{4}$ inches at the top, and the hole was exactly $1\frac{1}{4}$ inch across. During the week a friend gave me the information, previously unknown to me, that young tits can fly direct from the nest, a fact which Mr. Nicholson corroborates. *F. A. Edwards, Grayswood Place Gardens, Haslemere.*

Early Pea.—Carter's Eight Weeks Pea has proved our earliest variety again this season. The crop has done particularly well and the plants have been extraordinarily prolific. As a forcing Pea and for planting early on a warm border it has no equal with us. We began picking pods at the end of May from seed sown outdoors. Peas generally are doing very well this season, being early and of excellent quality. *W. A. Cook, Leonardslee Gardens, Sussex.*

Longevity of Fern Spores.—For a year or two excavations have been going on at Old Sarum, a Roman fortified encampment on an isolated hill, a mile-and-a-half from Salisbury. In 1911, the old well was found and cleared to a depth of about 35 feet. To obtain water, it would probably be necessary to go down about 200 feet. This year a great number of tiny Ferns have begun to grow all over the old stone facing down the well, and as no Ferns are growing within miles of the place, there is some mystery as to how the spores originated. If, as some think, they were borne on the winds from distant places, why have they not germinated on the sides of the three guard pits which are 30 to 40 feet deep, and structurally and atmospherically almost identical with the well? We are inclined to think the spores are those of the old Ferns which existed in the well before it was filled in, and which for four hundred years have lain dormant while light and air were excluded, the top of the well being some 10 feet below the surface during that time, and that when again they were exposed, have germinated as we see them in large numbers. Perhaps some of your readers may know of similar cases; if so they are certainly worth recording. As far as we can tell at present the variety seems to be the common Lady Fern, Asplenium Filix-fœmina. *Keynes, Williams & Co., Salisbury.*

Classification of Gardeners and Other Asylum Employees.—A question has arisen between the Ayr District Lunacy Board and the General Board of Commissioners in Lunacy for Scotland as to the classification of employees in the lunatic asylum of the Board. Among these was an under-gardener, named John Kaye, and the point was which body had the right to classify the employees under the Superannuation Act of 1909. This has just engaged the attention of the Outer House of the Court of Session. Lord Cullen's decision, given on June 29, was in favour of the contention that the classification had to be made with the approval of the General Board. It appears that the District Board had placed the under-gardener and others in the first class, but the General Board had held that they should be in the second. *A.*

Mr. J. O. Clarke, for the last 27 years gardener to the late Ludwig Mond, Esq., and lately to Mrs. Mond, at The Poplars, Regent's Park, has resigned that position in order to join Mr. Abram Vallance in the nursery business of Bird & Vallance, of Downham Market, as copartner. The firm will consist of Mr. Abram Vallance and Mr. John Osborne Clarke. Mr. Clarke leaves with substantial souvenirs, and carries with him the best wishes of all with whom he had to do at The Poplars. A notice of the American Nurseries, Downham Market, was given in the *Gardeners' Chronicle*, June 20, 1903.

The Week's Work.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

The Rose Garden.—The Rose garden is now at its best, and extra attention should be given to it, attending to details, such as trimming of the edgings and keeping the beds and paths clear of weeds and rubbish. Guard against aphides and mildew attacking the plants, and adopt remedial measures early if these pests are detected. Climbing Roses are sending up a lot of growths from the base : as a rule, these are too numerous, and the weaker ones should be removed entirely, securing those that remain that they may not become broken by the wind. When the flowers are over, the old shoots should be cut away, and the young growths trained in their places.

The Scented Garden.—An old-world fashion is now being revived in many places, namely, the planting of a corner of the garden with scented plants of all descriptions. Amongst shrubs that may be included are Sweet Briar, Honeysuckle, Roses, Lavender, Rosemary, Artemisia (Southernwood), Calycanthus occidentalis (Allspice), Lilac, Philadelphus, Myrtle, Daphne, Magnolias, and Lippia citriodora (Lemon-scented Verbena). Many perennials and biennials may be introduced, such as Mentha odorata (Bergamot), scented-leaved Pelargoniums, Heliotrope, Pinks, Carnations, Lily-of-the-Valley, Violets, Mimulus (Musk), Dianthus barbatus (Sweet William), and Wallflowers. The annuals also provide many deliciously-scented plants, which may be utilised to furnish blank spaces between the other subjects. Stocks should be used in plenty, also Mignonette, Centaurea, Sweet Sultan, Sweet Peas, and Scabious. Certain of the herbs are worth including, such as Thyme, Origanum marjoranum, (Marjoram), and Ocymum basilicum (Basil). The form of the garden may be laid out to suit the owner's taste. It should, if possible, be in some quiet, out-of-the-way corner. The paths may be grassed or formed of irregular flagstones, with such plants as Thyme growing between them. Shell paths, with an edging of Box, are also suitable. In either case, the scented garden should be made to be in complete harmony with its surroundings.

Violets.—The rains have caused Violets to grow fast. The flat hoe should be used constantly in dry weather to promote a fine tilth. Stirring the soil will save much labour in watering : the hose should only be employed as a last resource to prevent the plants from suffering from drought. If Violets are allowed to become very dry, they quickly become infested with red spider, which is by far the worst pest of this woodland plant. During hot, dry weather much benefit will be derived from light syringings or sprayings in the late afternoons, and if the foliage is dusted with soot at intervals, whilst the leaves are damp, it will be of great assistance in keeping red spider in check. Pinch off the runners as they appear, so as to direct all the energies of the plant to the formation of strong crowns, which, when well ripened, will produce quantities of bloom from October onwards, having first transferred the plants carefully to frames in September.

Thinning Annuals.—Owing to the drought of April and May, many annuals were not sown until late in the season : those that were sown early germinated irregularly. If not already done, the plants should be thinned well apart : as a rule, annuals are sown much too thickly. If blank spaces are numerous, choose a dull, showery day, and transplant some of the stronger seedlings. If this is done carefully, and the plants afforded a little attention afterwards, very little difference will be seen in those transplanted and the others. Annuals, such as Clarkia and Godetia, are seen to best advantage when grown in bold clumps or beds. Under good cultivation, they produce a charming colour effect for several weeks, and for brilliant colours and general beauty they are not easily surpassed.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Leeks.—Plants of the earliest sowings which are intended for exhibition or consumption from the middle of August and onward should by this date possess a sufficient length of blanched stem. Every inducement should be afforded them to grow freely and thicken their stems. The roots should be fed liberally at every alternate watering with liquid manure from the farmyard. The top growth should be damped over with tepid water during the late afternoons or early evenings of fine days. Plants of successional sowings should have suitable collars, placed around the stems to cause them to lengthen, and, as the work proceeds, fine soil of a poor nature should be placed round the part treated. Avoid placing more soil than is absolutely necessary over the roots, as this has a detrimental effect on the growth of the plants, causing the roots to be far away from the influence of sun-warmth. By far the best method is to make a kind of wooden trough about 10 inches in width, so that the soil around the stems may be confined therein, thus allowing the roots to be fed easily and receive the warmth of the sun. Plants of the latest sowings should, where the work is not already done, be planted forthwith in almost any part of the garden for very late supplies. They are best planted in deep holes made with an iron bar. The foliage should be shortened, and a little fine soil placed about the roots. Water the roots thoroughly well, and gradually fill in with soil round the stem as growth develops.

Onions.—During the next few weeks Onions that were raised in heat and planted out for the production of large specimens will need much care and attention. Keep the surface of the soil hoed and free from weeds, affording an abundance of water and liquid manure to the roots. Onions growing in light, porous soil or during spells of drought can hardly be given too much moisture either at the roots or overhead. Artificial manure and soot may be used, but strictly avoid giving stimulants to excess, remembering that fertilisers are best applied during showery weather.

Winter Onions.—For some reason or another that I do not understand, Onions in many gardens fared very badly last winter, and the crops generally are much below the average. Though the bulbs do not keep satisfactorily, they are, nevertheless, extremely useful, and should always be grown. White Naples and others of its type are amongst the earliest to mature, and should be lifted and dried carefully without delay. Those of the giant Rocca type may be left till the middle of the month, when they should be treated in a similar manner. The bulbs of this variety keep much better than the White Naples.

Shallots.—These bulbs have done remarkably well this season, and the whole of the crop should be lifted immediately and afterwards spread out thinly in full sunshine, to ripen. Should the weather at the time be wet and unsettled, the ripening may be done under glass for preference or in a cold frame.

Spinach.—Several good sowings of the improved form of Spinach should be made at intervals of ten days for the next two or three months, to afford a plentiful supply of leaves during the autumn and winter. It is quite impossible to lay down any hard-and-fast rule as to the date most suitable for sowing, as much depends upon the nature of the soil, the locality, and the weather. It will be perfectly safe if frequent sowings are made from now onwards, the earliest in open parts of the garden in soil which has been heavily manured and deeply worked. Later in the season the sowings should be made on a south border or some other warm, sheltered position. I prefer the round-seeded to the prickly kinds for these sowings.

Parsley.—The plants should be thinned to a distance of from 6 to 10 inches apart. The surplus plants may, if required, be transplanted in a sheltered part of the garden. Stir the surface of the soil frequently, and apply fresh soot often. Make another good sowing of this herb on a south border.

The Herb Border.—Keep this border perfectly free from weeds, and where space permits work the Dutch hoe between the plants. Any subjects that have passed flowering, and are inclined to become straggly, should be clipped with a pair of shears. This will cause the formation of just those new growths which are needed for culinary purposes. Sufficient growths of the commoner kinds may be left for cutting and suspending for winter use.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Roses.—By this date practically all pot Roses under glass have finished flowering, the climbing varieties being the last to be utilised for decorative purposes. To ensure success with the same plants next season, considerable attention must be paid to them during the summer months. Where strong shoots have developed from the base on such varieties as Dorothy Perkins, Dorothy Dennison, Hiawatha, Crimson Rambler, and Paradise, all the old flowering wood may be cut away, and every encouragement given the plants not only to make good wood but to mature it. Three or four shoots are sufficient to retain on each plant, and, provided they are kept clean and grown steadily, such plants will give better results than younger ones, whether the latter were grafted under glass and grown on or from the open ground, lifted in the autumn and potted. All pot Roses should, if possible, be kept together and stood on an ash bottom in a position where they may obtain plenty of sunlight and air. In the case of Tea Roses, that require special attention to build up good plants, the flower buds should be removed as they appear, thus throwing all the energies of the plant into the formation of sound wood. The pot Roses should be sprayed periodically to keep down aphis and mildew, and, if these pests are prevented from spreading during the summer months, there is much less danger of them being troublesome the following spring. The spraying should be done at least once every ten days. Plants of Marèchal Niel that have finished flowering in cool houses may be pruned hard back, training the young shoots up the wires, about one foot apart. The roots may be allowed plenty of liquid manure as the shoots are growing freely. Syringe the foliage well to keep the plants clean, fumigating them when necessary.

Clerodendron Balfourianum and C. fallax.—Plants of Clerodendron Balfourianum that have finished flowering should have the old flowering wood cut out, training the young shoots over the house at a fair distance apart to prevent them from becoming attenuated. Plants in pots will be benefited by a little liquid manure made from cowdung. Seedlings of Clerodendron fallax must not be starved in small pots. They should be potted—large plants in small 24's, and the majority in 32's. Do not grow the plants in a close, warm house at this season, as they develop much better heads of bloom when a moderate temperature is maintained. The flowers remain a much better colour when shade is provided during bright weather.

Ipomœa rubra-cærulea.—This is one of the prettiest of climbing plants for the cool greenhouse, and though the flowers only last one day, they are large, of exquisite colour, and produced in profusion. Plants raised from seed sown in February are flowering freely, and, given reasonable attention, they will continue in bloom till late in the autumn. Red spider is almost the only insect pest that infests the plant, but the foliage is hard and smooth, and a good syringing now and again should suffice to keep red spider in check.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Figs.—These trees should be disbudded freely, to prevent the growths from becoming overcrowded, also to expose the fruits to the light and air. Retain short-jointed shoots in preference to those that are growing strongly, and avoid tying the branches close to the wall until the autumn. Short-jointed shoots mature much better than the others, and are more fruitful. Established trees, with full crops of fruit growing in properly-constructed, well-drained borders, should be afforded liquid manure liberally at short intervals until the fruits show signs of ripening. Apply no manure of any kind to barren trees or those that are making gross shoots. Remove suckers from old trees as soon as they appear, and thin the fruits where they are too numerous, but do not stop the shoots.

Loganberries.—These plants need a treatment similar to that afforded the Raspberry; they require plenty of manure to furnish the best results. Established plants develop a mass of young shoots from their bases, and of these five or six of the best should be retained, removing the weak sucker growths as in the case of Raspberries. It is sometimes a difficult matter to tie up the young shoots until after the fruits are gathered, but, by securing them temporarily to stakes, they will be prevented from being damaged until the fruits are gathered. The old canes should be cut out immediately after the fruits are gathered, training the young rods in their places, that they may become ripened before winter arrives. Plants of Loganberries last longer than Raspberries with proper care, and often succeed where the latter fail. The fruits should be gathered before they are quite ripe, and may be used for tarts, &c., or bottled.

Newly-grafted Trees.—Trees that were grafted recently are growing freely at the scions and making strong shoots. If not already done, the ligatures should be cut or loosened, and the tender shoots secured to stakes. Remove all suckers as they appear below the graft. The recent rains have moistened the soil thoroughly, and, if dry weather sets in, a long, strawy mulch should be applied, to retain the moisture and encourage the grafts to grow freely.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Cattleya, Lælia and Lælio-Cattleya.—The following plants should be rested for a short period after they have passed out of flower :—Lælia purpurata, L. grandis, L. tenebrosa, Lælio-Cattleya Martinetii, L.-C. Canhamiana, L.-C. Arnoldiana, L.-C. eximia, L.-C. Phœbe, L.-C. callistoglossa, and many of the early-flowering Brasso-Cattleyas and Brasso-Lælia hybrids. The buds should be kept dormant for as long a period as possible, which is best ensured by placing the plants in the coolest and most airy part of the Cattleya house, and affording a very limited supply of water at the roots. As soon as the plants show signs of fresh growth, they should be examined, and those in need of fresh rooting material afforded it. In repotting, care must be taken not to break the roots, as all these plants are very impatient of root-disturbance, and for this reason they should be afforded rooting space sufficient for at least two seasons. Plants of Cattleya Mendelii, C. Mossiæ, C. Skinneri, C. intermedia, C. Schröderæ, and the many hybrids of these Orchids that have recently passed the flowering stage, may be repotted, or, if they have sufficient pot room, and the soil is in a good condition, a resurfacing of fresh materials only, to replace some of the old compost. In repotting, remove all unnecessary back pseudo-bulbs, for these weaken the plants and necessitate the use of larger pots. Employ a compost consisting of equal parts Al fibre and Osmunda fibre, with a small quantity of Sphagnum-moss, and a rather liberal amount of crushed crocks. Pot firmly, placing the base of the plant just below the rim of the receptacle. After they are potted, the plants should be shaded rather densely for a time, and watered with great care. It is better to allow a slight shrivelling of the pseudo-bulbs for a time after potting them than to endeavour to keep them plump by affording them too much water at the roots. When the young growths lengthen, and the new roots grow freely in the compost, the stems will soon regain their former plump appearance. Plants of Cattleya gigas and its variety Sanderiana are developing their flowers, and should be afforded a little more water at the roots, until the flowers are fully developed. After they have passed out of flower, they should be exposed gradually to the sunlight, and the supply of water at the roots should be decreased gradually. Specimens that require repotting should receive attention when the last-formed pseudo-bulbs commence to develop new roots from their bases. After the repotting is finished, sufficient water only should be given them to prevent undue shrivelling of the pseudo-bulbs. When the plants have become re-established, they should be given a long season of rest in a cool, dry, well-ventilated position in a house having an intermediate temperature. Plants of Cattleya Dowiana and C. Dowiana aurea may also be potted as they pass out of flower, and should be treated in a somewhat similar manner to C. gigas, with the exception that, during their resting period, they should be placed in a position near to the glass in the lightest and warmest part of the Cattleya house. Plants of the autumn-flowering Cattleya labiata are fast developing their new growths, and with them their flower-sheaths. At this stage, the plants should be placed well up to the roof-glass, and should receive liberal supplies of water at the roots until the growths are completed, when the amount of moisture should be gradually reduced.

THE APIARY.

By Chloris

Relation of Nosema Apis to the Isle of Wight Disease.—Drs. Fantham and Porter first observed a Protozoön, Nosema Apis, in the alimentary canal of bees obtained from the Isle of Wight in 1906. They were able to show by experiment that the parasite was pathogenic for bees. In 1907 similar conditions were again found to prevail, and the years 1908-10 showed similar conditions prevailing in bees from various parts of the mainland. Experiments in feeding showed that the parasite produced a fatal disease in bees and wasps, and this led them to the conclusion that Nosema Apis was a causative agent of a fatal disease of bees. At the same time Zander found the same parasite in diseased bees in Bavaria. Seeing that no bacterium was discovered by those engaged in research, Dr. Malden paid special attention to protozoal parasites, especially Nosema Apis. For the purpose of examination bees were killed with chloroform, and the alimentary tracks and appendages were removed. Luckily, at this point bees heavily infected with the spore stage were procured, and these were compared with others less heavily infected. "Very marked anatomical changes visible to the naked eye, were seen only in specimens heavily infected with spores. In such cases the walls of the chyle stomach had a white, glistening appearance, and were easily ruptured—a white, milky fluid being exuded. When examined under the microscope the fluid was found to contain a number of spores." In the less infected stages, the alimentary canal appeared normal, but was very fragile. During 1911 specimens from stocks apparently suffering from the Isle of Wight were received, but as fungi rapidly develop in the food track after death, and destroy the epithelium, rendering search for the Nosema Apis nearly impossible, live bees only were examined, so far as circumstances permitted. Careful tables were made, showing the results of the investigation, for specimens were examined from 66 apiaries in various parts of the country. Briefly, the results were:—"The spores of Nosema Apis were found, in larger or smaller numbers, in specimens from 29 apiaries; young stages of Nosema Apis, but no spores, in specimens from 24 apiaries. The examination of specimens from the other 10 apiaries yielded five doubtful and five negative results." Thus, we see that in 84 per cent. of the stocks examined, and reputed to be suffering from the disease, infection experiments proved that the parasite produces a fatal disease, in which there is a marked destruction of the tissues of the alimentary track in heavily-infected specimens. Observation seemed to show that during the warmer months the parasites did not reach the spore stage, but seemed to cause death before this stage was reached. They concluded that the spore stage is oftener reached in the colder months and spring. Zander is of opinion that "Dysentery is not a necessary feature of Nosema infection, and states that the essential symptom of the disease is a sudden and extensive mortality among the bees inside and outside the hive." Maassen and Nithack are both struck with the fact that bee-keepers take little notice of disease among adult bees compared with disease among brood, so much so that, judging by the disease among brood in specimens received, Germany would be declared free from dysentery due to Nosema Apis, though research among adult bees proved that the disease was very common. Later, Maassen, after further observation, came to the conclusion that Nosema Apis can be found in many German stocks, though in varying degree, and in the majority of apiaries the number of infected bees was slight, but these infected members he terms "parasite carriers." After a lengthy search he found that some of the slightly-affected stocks contained bees having an enormous number of spores characteristic of the acute form of the disease—dysentery, and he thinks the disease only makes its appearance when the stocks are weakened by unfavourable conditions. The Swiss have found the disease widely diffused over the country, and worst in the spring. "The period at which death of the bee occurs is probably greatly influenced by the weather and other factors duly noted. When the weather is cold and wet and the bee inactive, the parasite appears to be able to develop further and reach the spore stage; but when the weather is warm and the bee active, the rapid multiplication of the parasite leads to the death of the bee before the spore stage is reached." The queen may help to spread infection, for in 4 out of 12 living queens examined spores were found. No spores were found in the ovaries and genital track. Infection may be conveyed from her to others, because she voids excrement in the hive, and the workers have this to remove, and excrement from all bees infected has been found crowded with spores.

FRUITS UNDER GLASS.

By E. Harriss, Fruit Foreman, The Royal Gardens, Windsor.

Late Vines.—The final thinning of all late Grapes should be no longer delayed, as they are more forward than usual, and there is great danger of damaging the berries if this work is deferred. They should be more severely thinned than early or mid-season varieties, especially those which will be required for the latest supplies. The berries in the midst of the bunches must be allowed plenty of room to develop without crowding each other. When there is sufficient foliage to adequately furnish the whole of the trellis, all subsequent growths should be regularly removed, but endeavour to obtain a good covering of growth over the whole of the vinery in order that the Grapes may keep in a good condition for as long a period as possible when ripe. See that the roots are well supplied with moisture and plenty of stimulants till the berries are colouring well. Lose no time in applying a good mulch of well-rotted manure to the borders, if this has not been done already. Owing to the unusual amount of sunshine which was experienced during the month of May and part of June, late Grapes are 10 days or a fortnight earlier than usual; therefore, it will be necessary to delay the vines as much as possible when circumstances will allow. During fine, genial weather an abundance of air may be admitted through both the top and bottom ventilators. Fire heat must be dispensed with as much as possible. Certain varieties are subject to scalding of the berries: this usually takes place after the berries have finished stoning. At this period great care must be exercised in ventilating the houses, especially during changeable weather. Guard against the presence of red spider, and carefully sponge the affected leaves with a weak mixture of soft soap and sulphur as soon as the pest is detected. Mealy bug must also be carefully sought for; should this pest get into the bunches it will do great damage, and will militate against the bunches keeping long in good condition when ripe.

Ripe Grapes.—To keep the bunches in a good condition for as long a time as possible after they are thoroughly ripe an abundance of air must be admitted, and the glass should be lightly shaded. Weak limewash syringed over the glass, or two or three thicknesses of fish netting spread over the roof, will answer the purpose well. The netting will also prevent birds, which do considerable damage to the bunches, from entering the vineries. Maintain sufficient heat only in the pipes to dispel moisture during cold or wet weather. When the majority of the bunches have been cut, the remainder should be removed, and placed in bottles in a cool room, where they will keep in a good condition over a long period.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JULY 6—
Soc. Française d'Hort. de Londres meet.

MONDAY, JULY 8—
United Hort. Benefit & and Prov. Soc. Com. meet.

TUESDAY, JULY 9—
Nat. Rose Soc. Sh. at Regent's Park. Nat. Sweet Pea Soc. Sh. at R.H.S. Hall, Westminster (2 days). Wolverhampton Floral Fête (3 days). Royal Scottish Arboricultural Soc. Ex. at Cupar (4 days).

WEDNESDAY, JULY 10—
Torquay Sweet Pea Sh. Hereford Rose Sh. Elstree Fl. Sh. Bath Rose Sh. (2 days). Woodbridge Fl. Sh. West Surrey Hort. Soc. Fl. Sh.

THURSDAY, JULY 11—
Rose Show at Helensburgh. Streatham and District Sweet Pea and Rose Soc. Sh. Ousecliffe Rose and Sweet Pea Sh. Newmarket Fl. Sh.

FRIDAY, JULY 12—
Manchester Botanical and Hort. Soc. Sh. (2 days).

SATURDAY, JULY 13—
Nat. Sweet Pea Soc. of America (2 days). Edgware and Little Stanmore Hort. Soc. Sh.

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—62·9°.

Actual Temperatures:—
London.—*Wednesday, July 3* (6 p.m.): Max. 61°; Min. 53°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, July 4* (10 a.m.): Bar. 29·7°; Temp. 61°; *Weather*—Overcast.
Provinces.—*Wednesday, July 3:* Max. 60° London; Min. 53° Ireland, S.W.

The Director of Rothamsted.

The experiment station of Rothamsted has been fortunate in its Directors. Thanks to the energy and accomplishments of Mr. A. D. Hall the reputation of this station as a research institution rose steadily during his tenure of office. A few months ago Mr. Hall resigned his position of head of Rothamsted in order to devote himself to the work of the Development Commission, and, in consequence, there devolved on the Trustees of Rothamsted the important task of finding a new Director. Fortunately, they had not far to seek for the man who should prove an admirable successor to the late Director. Dr. E. J. Russell, whose appointment to the office is now announced, has been associated with Rothamsted for some years past as "The Goldsmiths' Assistant for Soil Investigations." In this capacity the new Director has carried out, both alone and in collaboration with colleagues, a series of investigations into the subject of soil fertility, and these investigations have resulted in discoveries destined, as we think, to become classic. As our readers are aware from Dr. Russell's contributions, published in our columns and elsewhere, these discoveries point to the dependence of the fertility of the soil on complex biological factors. Though complex, these factors are not mysterious, and their mode of intervention in ordering or disturbing fertility is now beginning to be understood. It is not, however, our present purpose to describe in detail Dr. Russell's contributions to the science of the soil, but rather to grasp the occasion to extend to him, on behalf of horticulture, our hearty congratulations on his appointment to the important post of Director of the Rothamsted experiment station.

Thanks to the grant made recently to Rothamsted from the Development Fund the range of activity of that Institution will be extended widely in the immediate future, and we are confident that the wisdom which Dr. Russell has shown in his own investigations will be at the service of his colleagues, to aid them in the hard task of wresting from Nature yet more of her closely-kept secrets. Dr. Russell is young and has the gift and privilege of youth—enthusiasm. He understands not only how to discover knowledge, but also how to impart it. His practical knowledge of agriculture, combined with his scientific training, gives us the right to expect great things from Rothamsted, hence all who are jealous lest this country should fall behind other nations in the pioneer work of scientific exploration will learn with great pleasure of this appointment.

The new Director is at present on his way to the United States in order to deliver a course of lectures at the fourth session of the Graduate School of Agriculture, now being held at the Michigan Agricultural College. Among other engagements in the States Dr. Russell will pay visits to some of the chief experiment stations in America. He will meet at those stations many investigators intent on work of a nature similar to that in which he is himself engaged, and his visit will enable him to incorporate all that are best of American methods with those which he has invented for himself: for there are, thank goodness, as yet no patent rights in research.

DR. E. J. RUSSELL.

Prizes at the "International."—The final list of Awards made at the International Horticultural Exhibition has been issued. Names of exhibitors are given for every class, and those who won prizes are distinguished by the figures 1, 2, and 3, which indicate respectively the first, second, and third prizes. The non-competitive awards are printed in full.

——An interesting event took place at an informal meeting held in the Secretary's tent on the opening day of the Holland House Show, when presentations were made to Mr. Edward White, managing director, Mr. T. Geoffrey Henslow, organising secretary, and Mr. S. T. Wright, superintendent of the International Show. The gifts were subscribed by exhibitors as a mark of appreciation of the assistance rendered by these gentlemen in their official capacity. A sum of £200 was collected by a small committee, with Mr. George Bard and Mr. R. F. Felton as secretaries, and Mr. Harold Beale as treasurer, and the expenses of collection were defrayed by Messrs. James Carter & Co. Mr. Gurney Fowler, chairman of the Board of Directors, made the presentation in an interesting speech. He handed an example of the large standard Silver Cup of the International Show to each recipient, accompanied, in the case of Mr. White, by a rose bowl for Mrs. White, and sums of £75 each for Mr. Henslow and Mr. Wright.

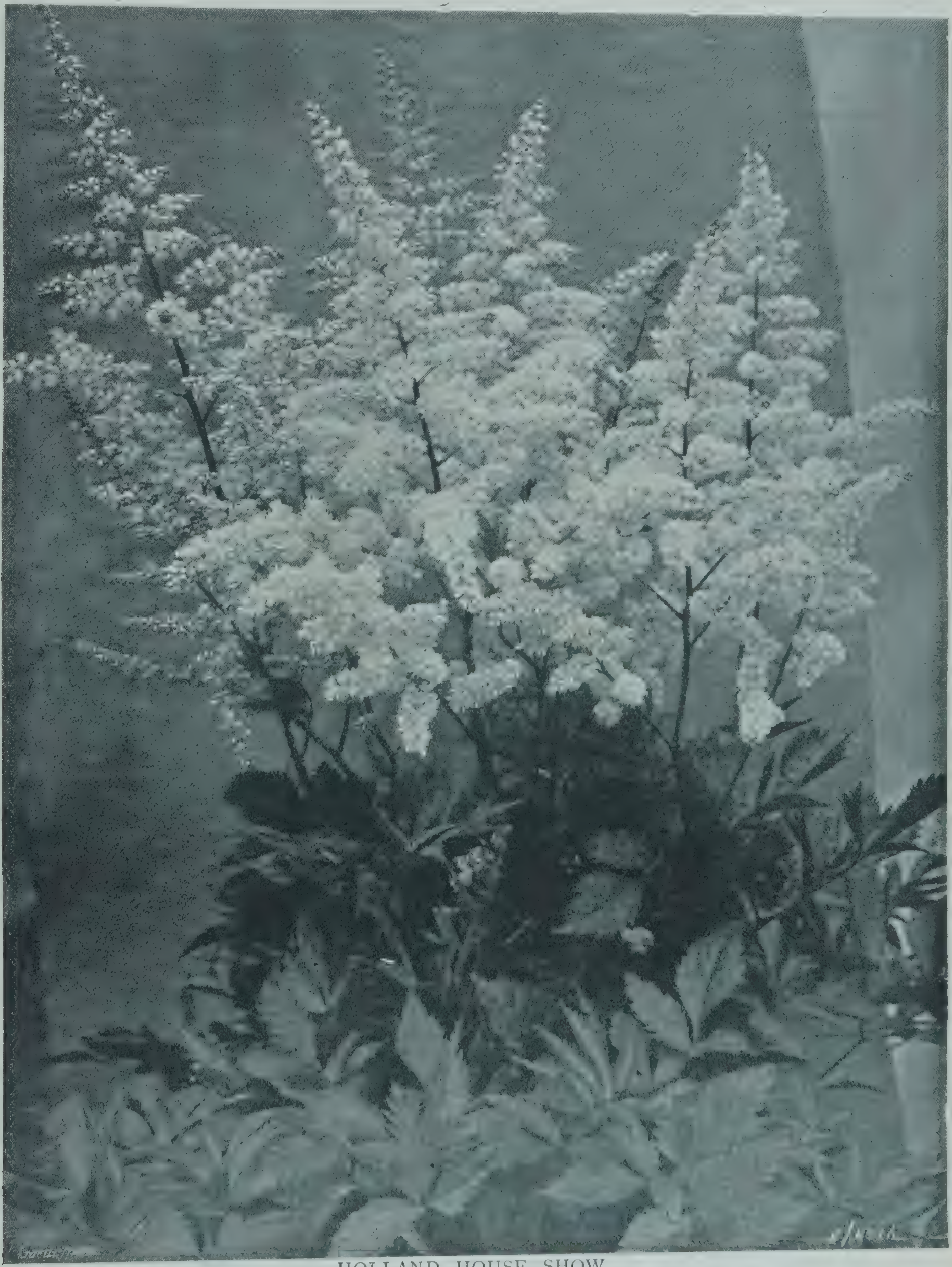
National Rose Society.—The Metropolitan Show of this Society will be held in the Royal Botanic Gardens, Regent's Park, on the 9th inst. The prizes include two champion challenge trophies, also numerous cups and pieces of plate, besides money prizes to the value of over £400. The present season is the most favourable that we have had for many years past, and an unusually grand and varied display of all types of Roses is anticipated. Luncheon, tea, and light refreshments will be obtainable in the gardens.

The Gardeners' Royal Benevolent Institution.—In connection with the recent festival dinner, Mr. Ingram informs us that the following donations have been received since the list published last week was compiled:—Mrs. W. J. Jefferies, Cirencester, £10 10s.; Col. the Rt. Hon. Mark Lockwood, £5 5s.; Messrs. Paul & Son, £5 5s.; Mr. H. B. May, £4 4s.

André Lenôtre.—The French Minister of Public Instruction has appointed a committee to consider the best means of celebrating the three-hundredth anniversary of the birth of André Lenôtre, the creator of the gardens of Versailles, gardener-in-ordinary to Louis XIV of France. The approved scheme is a retrospective exhibition of the gardening art, simultaneously in Paris and Versailles, where a chamber in the Palace is to be devoted entirely to Lenôtre.

Souvenir de la Malmaison Carnations.—We have received from Messrs. Stuart Low & Co. a number of fine flowers of choice varieties of Souvenir de la Malmaison Carnations. We are surprised to hear that "since the ascendancy of Perpetual-flowering Carnations, 'Malmaisons' seem to have been put somewhat in the shade." Most of our readers will agree with this further quotation from Messrs. Low's letter that "they are a very useful class of plant to follow on after Perpetuals, especially in private establishments where a big show is wanted during this time of the year. They can be wintered in a cold frame." Those who are in danger of losing their regard for the "Malmaison" Carnation should visit Messrs. Low's collection, or the extraordinary fine collection belonging to Mr. Pierpont Morgan, at Dover House, Roehampton, where Mr. McLeod has two large houses that always present a brilliant display at about midsummer.

Messrs. Hurst & Sons' Outing.—The annual outing of Messrs. Hurst & Sons, seedsmen, Houndsditch, took place on Saturday, the 29th ult., when the employees visited Prested Hall, Mr. N. N. Sherwood's residence at Kelvedon, Essex. The company, numbering nearly 400, left Liverpool Street by special train, and arrived at Kelvedon soon after noon. On this occasion the excursion had more than its usual significance, for it is just 50 years since Mr. N. N. Sherwood joined the business which he has done so much to develop, and there were many visitors present in addition to the staff. Immediately after lunch an interesting ceremony took place. This was the presentation on the part of the staff of a handsome silver loving cup to Mr. Sherwood to mark the occasion of his jubilee in the firm. Mr. Thomas Cox, in making the presentation, dwelt upon the regard and esteem entertained by the employees for their chief, and for his sons, Mr. Willie and Mr. Edward Sherwood. The good management of the business and the kind consideration of the proprietors were proved by the fact that many of the employees had been in the service of the firm for long periods. The oldest member of the staff is one of the women workers, with a record of more than half a century, and a list was read including the names of many who had been with the firm for periods varying from 21 to 50 years. Mr. Sherwood, on rising to acknowledge the gift, was greeted with enthusiastic applause. Both he and his two sons made appropriate speeches, and in their turn testified to the able manner in which their own efforts had been seconded by the intelligent and loyal co-operation of the staff. Speeches were also made by Mr. J. Gurney Fowler and Mr. Arthur W. Sutton. After lunch there were sports for the employees, and various entertainments on the lawn. We learn from a member of the staff that with the invitations issued for lunch each employee received a cheque presented by Mr. Sherwood. Some of the guests left at five o'clock for London, but the sports continued for another hour and a half, and not until the presentation of the prizes by Mrs. Campbell did the rest of the guests return to London. Needless to say, the proceedings were thoroughly enjoyed, and Mr. Sherwood received many well-deserved congratulations on the fact that he is in the enjoyment of excellent health after 50 years close application to business.



HOLLAND HOUSE SHOW.

Fig. 7.—Astilbe "Avalanche": flowers white.

Received Award of Merit. (See p. 15.)

ROYAL HORTICULTURAL SOCIETY.

Summer Exhibition at Holland House.

July 2, 3, 4.—The summer exhibition of the Royal Horticultural Society was held on these dates in the grounds attached to Holland House, Kensington. These exhibitions have been for long associated with Holland House, but there have been occasions when they have been held elsewhere, as, for example, at the Royal Hospital, Chelsea, in 1906, and at Olympia last year. Neither of these places is so suitable as the beautiful grounds attached to Countess Ilchester's house, and it is great satisfaction to know that for some years at least Holland Park has been secured by the Council for these shows. The recent exhibition is one of the best of the series, and it only needed fine weather to make the show a great success. The tents were more spacious, lighter, and better ventilated than on former occasions; the groups were arranged more attractively, and the quality of the produce was superb. There were fewer exhibits of sundries and implements than usual, but although these are of great interest to gardeners, they have not the same attraction for visitors as flowers and fruits; the large tent they usually occupy was filled with flowers instead. Contrary to the usual practice, the Orchids were accommodated in one of the side tents, the large marquee being wholly filled with groups, including a magnificent collection of fruit trees and another of stove plants, arranged by Messrs. James Veitch & Sons, for which the Coronation Cup, the premier prize of the show, was awarded. Here also Messrs. R. Wallace & Co. arranged a realistic rock garden. Besides these exhibits there were imposing displays of Roses, Carnations, Ferns, Clematis and Sweet Peas, whilst the hardy plants would have made a show in themselves. Several attractive groups were staged in the open, including a Japanese garden arranged by Messrs. Carter & Co., in which Iris Kaempferi was the dominant feature. The morning of the first day was bright and fine, and when the gates were opened a larger number of visitors than usual entered, pointing to a record attendance, but later rain fell incessantly, which militated against a large attendance, and rendered the exit from the field almost impossible for ladies on account of the mud. The second and third days were fair but dull, the weather being anything but summer-like. New plants were submitted for Awards, both before the Floral and Orchid Committees. The former body granted three First-class Certificates, eleven Awards of Merit, and one Botanical Certificate, whilst the Orchid Committee recommended three First-class Certificates and three Awards of Merit.

Excellent arrangements were made, as usual, by the superintendent, Mr. Wright, assisted by Mr. Reader and the other members of the Society's permanent staff.

Roses.

Mr. John Mattock, New Headington, Oxford, arranged a group of Roses, in which the fine quality of the blooms was matched by the admirable taste in the association and balance of colours, and by the recognition of the value of Rose foliage, and an open disposition of the exhibition blooms in vases, too often lost sight of in the crowded bunches so frequently staged. The background consisted of arches of Blush Rambler, Trier, and Hiawatha, separated by tall stands of the crimsons Her Majesty and Richmond, and enclosing similar stands of Prince de Bulgarie, Frau Karl Druschki, and Mme. Ravary. The centrepiece was a beautiful group of Marquise de Sinety, and there were commanding stands of Lady Curzon, Mme. Mélanie Soupert and Irish Elegance. The best blooms in baskets included Mrs. Wakefield Christie-Miller, Mrs. Hubert Taylor, Château de Clos Vougeot, Geo. C. Waud, Mrs. David McKee, and Lady Ashtown. This group was awarded the Wigan Challenge Cup in open competition for the best exhibit of Roses.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, showed one of the most tastefully arranged groups of Roses. Ramblers as standards, budded at varying heights, formed the feature of the group, and their foliage balanced the brilliance of the exhibition blooms in baskets and vases in the foreground. [illegible] Léontine Gervaise, and Gardenia were especially pretty as dwarf standards, and a pillar of Shower of Gold formed a fine centrepiece. The exhibition Roses were rich in well-known Hybrid Perpetuals, which otherwise were little represented, and the stands included Souv. M. Rodocanachi, Prince de Rohan, Horace Vernet, Victor Hugo, Duke of Edinburgh, A. K. Williams, and Mrs. Sharman Crawford. Among the Hybrid Teas we noted especially Mrs. Theodore Roosevelt, Mme. Ravary, Geo. C. Waud, Magnolia, and Mme. Abel Chatenay.

Messrs. Stuart Low & Co., Bush Hill Park, staged an effective group, with tall columns and bamboo stands of Roses at the back, and vases and exhibition boards in the foreground. Some magnificent blooms of Mildred Grant were included. Rayon d'Or, Marquise de Sinety, Lady Pirrie, Richmond, and Liberty gave admirable masses of colour.

Mr. Geo. Prince, Longworth, Berkshire, had a finely-coloured centrepiece of Rayon d'Or, and some pretty bamboo stands of Lyon, Juliet, and other choice varieties. Mildred Blackburne, Mrs. A. R. Waddell, and others formed a bed of Roses in the foreground, whilst at the back were arches of Lady Gay, Dorothy Perkins, and Hiawatha.

Mr. Chas. Turner, The Royal Nurseries, Slough, in a group of Roses in the large tent gave prominence to two new Wichuraiana Ramblers, Ethel and Coronation. The former variety received an Award of Merit. The latter is a very bright red flower, several shades lighter than Crimson Rambler or Hiawatha. The background to the group was formed by unusually good specimens of Rambler standards. Geoffrey Henslow, a new crimson Hybrid Perpetual, showed well with stands of Frau Karl Druschki and Lyon Rose. Baskets of Ulrich Brunner, Juliet, Mme. Lunet, and others made a pretty foreground.

Messrs. Geo. Bunyard & Co., Ltd., Royal Nurseries, Maidstone, staged a small group, with a background of Roses in bamboo stands. Frau Karl Druschki, Lyon Rose, and Juliet were shown well in exhibition boxes.

Messrs. H. Cannell & Sons, Swanley, Kent, showed a good batch of American Pillar.

Messrs. Wm. Paul & Son, Waltham Cross, arranged a large group of Roses, of which the general scheme was a groundwork of exhibition and garden Roses in baskets and vases, overhung with tall budded standard Ramblers. Delight, White Dorothy Perkins, and Lady Gay were shown well, but the group was especially rich in the newer Hybrid Teas of pale shades, many of which had been introduced by Messrs. Paul. Their own varieties best worth mentioning included Francis Charteris Seton, Hugo Roller, Bianca, Lady Downe, Margaret, Marcella, and Mrs. Charles Hunter.

Messrs. David Russell & Son, Essex Nurseries, Brentwood, staged six exhibition boxes of specimen blooms against a background of Ramblers and stands of Killarney, Liberty, &c.

The Rev. L. C. Chalmers-Hunt, Willian Rectory, Hitchin, showed 38 vases of Roses, including standard varieties, with some good flowers of Geo. C. Waud, White Maman Cochet, Wm. Shean, and Joseph Hill.

Messrs. Hugh Dickson, Ltd., Royal Nurseries, Belfast, showed a group of bush Roses arranged with simplicity, and unhampered by overcrowding or hackneyed methods of formal staging. The group included a number of standard varieties, but its feature was its novelties. Mrs. Chas. S. Hunting received an Award of Merit. Mrs. Archie Gray (large, creamy-yellow flowers), Mrs. Hugh Dickson (very bright red flowers, rather thin, with magnificent vigour in the stem), Mrs. Sam Ross, Sir Hugo, Sir Edward Carson, and Brilliant (velvety-crimson Hybrid Teas) were also conspicuous. The blooms were of fine quality, but showed the influence of the recent heavy rains in Ireland.

Messrs. Frank Cant & Co., Braiswick Rose Gardens, Colchester, showed a pretty group, with small Ramblers as standards. Blush Rambler, and Frau Marie Weinbach (white), and a stand of Hiawatha, helped as a background for vases of Mrs. Wemyss Quin, Souvenir de Gustave Prat, [illegible], Château de Clos Vougeot, and Rayon d'Or.

Mr. R. C. Notcutt, Woodbridge, Suffolk, staged a group of Roses. The background consisted of Ramblers, and good bamboo stands were included of Juliet, Geo. C. Waud, Mme. Ravary, and Pharisaer. Souv. de Pres. Carnot and Gottfried Keller were shown well in vases.

Mr. Philip le Cornu, Jersey Nurseries, Jersey, showed his new Roses Duchess of Normandy and Mrs. Philip le Cornu. The former is a sport from Dean Hole, and possesses the desirable exhibition characteristics of that variety. Lack of sunshine recently prevented the blooms exhibited from developing the yellow in the soft salmon-flesh flowers, which is the charm of this variety.

Messrs. Ben. R. Cant & Sons, The Old Rose Gardens, Colchester, showed an effective group of Roses on narrow staging. Striking trophies of Ecarlate, Lyon Rose, Mme. Mélanie Soupert, Dean Hole, and Mrs. Alfred Tate were included, and some effective colour combinations were tried by associating, in the one bamboo stand, Warrior with White Killarney, Francis Vachère with Prince Camille de Rohan, and Chas. J. Graham with Mme. Léon Pain. The new Hybrid Teas, Rose du Barri, Sunbeam, and St. Helena, were admirably shown. The foreground to the group consisted of exhibition blooms in boxes.

Messrs. R. H. Bath, Ltd., Wisbech, arranged a small group of Roses, in which Christine Wright and Cecile Brunner figured effectively.

Messrs. G. Beacon & Son, The Nurseries, Buntingford, Herts, staged a small group, of which the general effect was marred by the tameness of the closely-packed vases.

Messrs. Alex. Dickson & Sons, Ltd., Newtownards, showed blooms of unusual quality and colour. Therese, Mrs. Fred Straker, C. W. Cowan, and Queen Mary were shown effectively against black velvet. Immense blooms of Mrs. Cornwallis West were displayed in boxes, and some beautiful pieces of colour were furnished by Melody, Viscount Carlow, Lady Pirrie, and Geo. C. Waud.

Messrs. Geo. Jackman & Son, Woking Nurseries, Surrey, made a display, of which the effect was somewhat spoiled by its restriction to narrow tabling. Sprays of rambling Roses in hanging baskets and a good use of foliage gave the group novelty and variety. In bamboo stands, Mrs. E. Mawley, Mrs. A. R. Waddell, Harry Kirk, Mrs. Alfred Tate, Edu Meyer, and Lyon Rose showed to advantage, and a specially fine vase of Marquise de Sinety was included.

Messrs. W. & J. Brown, Peterborough, arranged a group of Roses dominated by the centrepiece of Richmond, three vases of Mme. Ravary and Pharisaer. The side stands consisted of Mme. M. Soupert and Countess Dudley, and a number of small bunches of standard sorts were also included.

Mr. W. Easlea, Danecroft Nursery, Eastwood, Essex, showed a pretty collection, with a characteristic arrangement of the Roses in baskets, which gave a freshness and attractiveness to a small group. A fine column of American Pillar formed a centrepiece. In the baskets, Joseph Hill, Mme. A. Chatenay, Arthur R. Goodwin, and Prince de Bulgarie were notable.

Mr. J. D. Webster, Market Avenue Nursery, Chichester, arranged a small collection of Roses in bamboo stands and vases, of which the best varieties included Lady Ursula, Florence Pemberton, and Mme. Ravary.

Messrs. Hobbies, Ltd., Dereham, tastefully arranged a large group of Roses, which had a background of standard Ramblers and pillars of Alberic Barbier, Blush Rambler, &c. Stands of Harry Kirk, Rayon d'Or, General McArthur, Lady Hillingdon, Souvenir de Catherine Guillot, and the new Rambler Pink Pearl were included effectively.

Messrs. W. Cutbush & Son, Highgate, showed a group of Polyantha Roses. Mrs. W. H. Cutbush and Jessie formed a bed, above which were hung the branches of Dairy [illegible] and Jessie trained as [illegible] standards. The background was formed of Minnehaha, Crimson Rambler, Mrs. F. W. Flight, and other Rambler Roses.

CARNATIONS.

Messrs. Stuart Low & Co., Enfield, exhibited a magnificent group of Carnations, having a delightful display in hanging baskets, "Lily" vases and epergnes. On tall stands in vases were large clumps of Lady Alington (salmon pink), and Baroness de Brienen (flesh pink). In taller stands at the back, on a setting of greenery, were vases of Princess of Wales (salmon), Lady Mary Hope (rose, [illegible]), Princess Juliana (perpetual-flowering "Malmaison," orange), and C. F. Raphael (yellow). In the general display were excellent blooms of Royal Purple, Royal Scarlet, My Favourite (rose-pink), and Mrs. T. W. Lawson. Adjoining the Carnations was fine assorted greenhouse plants, including Pelargoniums.

Messrs. John Peed & Son, West Norwood, London, exhibited Carnations, having well-known varieties of the perpetual-flowering and Souvenir de la Malmaison types. In the centre of the group was a batch of the crimson Margaret Hodgson variety. Princess of Wales and Mrs. Trelawney, both "Malmaison" varieties, were also shown well.

Mr. James Douglas, Edenside, Great Bookham, showed vases of Carnations of the florists' type. All were of magnificent quality, especially Mrs. Proctor, Miss Willmott, John Ridd, Trojan, Mr. E. Charrington, Kate Nickleby, Mr. Buckley, Lord Nelson, Mrs. Harwood, and Jean Douglas.

Mr. C. Engelmann, Saffron Walden, showed perpetual-flowering Carnations, having vases of representative varieties.

Mr. H. Burnett, Guernsey, also exhibited perpetual-flowering Carnations, the blooms being, as usual from this exhibitor, of splendid quality.

W. H. Coen, Esq., Trevithen, Par Station, Cornwall (gr. Mr. G. Millward), exhibited varieties of Souvenir de la Malmaison Carnations having extra choice blooms of well-known varieties.

A small collection of Carnations was shown by Mr. H. Lakeman, Thornton Heath, Surrey, the blooms being exceptionally good.

Mr. C. Blick, Warren Nurseries, Hayes, Kent, displayed a small but select group of Carnations of the border type. All the varieties were of high merit, the best being Vandyck, Skirmisher, Charles Blick (a large white seedling), Queen Mary, Saltaire, Cyclops and Rhea.

BEGONIAS.

Messrs. Blackmore & Langdon, Twerton-on-Avon, Bath, showed magnificent Begonias of the tuberous-rooted section. The colours and size of flowers were splendid. Mrs. W. L. Ainslie (yellow), W. H. Fry (rose), James Douglas (yellow), Rose Supreme (rose), Marie Nicholas (salmon-rose), King Alfonso (crimson), Mrs. Robert Morton (yellow, with fawn [illegible] shade), and J. Tennison (white), were all of sterling quality. There were also many choice frilled and crested varieties.

Mr. A. Ll. Gwillim, Cambria Nursery, Sidcup, Kent, showed beautiful plants of tuberous-rooted Begonias, many of the flowers exceeding 6 inches in width.

FERNS.

Messrs. H. B. May & Sons, Upper Edmonton, arranged their collection of Ferns in a light and graceful manner. Amongst beautiful, rounded specimens of Davallia fijiensis robusta, Polypodium Knightiae, P. Vidgenii, and a young plant of Angiopteris erecta, which, at maturity, develops immense fronds, there were tall pillars of Lygodium japonicum, fully 15 feet high, L. scandens and L. polymorphum. Rich red colour was supplied by the young fronds of Adiantum Veitchii, the large-fronded A. macrophyllum, A. pulverulentum, and pans of Selaginella viridula and S. caesia, whilst the Golden Gymnogramme grandiceps superba vied with the silver species.

Messrs. J. Hill & Son, Barrowfield Nursery, Lower Edmonton, broke the level of their massive group of Ferns with such Tree Ferns as Dicksonia Smithii, Cyathea dealbata, Dicksonia [illegible], and a stand of the trailing Polypodium [illegible]. Large plants of Lycopodium fijiense, Asplenium caudatum, and Polypodium quercifolium served to draw attention to the smaller golden and silver varieties, which completed this excellent collection of Ferns.

Mr. Amos Perry, Enfield, showed a bank of hardy Ferns, arranged in rock-work. There were beautiful crested and plumose forms of Athyrium Filix-foemina, Lastrea Filix-mas, Polystichum, Ceterach officinarum, Osmunda regalis, O. cristata, O. cinnamomea, O. Claytoniana, and Adiantum pedatum in variety.

SWEET PEAS.

Messrs. Dobbie & Co., Rothesay, showed a magnificent collection of Sweet Peas, embracing the pick of the varieties in cultivation as well as many novelties. Amongst the latter were [illegible] Spencer form of the variety Rosa du [illegible], an improved Thomas Stevenson, Lavender George Herbert, True Lavender, Lady Miller (apricot-pink), Dobbie's Scarlet, Elfrida (mahogany-red), and [illegible] with a [illegible]. There were splendid spikes of Thomas Stevenson, May Campbell, Mrs. C. W. Breadmore, Rosabelle, Melba, and Countess Spencer.

Messrs. Sutton & Sons, Reading, exhibited a comprehensive collection of Sweet Peas. There were 72 varieties, and the exhibit occupied 75 feet run of tabling. The flowers were shown in glass vases against a dark velvet background. Notable varieties were Dora Usher (cream pink), Southcote Blue, Mrs. [illegible] (mauve), Bertie Usher (rose striped), Sutton's Royal Rose, Mrs. Hugh Dickson (soft pink), Clara Curtis (cream-yellow), Edith Taylor (salmon-pink), Lady Althorp (white, with a suspicion of buff), Mrs. W. J. Unwin (white ground marked with rose salmon), Rosabelle (rose), and Moneymaker, one of the best of the white sorts. There were also large epergnes filled with varieties of various colours under the name of "giant frilled."

Messrs. James Carter & Co., Raynes Park, Wimbledon, put up a handsome group of indoor flowering plants and Sweet Peas. The latter were arranged on an archway, forming a bower of these blossoms, whilst the other subjects included handsome Begonias, Streptocarpuses, and Richardia Mrs. Roosevelt relieved with suitable greenery.

Mr. W. E. Alsen, Denmead, Hampshire, showed bunches of Sweet Peas of excellent quality. A. A. Fabius (mauve), Annabel Lee (blue with paler centre), and Minnie Fabius (pale pink) are new varieties raised by this exhibitor.

Messrs. J. Cheal & Sons, Crawley, showed Sweet Peas extensively, having fine spikes of many popular varieties.

A good exhibit of Sweet Peas was also put up by Sir Randolf Baker, Bart., M.P., Ranston, Blandford (gr. Mr. A. E. Usher). Mrs. A. Ireland, Mrs. W. Unwin, Audrey Crier, Lavender George Herbert, Barbara, Marjorie Linzee, Melba, Edrom Beauty, Tennant Spencer, Eric Harvey, and Dora Usher are a selection.

Mr. C. W. Breadmore, Winchester, had an exhibit in which the bunches were effectively arranged with sprays of Asparagus Sprengeri and Adiantum Fern. In this large collection the following varieties were especially good:— Aurora, Audrey Crier, Tennant Spencer, Florence Nightingale, Mrs. R. Hallam, Senator, Dora Usher, Stirling Stent, Bertie Usher, Breadmore's Lavender, Mrs. Cuthbertson, Mrs. Fred. Arey (new, cream suffused with rose), and Aurora.

Messrs. Robert Sydenham Limited, Birmingham, were awarded a Silver-gilt Banksian Medal for a collection of Sweet Peas which included the varieties Lilian (pale pink with buff ground), Edith Taylor (rosy salmon), Iris (pale salmon), Barbara (salmon-orange), Princess Henry (lavender-blue), and Prince George (rosy lilac).

Messrs. S. Bide & Sons, Farnham, Surrey, made one of the prettiest groups of Sweet Peas. They were arranged in graceful baskets on tall white stands with smaller stands in front, the ground having smaller vases on a white surface. Beside being so attractive, the blooms were of splendid quality.

Sweet Peas were also shown by Marshall G. Green, Esq., The Lodge, Eynsford, Kent (gr. Mr. W. White).

Messrs. E. W. King & Co., Coggeshall, staged Sweet Peas, for which a Silver Cup was awarded. The blooms were set out to the best advantage; decorated epergnes were arranged at either end, whilst in the centre were tall columns festooned with sprays of Smilax.

Messrs. John K. King & Sons, Coggeshall, showed Sweet Peas in great assortment, the front of the exhibit having archways decorated with Sweet Peas and Smilax.

PELARGONIUMS.

Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, staged a bank of Zonal Pelargoniums in pots. The trusses were exceptionally good, and many of the specimens had no fewer than half-a-dozen. Excellent varieties for bedding and greenhouse decoration were seen in [illegible] (scarlet), E. C. Finlay (salmon), K. Newman (scarlet), T. E. Bunting (salmon-pink), Mrs. [illegible] (pale lilac), and Henry Wood (maroon, with a white eye).

The Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. Ed. Beckett), showed a large and varied assortment of scented-leaved Pelargoniums, with species and varieties. The plants were splendid specimens. P. Radula, P. [illegible], P. [illegible], P. quercifolium, P. [illegible], P. [illegible] major, and the old favourite Pretty Polly specially attracted notice.

Mr. W. Treseder, Cardiff, showed varieties of Regal Pelargoniums, including Lord Kitchener (purplish-maroon with rose-pink edge), Lord Trelawny (maroon, with lighter margin), Flora (vermilion and white), and Mary (pink, blotched with terracotta).

Mr. Philip Ladds, Swanley, Kent, staged a pink Pelargonium named Charmion, a variety with large trusses of medium-sized flowers, White Queen, and Aurora (pale pink). All these are recommended for bedding purposes.

Messrs. Godfrey & Son, Exmouth, showed varieties of scented-leaved and fancy Pelargoniums, also Sweet Peas.

Mr. H. Hemsley, Crawley, showed his new Ivy-leaved Pelargonium "Queen Mary," a variety of deep rose colour, with deeper markings in the upper petals.

Messrs. Carter Page & Co., 52 and 53, London Wall, exhibited varieties of Zonal-leaved Pelargoniums and Paeony-flowered Dahlias.

Mr. Vincent Slade, Taunton, Somersetshire, showed varieties of Zonal Pelargoniums.

STOVE PLANTS.

Messrs. James Veitch & Sons, Ltd., Chelsea, London, arranged a magnificent collection of stove and greenhouse plants in the form of a long group. The necessarily narrow formation was made very pleasing by the judicious use of tall specimen plants, and the raising of pitcher plants on tall Asparagus-covered stands. Groups of dwarf Ixoras bearing large heads of orange-scarlet flowers and Crozy Cannas gave vivid patches of colouring. Smaller groups of Solanum Wendlandii, with their clusters of large mauve flowers, also attracted admiration. Amongst the rarer stove plants we noticed Cyanophyllum magnificum, with immense entire leaves of rich colouring; Anthurium Hookeri and [illegible] (single-stemmed plants of this tropical tree are very attractive, the velvety young shoots and leaves are covered with chestnut-brown tomentum).

Mr. L. R. Russell, Richmond Nurseries, Richmond, Surrey, arranged a variety of Dracaenas, Caladiums, Alocasias, a very good Anthurium crystallinum, and other stove plants.

Messrs. John Peed & Sons, West Norwood, London, showed Caladiums. Amongst the finer specimens were Excellent (purple veining with white and green ground), Mikado (deep rose with broad green edge), King George, new (rose with green spotting), Triomphe de Comte (bright rose with green margin), Argentine (silvery-green), Her Majesty (small, but elegant variety, bright green and silver), Crested Wave (a small-leaved transparent variety, the palest-rose with green margin), and Mme. E. Pynaert.

Mr. J. Bruckhaus, Orleans Nursery, Twickenham, set up a group of Palms, Codiaeums, and Caladiums.

MISCELLANEOUS INDOOR PLANTS.

Messrs. John Peed & Sons, Norwood, showed plants of their strains of Streptocarpus and Gloxinia, the latter presenting a great variety of fine colours.

Messrs. JAMES VEITCH & SONS, LTD., Chelsea, showed Cannas, Streptocarpuses, Carnations, Begonias, Achimenes Rose Queen, Sollya Drummondii, Begonias, standard Fuchsias, Solanum Wendlandii (finely-flowered specimens), greenhouse Rhododendrons of the javanico-jasminiflorum hybrids, Lobelia tenuior, Calceolaria Burbidgei, and other fine indoor-flowering plants. As usual, Mr. Heal arranged the various subjects with much skill, and there was little in evidence that in the morning the staging on which this fine group was arranged had collapsed, spoiling many excellent plants.

Messrs. JOHN PIPER & SONS, Bayswater, London, exhibited a group of Fuchsias, having large, well-flowered pyramidal and standard plants arising from a ground of smaller specimens. An edging of Tradescantia completed an excellent exhibit. It is to be regretted that none of the varieties were named.

MARY Countess of ILCHESTER, Holland House, Kensington (gr. Mr. Dixon), exhibited numerous succulent plants, including Aloes, Gastereas, Mammillarias, Dyckia rarifolia, Agaves, and Echinopsis.

In a separate tent, Countess ILCHESTER exhibited, from Abbotsbury Castle, Dorsetshire (gr. Mr. H. Kempshall), a collection of rare flowering shrubs and trees, including Buddleia Lindleyana, Callistemon salignus aurea, Eucalyptus ficifolia, Podocarpus chilina, Aloe maculata, varieties of Philadelphus, and Notospartium Carmichæliæ.

Messrs. BARR & SONS, King Street, Covent Garden, showed a collection of pigmy trees in china vases of quaint shape.

Messrs. H. CANNELL & SONS, Swanley, exhibited groups of Sweet Peas, Gloxinias, Zonal Pelargoniums, Cannas, Begonias, and Roses. The Sweet Peas included most of the newer sorts: Juliet (cream ground with pink), Florence Nightingale (lavender), Thomas Stevenson (orange), Arthur Green (maroon), Miss Doris (orange-pink), and Duplex (blush pink) are a selection. The Pelargoniums included a large batch of the salmon-coloured Paul Crampel variety, Sirdar (scarlet), Dublin (cerise), Mrs. G. Cadbury (salmon), Cymric (purple), and Countess of Jersey (salmon). The Cannas were remarkably good, showing a great advance on the older varieties.

Mr. L. R. RUSSELL, Richmond, Surrey, filled a table, 50 feet long, with the brilliant Salvia Pride of Zurich, making a broad band of rich scarlet colour backed with silver variegated foliage plants.

Messrs. WM. CUTBUSH & SON, Highgate, London, arranged a most charming group in a very attractive style. A few tall Palms, two specimen Codiæums, surrounded by a mass of pink Polyantha Rose (Eileen Low), stood above the exceptionally fine batches of Carnations and Roses which, with just a few plants of Statice profusa, composed the groundwork of this delightful group. The principal Carnations were Lady Coventry, King Arthur, and Lady Meyer. Among the many Polyantha Roses, Orleans Rose and dainty little standards of Jessie and Baby Tausendschön were especially good.

Messrs. CARTER & Co., Raynes Park, showed a batch of Araucaria excelsa var. gracilis.

JAPANESE GARDEN.

Messrs. CARTER & Co., Raynes Park, made a pleasant, restful Japanese garden. The large winding lake, which custom decrees must be in every Japanese garden, was bridged by an unpretentious wooden structure, and the bays of the lake were filled with exceedingly good Japanese Iris, chiefly with blue flowers. At the back a Birch-thatched rest-house nestled invitingly amidst tall Conifers and rustling Bamboos. The placid waters of the lake reflected the forms of the trees, and the colours of the Liliums and Irises. There were just a few stone lanterns, but on this occasion Messrs. CARTER relied on the quiet attraction of a well-designed garden, lightly planted with good subjects for their exhibit, rather than on such adventitious aids as bronze animals and heavy stone work.

HARDY PLANTS.

Mr. L. R. RUSSELL, Richmond Nurseries, Richmond, arranged a large group of the tree Ivies. The golden varieties were almost dazzling in their colour, and the white forms had plenty of variegation, but not too much. Beyond the large group of Ivies, Mr. RUSSELL made a water garden, almost surrounded with a splendid collection of Bamboos. A couple of weeping Willows, behind and hanging over the Nymphæa pool, lent an air of reality to the garden. Further on there were many golden and silver-leaved shrubs interspersed with batches of Ceanothus, Buddleia Colvillei, and the old favourite Erythrina crista-galli, with its quaint coral-coloured flowers. Half-a-dozen huge plants of Hydrangea hortensis showed the size this popular shrub is capable of attaining.

Messrs. W. FROMOW & SONS, Sutton Court Nursery, Chiswick, Middlesex, had an immense group of hardy trees and shrubs. The Japanese Maples with their variously-hued leaves, made this a very attractive display. Tall, slender Bamboos swayed gracefully in the gentle breeze. Bright golden colour was given by varieties of Yew and Cupressus and good golden variegated Ivies. The varied outline and tasteful arrangement of this collection added much to its attraction.

Messrs. WM. CUTBUSH & SON, Highgate, London, displayed splendid examples of topiary work. Whilst these trimmed trees are anathema to some garden-lovers, many others see beauty in the peacocks, pheasants, dogs, sundials, barrows, and such like, formed in growing bushes of Box or Yew.

Messrs. JAMES VEITCH & SONS, Chelsea, London, set out a large collection of immense pruned Bays. Most of them were pyramidal in outline; a few standards had twisted stems.

Mr. CARLTON-WHITE, 53, New Bond Street, London, showed a variety of Box topiary.

Messrs. JOHN PIPER & SONS, Bishop's Road, London, made an uncommon topiary garden. The fence of living Box, with round pillars, told of skilful and patient training. Next to the topiary work, Messrs. JOHN PIPER arranged a rock garden and pool.

Messrs. BARR & SONS, Covent Garden, London, arranged bold groups of herbaceous flowers on either side of a small pool, with pink Astilbes and Spiræas. The group included good bunches of hybrid Lupins, Harkness's new Verbascum, Geum Mrs. Bradshaw, Spark's Aconitum, Allium giganteum, Chrysanthemum "Shasta," Erigeron speciosus superbus, and Dimorphotheca hybrids. An exceptionally good collection of pigmy trees was also included.

Messrs. G. BUNYARD & Co., LTD., Maidstone, staged an effective group, with masses of distinct colour. The red Pentstemons Southgate Gem and George Horne formed a feature of the group. The pink Astilbes Ceres and Venus were fine, and good plants were included of Lilium longiflorum, Delphiniums, and Eremuri. A piece of rockwork showed Glaucium flavum tricolor, Dianthus deltoides Brilliant, dwarf Campanulas, &c.

Messrs. R. WALLACE & Co., Kilnfield Nurseries, Colchester, made a most satisfactory model of a garden design. A formal terrace garden was bounded by a rock wall planted on top with Hypericums, Helianthemums. and similar plants; and at the foot with a pretty combination of Nepeta Mussinii and Pentstemon Myddelton Gem. An herbaceous border at the back was rich in new Eremuri and Verbascums, Lilium longiflorum formosum, &c. Steps led to an upper garden hedged with trained Box, which included a harmony of Nepeta and Erigeron, with Pentstemon. An informal water-garden included Japanese Iris, Bamboos, and a good collection of herbaceous Spiræas and Astilbes. Hardy Ferns and Lilies were appropriately planted at the north side of one of the rock walls. The use of a dark background of Cupressus, assisted by green baize, did much to show up the colours in a very pleasing group.

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, showed herbaceous plants, among which we noted Epilobium angustifolium album, Nepeta violacea, and some Pæonies. The interesting feature of the group was the rich collection of cut shrubs with ornamental foliage. These included Acer Schwedleri, A. Schwerinii, Elæagnus longipes, Staphylea trifoliata, Liriodendron tulipifera aureo-marginata, Fagus tricolor, Ligustrum multiflorum, Syringa japonica, and Cotoneaster pannosa.

MARY Dowager Countess of ILCHESTER, Abbotsbury Castle (gr. Mr. Kempshall), sent a very interesting collection of rare flowering shrubs, which grow so well at Abbotsbury. We should like to enumerate them all, but must be content to mention Eucalyptus ficifolia, Magnolia Watsonii, Carpenteria californica, Deutzia Vilmoriniana, Cornus capitata, Notospartium Carmichaeliæ, Wilson's var. of Buddleia Lindleyana, Amyris Plumieri, Podocarpus chilina, Callistemon salignus aurea, and various rare Mock Oranges and Honeysuckles.

Messrs. FRED SMITH & Co., Woodbridge, in a well-staged exhibit of herbaceous flowers, showed good bunches of Scabiosa caucasica, Iris aurea, Œnothera Fraseri, Malva moschata, Gillenia trifoliata, Heuchera micrantha, Lysimachia clethroides, and Lilium candidum.

Messrs. W. CUTBUSH & SON, Highgate, N., grouped a large and varied collection of herbaceous flowers round a pool of Water Lilies and water plants. At the back were Japanese Iris and flower-spikes of Phormiums. The group also included Lilium giganteum, L. superbum, Thalictrum dipterocarpum, Romneya Coulteri, and bold sprays of early Gladioli.

Messrs. T. S. WARE, LTD., Feltham, showed a rock and water garden on tabling, and a collection of hardy herbaceous flowers. We noted Spigelia marilandica, Wahlenbergia saxicolor, Lewisia cotyledon, Nierembergia frutescens, Conandron ramondioides, Thymus micans, and Campanula turbinata alba.

Messrs. GEO. JACKMAN & SON, Woking Nurseries, Surrey, arranged a large group of herbaceous flowers. Some interesting yellow flowers included Heliopsis lævis, Bahia lanata, Anthemis pallida and E. C. Buxton, Delphinium sulphureum, and Thalictrum flavum. The Lilies included Lilium auratum, L. speciosum Krætzeri, and L. rubrum. In another tent Messrs. JACKMAN exhibited a splendid group of Clematis.

Mr. JAS. BOX, Lindfield, Sussex, arranged two groups of herbaceous flowers. Eremuri and Delphiniums produced a good effect, as also did the early-flowering Gladioli. English Iris, Cimicifuga racemosa, Œnothera fruticosa, Scabiosa caucasica var. Mrs. R. F. Felton, and large bunches of Gaillardias and Pyrethrums were also noted.

Mr. HOWARD H. CRANE, Woodview, Highgate, showed Violas and Violettas in shallow bowls of sand, adding, for relief, small sprigs of Thorn and Hornbeam. The Violettas included Rock Orange, Rock Yellow, Butterfly, and Forget-me-not, and amongst the Violas we noted Archie Grant, Kathleen, Marie Burnie, and Primrose Dame.

Messrs. R. H. BATH, LTD., Wisbech, showed bunches of Delphiniums, Snapdragons, Pæonies, and English Iris with a few vases of Carnations.

Messrs. JARMAN & Co., Chard, Somerset, sent an exhibit of Stocks and Viola cornuta.

Messrs. W. WELLS & Co., LTD., Merstham, Surrey, showed a mixed collection of herbaceous and Alpine flowers, interspersed with the newer Carnations Lady Algy, White House, and Dorothy Gordon. Delphiniums and Phloxes dominated the group, but we noted interesting vases of Scabiosa caucasica and Hedysarum coronarium.

Messrs. W. & J. BROWN, Peterborough, arranged a small group, but the bunches were well placed. Gaillardias included the red and yellow Lord Exeter (yellow with red disc), Lady Exeter, and the self-yellow Lady Rolleston.

Messrs. GODFREY & SONS, Exmouth, Devon, showed their selected strain of Canterbury Bells, which they have now worked up to about 10 distinct shades of pink, blue, and white; also a few Oriental Poppies and Dimorphothecas. In another tent a group of Scabiosa caucasica, Snapdragons, and various hardy perennials was arranged on tabling.

Messrs. WHITELEGG & PAGE, The Nurseries, Chislehurst, flanked a rocky pool of Water Lilies and Rushes with bold groups of showy herbaceous flowers. On one side Geum Mrs. Bradshaw gave a brilliant piece of colour, and on the other Pentstemon Southgate Gem was shown with Lilies and Scabiosa caucasica alba.

Messrs. KELWAY & SON, Langport, Somerset, arranged a long, narrow group on the ground, dominated by their recently-introduced Delphiniums, and Pæonies, Lupins, Gaillardias, and Pyrethrums.

Mr. MAURICE PRICHARD, Christchurch, Hants., showed a rich collection of herbaceous and Alpines, of which the gems were included in an irregularly-disposed rock-garden. We noted with special pleasure Heeria elegans, Houttuynia cordata, Wahlenbergia vincæflora, Hypericum cuneatum, Lysimachia Henryi, and Acantholimon venustum, and Lobelia (Pratia) linneaoides.

Messrs. B. LADHAMS, The Shirley Nurseries, near Southampton, in a group of general herbaceous plants, gave special emphasis to the selected hybrid Salvia superba (turkestanica × sclarea) with bright rose bracts, and their strain of Gaillardias.

Messrs. H. B. May & Sons, Dyson's Lane Nurseries, Upper Edmonton, arranged a group of hardy Ferns.

Messrs. G. Bolton & Son, The Nurseries, Buntingford, Herts., staged a small group of Galegas, Campanulas, Heucheras, Pentstemons, and Potentillas.

Messrs. Carter Page & Co., 52-53, London Wall, London, showed a collection of Violas in shallow pans. J. B. Riding, Swan, Lizzie Storer, Winchmore Bedder, Edina, Primrose Dame, and Virgin White were good. A few Dahlias, Salpiglossis, and Scabious were also shown.

Mr. Leslie T. Greening, Richmond Hill, Surrey, designed a small rock and water garden.

Messrs. Wm. Fells & Son, Hitchin, Herts., arranged a rock-garden rather overburdened with stone, but including good batches of Primula involucrata, Thymus Serpyllum coccineum, Delphinium nudicaule, Viola Bosniaca, Æthionema persica rosea, and several dwarf Campanulas.

Messrs. Gunn & Sons, Olton, Warwickshire, staged a very fine exhibit of Phloxes in bold, effective masses. Especially good were Le Mahdi, Elizabeth Campbell, George A. Strohlein, Gen.. van. Heutz, Baron von Dedem, and Ellen Willmott. In another tent were placed batches of Viola cornuta alba, purpurea, and Lilac Gem, mixed with a few baskets of Alpines, and overhung with Lilium auratum.

Mr. Amos Perry, Hardy Plant Farm, Enfield, Middlesex, arranged one of the most pleasing collections of hardy flowers and hardy Ferns. Cool effects were produced by the greens of water plants, the soft pinks of Spiræas and Astilbes, and the blues of Japanese Iris. Bold masses of Delphiniums terminated each end of the group. A collection of Lilies included Liliums pardalinum, parvum, Parryi, Roezlii and Krameri, and a large number of interesting Alpine and herbaceous plants were included.

Messrs. Phillips & Taylor, Lily Hill Nursery, Bracknell, Berks., showed a number of good Lilies and waterside plants, with a collection of herbaceous flowers.

Messrs. G. Mallet & Co., Cheddar, made an exceedingly good display of hardy plants in two small ground groups. Lilium candidum, Salvia nemorosa, Geranium anemonæfolium, Stachys grandiflora and Potentillas were good, and the water garden was also well done.

Mr. Frank Lilley, Bulb Nurseries, Guernsey, showed a large collection of early-flowering Gladioli, of which the brilliant colours were freely relieved with foliage.

Messrs. R. Veitch & Son, Exeter, showed a few very interesting plants, including their new Calceolarias Veitchii and The Bronze Age, with sprays of Plagianthus Lyallii, Desfontainea spinosa, Notospartium Carmichæliæ (unusually well-flowered), and Spiræa Menziesii triumphans.

Mr. R. C. Notcutt, Woodbridge, Suffolk, made one of the most varied and effective displays of hardy flowers in a confined space. His Verbascums were especially good.

Messrs. Rich & Co., Bath, staged a pretty group of herbaceous plants, with a good centrepiece of Verbascum Wiedmannianum, a background of Phloxes, and well disposed bunches of Chrysanthemum maximum Annie House, Coreopsis, and Pentstemons.

Messrs. G. Gibson & Co., Leeming Bar, Bedale, Yorks, arranged a well-packed group in which prominence was given to Verbascums Caledonia and A. M. Burnie; Delphinium Rev. E. Lascelles; Iceland Poppies; Thalictrum aquilegifolium album, and various Campanulas. There was a secondary group, which included Pæonies, Heucheras, and Columbines.

The Guildford Hardy Plant Nursery, Guildford, Surrey, contributed a very pleasing group, in which much more than ordinary care had been exercised in associating the colours and in spacing the flowers to allow their individuality to be seen. A group of yellow flowers included diverse forms of Scabiosa ochroleuca, Aconitum aureum, Cimicifuga racemosa, Thalictrum flavum glaucum, Cytisus nigricans, and Solidago. Pink Spiræas, Clematis recta fl. pl., Delphiniums, and Pentstemons were also noted. A small rock-garden included clumps of Nierembergias, Campanulas and Œnotheras.

Messrs. H. J. Jones, Ltd., Ryecroft, Lewisham, arranged a bank of Phloxes in continuation of the bank of Pelargoniums. The idea was novel, but the effect was not pleasing, for the uniform surface presented too dense a mass of colours. The Phloxes, however, were finely grown, and included specially good specimens of Freifraulein von Lassberg, Dr. Charcot, Sheriff Ivory, Elizabeth Campbell, and Frau Ant. Buchner.

Mr. H. C. Pulham, Elsenham, Essex, exhibited a small rock-garden and a group of herbaceous flowers. We noted Calamintha grandiflora, Geranium lancastriense, Thymus Serpyllum coccineus, and dwarf Campanulas.

Messrs. Bees Ltd., Liverpool, showed herbaceous plants and Alpines in pots. Adenophora Potaninii Lathyrus Smithii, Armeria Bees' variety, Aconitum carneum, and Scabiosa caucasica alba were interesting.

Messrs. J. Cheal & Sons, Ltd., Crawley, arranged a small rockwork exhibit on staging, with a background of dwarf shrubs. Veronica Bidwillii, Campanula pulla, Cistus algarvensis, Erythræa diffusa, and other good plants occupied the pockets. In the open, Messrs. Cheal made a formal enclosed garden, with a summer-house.

Messrs. Blackmore & Langdon, Twerton-on-Avon, Bath, staged a good collection of recently-introduced Delphiniums. The varieties Statuaire Rude, Rev. E. Lascelles, Daniel Osiris, Harry Smetham and other novelties certificated this year, were the outstanding features.

Mr. H. Hemsley, Crawley, Sussex, designed a small rock-garden, and planted it with Coronilla cappadocica, Ruta patavina, Silene armeria, Campanula tyrolensis, and similar plants.

Messrs. G. & A. Clark, The Nurseries, Dover, arranged a large group of herbaceous flowers. The outstanding feature was a brilliant mass of Gilia coronopifolia.

The Misses Hopkins, Mere Gardens, Shepperton-on-Thames, had a pleasing rockwork arrangement of hardy flowers, on which we noticed Linum perenne album, Calceolaria polyrhiza, Bowles's Black Pansy, and Campanula alliariæfolia.

Messrs. Thompson & Charman, 11, Adam Street, London, had a number of interesting herbaceous plants arranged on tabling, including Lilium myriophyllum, L. Hansonii, L. martagon vars., Campanula lactiflora in three shades, Thalictrum dipterocarpum, early Gladioli, and Pentstemons.

Messrs. David Russell & Son, Essex Nurseries, Brentwood, staged two small groups of herbaceous flowers, including Liliums, Monardas, Pyrethrums, and Chrysanthemums, and other common plants. In the grounds, Messrs. Russell exhibited a small Lily pond, flanked with a variety of flowering shrubs, Bamboos, and shapely young specimen Conifers.

Mr. Rassell, Earl's Court Road, London, built a small rockery around a paved court with a sundial.

Messrs. G. Stark & Son, Great Ryburgh, Norfolk, showed a very effective batch of new, richly-coloured Kniphofias.

Mr. G. Reuthe, Fox Hill Nursery, Keston, Kent, had a natural-looking little rockery, which contained some of the rare plants. The blue-flowered Sollya heterophylla and Acantholimon venustrum, with tufts of Pink-like foliage and rosy flowers were included amongst the rock plants. We also remarked such shrubs as Rhododendron Hookeri, Zenobia speciosa, a very large, bushy Desfontainea spinosa, and many dwarf Conifers suitable for planting at the top of a rockery.

Mr. Clarence Elliott, Seven Hills Nursery, Stevenage, made good use of a fine position. In his rockery large breadths of the beautiful pale-blue Campanula pusilla Miss Willmott, the darker blue G. F. Wilson, the white Nierembergia rivularis, and the lavender Androsace lanuginosa seemed to be quite established and flowering happily.

Mr. R. Prichard, West Moors, Wimborne, arranged a great variety of Alpine plants in small pots on a staging in the open.

Messrs. John Forbes, Ltd., Hawick, Scotland, exhibited herbaceous Phloxes, Pentstemons, Pyrethrums, and Violas. Amongst the Phloxes we noticed Tapis Blanc (a large-flowered variety), D. M. McKinnon (rose with white eye), Muriel Rogers (pale heliotrope with rosy eye), and Pierre Bayle as being the best of a fine collection. The Pentstemons bore long spikes of splendid flowers.

Messrs. John Waterer, Ltd., Bagshot, Surrey, also exhibited very good examples of topiary work. In this instance the specimens were all of Yew.

AWARDS.

First-class Certificates.

Polypodium Mandaianum.—A very vigorous variety of P. aureum, with rich, glaucous, green, crested fronds. (A magnificent specimen was shown by Mr. W. A. Manda, Keyfield Nurseries, St. Albans.)

Lilium warleyense (?).—This is a magnificent Chinese Lily, of which the general appearance suggests a glorified form of L. sutchuenense. The flowers are orange-red, with protuberant, chocolate spots; about 3 inches in diameter, with recurving segments, as in the common Turk's Cap Lilies. They are pendent from slender pedicels, as long as the leaves, and borne at the top of the stem in an open cluster of 20 or more. The stem is about 4 feet high, showing no bulbils, heavily spotted with chocolate and practically smooth. The leaves are numerous, borne spirally up the stem, linear, about 3 to 5 inches in length, and $\frac{1}{8}$ inch or a little more broad. (Shown by Miss Willmott, V.M.H., Warley Place—gr. Mr. C. R. Fielder.)

Lastrea patens Mayi.—This is the graceful, intermediate form between L. lepida and L. patens, which received an Award of Merit at the recent International Show. It was shown in better form than at Chelsea, and its value won for it a First-class Certificate. (Shown by Messrs. H. B. May & Sons, Dyson's Lane Nurseries, Edmonton.)

Awards of Merit.

Begonia Mrs. Robert Morton.—A rich, golden-yellow flower, the petals showing a faint suffusion of salmon-pink, varying in degree with age. The flower is of large size and good form.

B. Florence Nightingale.—A pure-white variety, of smooth texture, medium size, and fine form. (Both shown by Messrs. Blackmore & Langdon, Twerton-on-Avon, Bath.)

Clematis Lady Betty Balfour.—A new addition to the summer and autumn-flowering "Viticellæ" section. The flowers are a deep velvety-purple, richer in colour than Jackmanii, and contrasting finely with the bold mass of white stamens. (Shown by Messrs. Geo. Jackman & Son, Woking Nurseries, Surrey.)

Phlox Arendsii.—An interesting strain of dwarf hybrid Phloxes, in colours of lavender, mauve, and violet, with wiry stems, about 2 feet high, bearing flattish or rounded heads of flower, and said to be hybrids from P. canadensis and P. decussata. Some of the plants were under number only, but the mauve Käthe was one of the best. Luise, a somewhat similar shade, with marked eye, and Grete, dwarfer and lavender-white, were also pretty. The Award was granted for the strain. (Shown by Mr. Georg Arends, Ronsdorf, Germany).

Carnation John Ridd (Border).—A large-flowered, yellow-ground "fancy," heavily splashed with rose-pink.

C. Jean Douglas (Border).—A scarlet self, and the best of its colour. A little brighter than Cardinal, with more substance and of better form. (Both shown by Mr. Jas. Douglas, Edenside Nurseries, Great Bookham.)

Nephrolepis exaltata var. Rochfordii.—A variety somewhat resembling Marshallii compacta, but showing a more delicate subdivision of the fronds. These are a pale, sunlit green, and mosslike from the dense ramifications. (Shown by Messrs. Thos. Rochford & Sons, Ltd., Broxbourne, Herts.)

Astilbe Avalanche.—This is a very vigorous, white seedling, which originated in the batch of seedlings that also gave the popular variety Queen Alexandra. The plants shown had been lifted from the open, were 2 feet high, and densely flowered, with the individual flowers larger than in the type. Its chief value, however, will be for forcing, when it assumes the same graceful, feathery habit that has made the pink forms so popular. The vigour of the new plant makes it especially useful for growing from retarded crowns, as the common variety often fails. (Shown by Messrs. van Waveren & Kruyff, Sassenheim. Holland.)

Rose Ethel.—A pretty, semi-double, pink Wichuraiana seedling, showing a white centre as it opens: a vigorous grower. (Shown by Mr. Chas. Turner, Slough.)

Rose Mrs. Charles S. Hunting.—An apricot-yellow Hybrid Tea variety, richer in colour and with more substance than Mme. Ravary, which, under canvas, it somewhat resembled. (Shown by Messrs. Hugh Dickson, Ltd., Royal Nurseries, Belfast.)

ORCHID COMMITTEE.

Present: Sir Harry J. Veitch (in the Chair); and Messrs. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., W. Waters Butler, A. McBean, C. Cookson, W. Thompson, G. F. Moore, H. G. Alexander, E. Ashworth, R. G. Thwaites, W. P. Bound, T. Armstrong, Stuart Low, Walter Cobb, R. A. Rolfe, J. Wilson Potter, Gurney Wilson, W. H. Hatcher, W. Bolton, and H. J. Chapman.

The Orchids were arranged together in one of the long tents, and not in the large marquee as usual. The quality of the exhibits in the various groups was excellent, and more than thirty novelties were submitted to the Committee.

Among the finest in the show were the few magnificent specimens staged by Lt.-Col. Sir **Geo. L. Holford**, K.C.V.O. (gr. Mr. H. G. Alexander). These comprised a noble specimen of Cattleya Warscewiczii Lowii, with six spikes, some with five, richly-coloured flowers, and bearing together 22 blooms. The plant had already had a First-class Certificate, and to mark the excellence of culture, a Silver Lindley Medal was awarded. The others were the fine white-petalled Cattleya Warscewiczii Frau Melanie Beyrodt, the dark-coloured C. W. Othello and C. Artemis. (See Awards.)

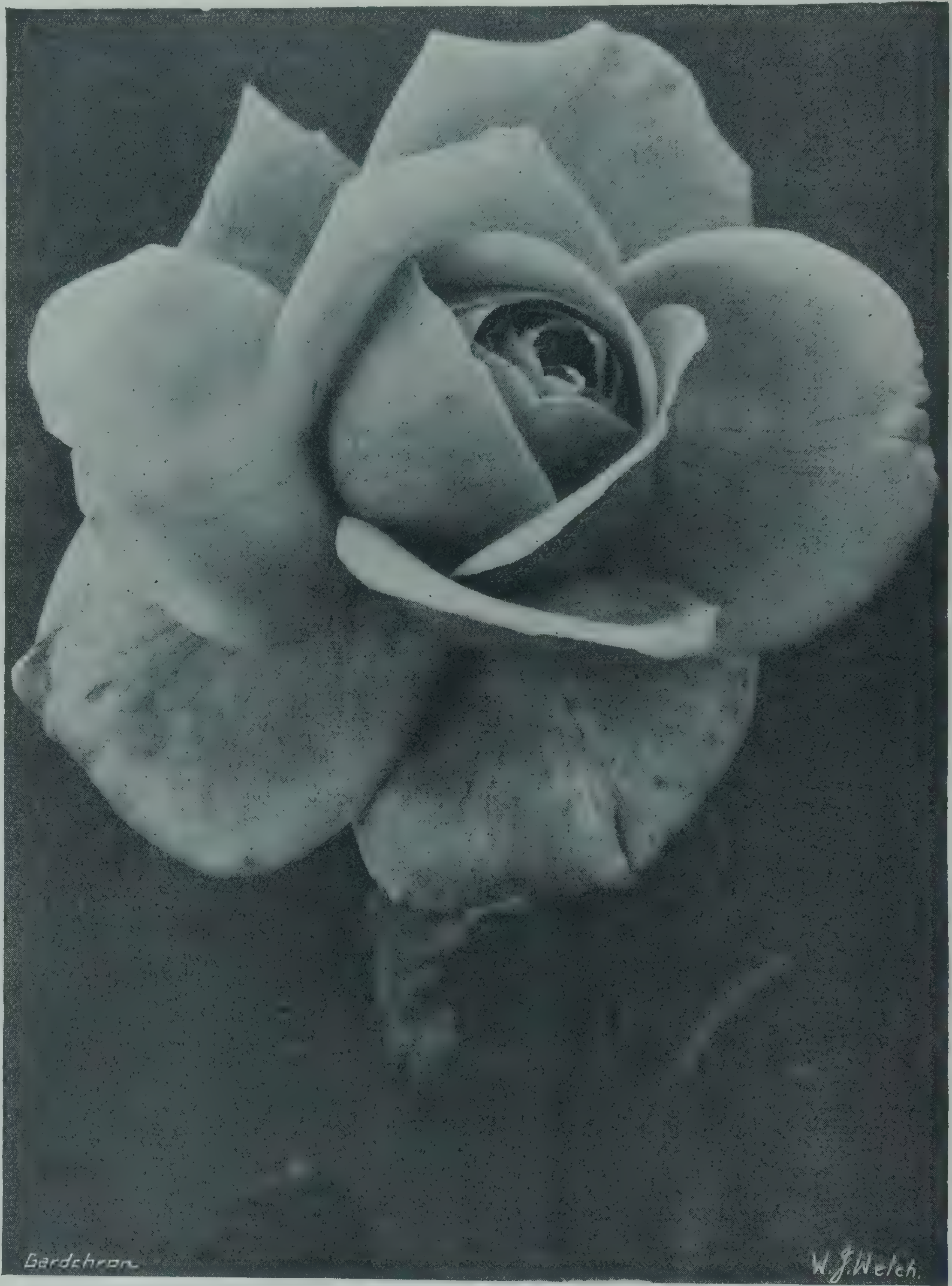
J. **Gurney Fowler**, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), staged a grand group of Selaginellas, most of the species in cultivation being represented, and above them were arranged a very fine lot of Odontoglossums, including two new finely-coloured hybrids and a large, blotched form of O. crispum. The white Cattleya Mossiæ Wageneri, the blush C.-M. Arnoldiana, Anguloa Cliftonii, with three flowers, Odontoglossum ardentissimum, with a branched spike of 50 flowers, and other showy Orchids were included.

Sir **Jeremiah Colman**, Bart., V.M.H., Gatton Park (gr. Mr. Collier), staged an extensive group. In the centre were many good Odontoglossums and bright scarlet Odontiodas, on plant of Odontioda Bradshawiæ having four spikes, one with six branches and over 40 flowers. Cattleyas were finely shown, including C. Rex and white varieties of C. Mossiæ, and a very showy collection of Lælio-Cattleyas. Specially interesting plants were seen in Cirrhopetalum pulchrum, Bulbophyllum grandiflorum, with five spikes; Angræcum Eichlerianum; Anguloa uniflora; Nanodes Medusæ: Broughtonia sanguinea; and the blue Dendrobium Victoria Regina. The exhibit included an interesting selection of Masdevallias.

E. H. **Davidson**, Esq., Borlases, Twyford (gr. Mr. Cooper), staged a bright group of Odontoglossums, Cattleyas, Lælio-Cattleyas, and other Orchids. Specially fine were a beautiful form of L.-C. Aphrodite and L.-C. rubens var. The Kaiser. (See Awards.)

The finest group was that staged by Messrs. **Charlesworth** & Co., Haywards Heath. The centre was comprised of about 60 choice specimens of the white Phalænopsis Rimestadtiana, beneath which was a setting of Epidendrum vitellinum, and, arranged above, a number of scarlet Renanthera Imschootiana, good forms of Miltonia vexillaria, M. Bleuana, and M. Hyeana extending along the whole of the front. On each side were showy Lælio-Cattleyas, the finest being the glorious yellow L.-C. Ceres Princess Mary, with ruby-red lip; scarlet Odontiodas, and remarkably fine hybrid Odontoglossums, the richly-coloured forms of O. eximium being specially attractive. At the back of the group the pure white Sobralia macrantha alba and other Sobralias with graceful Epidendrums, were effective. Rare and interesting plants noted were the hybrid Vanda Charlesworthii, the very rare Grammangis Ellisii, Aërides japonicum with several spikes, Bulbophyllums, and other curious species, including Oncidium Clæsii, Gongora leucochila, Cypripedium caudatum and Lindenii, and pretty Masdevallias.

Messrs **Mansell** & **Hatcher**, Rawdon, Yorks, staged a magnificent group, which included a remarkable collection of Lælio-Cattleyas, all the best kinds being represented in well-flowered specimens, together with some novelties, the finest of which was L.-C. Bletchleyensis King George, a large and perfectly-formed flower of a bronzy-yellow tint, suffused with rose, the claret-coloured lip having a darker veining. Among the Cypripediums was C. Chas. J. Catt (Godefroyæ leucochilum × Chamberlainianum), a pretty wax-like white flower, veined with purple, and specially good were the white-flowered Miltonia vexillaria Lambeauiana, Cœlogyne pandurata, C. Dayana, Cirrhopetalum pulchrum, Dendrobium Lowii, D. revolutum, D. Sanderæ, and other rare species.



HOLLAND HOUSE SHOW.

Fig. 8.—ROSE MRS. CHARLES S. HUNTING: COLOUR APRICOT-YELLOW.

(See Awards of Merit.)

Messrs. **Stuart Low** & Co., Bush Hill Park, staged an extensive group, in which the Lælio-Cattleyas and forms of Cattleya Warscewiczii were very fine. In a raised group in the centre were Acineta Humboldtii, various white Cattleyas, scarlet Renanthera Imschootiana, the fine Cœlogyne Lowii, Chysis Sedenii, and in front various Masdevallias, and other showy species. Among the Dendrobiums were the rare D. aurantiacum, and others noted were Lælia tenebrosa Walton Grange var.; good scarlet Odontiodas; some elegant Oncidiums, Cattleya Mendelii alba; C. Mossiæ Queen Mary; two batches of Vanda teres; good Miltonias, and other showy Orchids.

Messrs. Jas. **Veitch** & **Sons**, Chelsea, in their superb group of new and rare foliage plants, arranged a selection of Odontoglossums, Lælio-Cattleyas, &c. The crowning plant in their exhibit was Brasso-Cattleya × Marion, a very showy hybrid of unknown parentage. The centre of the group was composed of their hybrid Disa Luna, the best and most floriferous of the genus; whilst showy Cattleyas and Lælio-Cattleyas, the white Dendrobium Dearei, Vanda cœrulea, Odontoglossums, &c., were also included.

Messrs. **Sander** & **Sons**, St. Albans, showed a selection of good, new Orchids. a pretty form of Lælio-Cattleya Ceres, with yellow petals tinged with rose; L.-C. Martinettii Vesuvius, a showy, bronzy yellow, with light claret lip; the deep blue Bollea Lalindei; Miltonia vexillaria Lambeauiana, with a profusion of white flowers.

Mr. E. V. **Low**, Vale Bridge, Haywards Heath, showed a small group in which were Cattleya Mossiæ Wageneri Vale Bridge variety, C. M. Reineckiana, the white C. × Myra Peeters; Cœlogyne pandurata, Cattleya Dietrichiana, and others.

Mr. H. A. **Tracy**, Orchid Nursery, Amyand Park Road, Twickenham, staged a representative group, in which the varieties of Lælio-Cattleya Canhamiana and other Lælio-Cattleyas were effective. Cattleya Whytei bore six flowers; C. Mossiæ Wageneri, home-raised, a clear snow-white flower, with yellow disc to the lip, and some hybrid Odontoglossums were conspicuous. Of species, the true Bulbophyllum saurocephalum, and some other botanical species were remarked. The pretty forms of Cattleya Mendelii in this group were effective.

Messrs. J. & A. A. McBean, Cooksbridge, showed Miltonia vexillaria Rotundia, a large and very beautiful flower, and Cattleya Warscewiczii Gladiator, a noble flower of fine colour, and others.

F. M. Ogilvie, Esq., Oxford, showed several grandly-grown Odontoglossums, a very handsome specimen of O. crispum of the typical form being specially noticeable.

Mr. W. J. Biggs, North Enfield, showed Cattleya Mossiæ alba Biggs' variety, the finest white C. Mossiæ yet shown. The flowers were very large, broad in all parts, and snow white.

J. S. Moss, Esq., Wintershill, Great Waltham, showed a pretty hybrid between Odontoglossum crispum and O. × Othello.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, staged a pretty group of Odontoglossums, Cattleya Warscewiczii in fine varieties, two fine white Cattleya Mossiæ Wageneri, and other Orchids.

AWARDS.

First-class Certificates.

Cattleya Artemis (C. × Iris × C. Gaskelliana), from Lieut.-Col. Sir Geo. L. Holford K.C.V.O. (gr. Mr. H. G. Alexander).—A very beautiful flower of perfect shape, with pearly-pink sepals and petals, and intense ruby-crimson front to the lip, which has a large yellow disc with white base and red lines.

Miltonia Hyeana Le Conquerant, from Monsieur Jules Hye de Crom, Ghent (gr. M. Coen).—A grand flower, white with a light lilac tint and a deep purple mask in the lip.

Cattleya Dupreana The Dell variety (Warneri × Warscewiczii), from Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill). One of the largest and most beautiful of hybrid Cattleyas, it may be likened to an enlarged C. Warneri with the lip of the rich ruby crimson of the best form of C. Warscewiczii. The sepals and petals are a deep rose colour, the disc of the lip being bright yellow.

Awards of Merit.

Lælio-Cattleya Rubens The Kaiser, from E. H. Davidson, Esq., Twyford.—One of the most beautiful of the hybrids of Lælia pumila. The flowers are abnormally large in proportion to the dwarf growth. Flowers bright rose, lip intense purple with chrome yellow disc.

Odontoglossum percultum King George, from F. M. Ogilvie, Esq., Oxford (gr. Mr. Balmforth).—A showy hybrid, with large white flowers, blotched with purple.

Brasso-Cattleya Marion (parentage unrecorded), from Messrs. Jas. Veitch & Sons.—A beautiful flower, white and lilac, with a large lip, having purple lines in front.

Cattleya Thurgoodiana Apollo, from Messrs. Stuart Low & Co.—A brilliant rose-red flower, with intense purple front to the lip.

Certificate of Appreciation.

Odontonia Edna (M. Warscewiczii × O. Wilckeanum), from Messrs. Charlesworth.—An elegant novelty with branched spike of white flowers blotched with brownish yellow.

Fruit and Vegetables.

Messrs. James Veitch & Sons' collection of fruit trees in pots was uncommonly fine. Along the back of the large group there stood tall-stemmed, fan-trained trees of Peach Royal George and Nectarine Cardinal, which were models of training, and were studded with fruits. There were many bush trees of Plums, and those of Oullin's Golden Plum and Brandy Gage were even better examples than the trees of Jefferson's Plum. One gridiron-shaped specimen of Denniston's Superb Plum was nearly perfect. Standard Gooseberries, notably of the variety Whitesmith, which stood over the cordon Currants, were wreathed with clusters of fruits; indeed, had many more berries than leaves. A large tree of Morello Cherry showed that this variety is valuable for other purposes than for growing on a north wall. This exhibit was awarded the Coronation Cup.

S. Heilbut, Esq., The Lodge, Holyport, Maidenhead, exhibited nine very large trees of Cherries and Nectarines in pots. The Nectarines shown were all of the variety Early Rivers, and the Cherries included Emperor Francis, Bigarreau Noir de Guben, and Late Black Bigarreau. These heavily-fruited specimens, with dark-green leaves full of health and vigour, reflect the highest credit on Mr. G. Camp, the gardener, and were well worthy of the Silver Cup bestowed upon them.

The King's Acre Nursery Co., Hereford, made a very fine display with fruiting pot trees. The healthy young trees bore good crops of high-quality fruits. Apples Baumann's Red Winter Reinette, Emperor Alexander, and The Queen were especially good. The ripe Nectarines and Peaches, and the nearly ripe Souvenir du Congrès Pear were the best examples. The King's Acre Berry—an improved Raspberry—is of good size and has a good flavour.

Messrs. Whitelegg & Page, The Nurseries, Chislehurst, showed long fruiting growths of their Newberry, which received a card of Cultural Commendation on June 18 last.

Messrs. Geo. Bunyard & Co., Maidstone, showed a variety of Apples, Pears, and Plums in pots. The varieties of Apple Lady Sudeley and James Grieve, with large, red-striped fruits, were exceptionally good. A bush of Ribston Pippin close by showed no signs of canker or decrepitude. Ben's Red, a dessert variety of Apple, distributed by Messrs. Bunyard in 1890, has deep-red, handsome fruits. Tall-stemmed Nectarines at the back of this splendid group bore heavy crops of fruit.

Messrs. Laxton Bros., Bedford, showed late varieties of Strawberries. For so late in the season the fruits were very meritorious. The varieties Utility, Givon's Late Prolific, and Laxton's Latest were especially fine. Laxton's Perfection Red Currant, which was also shown, is an excellent variety.

Messrs. Stuart Low & Co., Bush Hill Park, Middlesex, displayed an interesting collection of pot Figs and trained Vines bearing excellent crops. The Fig Violet Sepor appears to be a very desirable variety.

The Duke of Rutland, Belvoir Castle, Grantham (gr. Mr. W. H. Divers), exhibited excellent fruits of a dozen varieties of Strawberries. The boxes of Givon's Prolific, Gunton Park, Epicure, and The Countess were splendid.

The Halliford French Garden, Shepperton, Middlesex, exhibited Cantaloupe Melons, Cucumbers, Vegetable Marrows, Cauliflowers, and other excellent vegetables grown under the "intensive" methods.

Rev. Chalmers Hunt, Willian Rectory, Hitchin, showed a small collection of vegetables.

For Awards made by the Council see p. viii.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

June 6.—*Committee present:* Rev. J. Crombleholme (in the Chair); Messrs. R. Ashworth, J. Bamber, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, C. Parker, F. K. Sander, Z. A. Ward, A. Warburton, and H. Arthur (secretary).

Silver-gilt Medals were awarded to Col. J. Rutherford, Beardwood, Blackburn (gr. Mr Lupton); A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish); and Messrs. Charlesworth & Co., Haywards Heath.

Silver Medals were awarded to Mrs. Wood, Glossop (gr. Mr. Gould); Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby); J. McCartney, Esq., Bolton (gr. Mr. Holmes); Messrs. Hassall & Co., Southgate; and the Liverpool Orchid & Nursery Co., Gateacre.

First-class Certificate

Odontoglossum "Queen Mary" (Vulsteyke × eximium), from W. R. Lee, Esq.

Awards of Merit.

Odontoglossum crispum "White Star" and *O. c. "White Queen,"* both from W. R. Lee, Esq. *Aërides Houlletiana magnifica,* from Mrs. Wood. *Lælio-Cattleya Martinettii, John Lupton variety,* from Col. J. Rutherford, M.P. *Cattleya Cowanii magnificum, Marlfield variety,* and *Odontoglossum × Mrs. Carlisle,* both from R. Le Doux, Esq.

NATIONAL ROSE.

EXHIBITION AT SOUTHAMPTON.

Notes on New Roses.

June 26.—We are all of us, whether in the Rose world or elsewhere, desirous of seeing or hearing some new thing, and to the rosarian at least this arises from no idle curiosity. The century is but little past its first decade and already the advance made on the Roses of the nineteenth century is substantial. It is, of course, perfectly true that of the vast number of new Roses brought out every year, comparatively few survive the period, usually about four or five years, which generally elapses before a novelty can be expected to become widely known, but this is in the nature of things; and if the majority of the fresh introductions must be rejected, there is sure to be a residue to carry on the tale of progress.

The Southampton Show of the N.R.S. was notable for some particularly fine and clean Roses, the early season, followed by a moist and cool June, having no doubt been specially favourable for the production of exhibition flowers. In the decorative classes there were some beautiful exhibits of Lady Hillingdon, Lady Pirrie, and Rayon d'Or, and it is clear these Roses have a future before them for use in these classes. General MacArthur also was used in nearly every stand and attracted attention, although it was perhaps not quite at its best in point of colour.

An indication of the earliness of the season was afforded by the appearance in many stands of Blush Rambler, a Rose which is not, in an ordinary season, seen much before the middle of July.

A corner of the large pavilion had been set apart for the exhibition of the new seedling Roses, a class which produced some 14 or 15 entries, and afforded by no means the least attractive feature of the show.

Decidedly the most striking Rose was Messrs. B. Cant & Sons' St. Helena, a beautiful flower, not unlike Mme. Mélanie Soupert in general effect, but rather more pink and of fine form. The ground plan of this variety showed very glossy, deep green leaves, and had all the appearance of belonging to a class which might keep mildew at bay with but little trouble. The resemblance to Mme. Mélanie Soupert lies chiefly in the outer or guard petals; the centre of the flower seems decidedly fuller and slightly more pointed in St. Helena than in Mme. Mélanie Soupert.

A good box of Freda was shown by Messrs. Paul & Son. This is a full Rose with plenty of substance, the centre well shaped and rounded, but with a good point. My recollection of the colour is a general effect of bright clear pink at the edges, the centre a peach colour, with a certain amount of fawn shading on the reverse of the petals. It is certainly a very pretty and cheerful Rose and seems full enough to grow for exhibition. Personally, I think I should have placed it next to St. Helena in this particular batch, and though we have many, perhaps too many, pink Roses, I think there is room for Freda.

A very brilliant effect was produced by a stand of Irish Flame. This Rose is the latest addition to the single Roses sent us from Ireland, and associated with the name of Dickson. The general character of the flower is much like that of Irish Elegance, in which we have a single Rose with a ground colour of yellow or pale orange, suffused with pink which deepens outwards. In Irish Flame the pink is replaced by a colour approaching vermilion, which on the yellow ground produces a striking effect of orange scarlet. If it will keep its wonderful colour in this country, it should become a popular Rose, for the foliage appears to be more glossy than that of Irish Elegance, and this gives promise of freedom from mildew, a disease to which Irish Elegance often falls a victim as the season progresses.

It was no doubt merely by a coincidence Messrs. Bide were showing another variation on Irish Elegance, which they call Mrs. A. Bide. Curiously enough it is a variation rather in the same direction as Irish Flame, so far as colour is concerned. The flowers, however, are more double than those of the two Roses named above, though they are not what is generally called full, but contain one or two rows of petals inside the ordinary guard petals. The colouring, instead of being pink on yellow ground, as in Irish Elegance, is of a reddish tint on a similar ground colour.

There was a large batch of P. le Cornu, a pale yellow sport from Dean Hole, brought from the Channel Islands by the raiser, and a new red Hybrid Tea called Othello. This is a colour we may still welcome in this class, but only trial in the garden can decide whether it will be an improvement on the Roses we possess at present.

Of the remainder I may perhaps mention Edwin Molyneux, a Rose with large shell-shaped petals and a light carmine pink colour, and Minnie Crane, a Rose of a pink colour something near that of Lady Pirrie, but not quite so bright in appearance as the Rose was shown.

The other new Roses exhibited were certainly interesting, and in nearly all cases had some point which attracted attention, but as shown they were less interesting than those I have mentioned, and in a short note of this kind a detailed description would be out of place. I must therefore content myself with saying that I hope we may see some of them again. *White Rose.*

Details of the Exhibition.

Taking the exhibition as a whole, the entries were numerous, the competition keen, the flowers exceptionally fine, and the arrangements all that could be desired.

Mr. Edward Mawley, the Secretary of the National Rose Society, received valuable assistance from Mr. C. S. Fuidge, the Secretary of the Southampton Society.

Open Classes.

The principal class was for 48 blooms (distinct). There were seven competitors, and Messrs. D. Prior & Son, Colchester, were, after a long and close scrutiny, awarded the 1st prize for blooms as near perfection as possible. The leading varieties were Mildred Grant, Gloire de Chedane Guinosseau, Florence Pemberton, Dean Hole, White Lady, Juliet, Boadicea, Her Majesty, Victor Hugo, Comte de Raimbaud, Mme. Jules Gravereaux, Lady Helen Vincent, Mrs. W. J. Grant, Lyon Rose, Earl of Warwick, Gustave Piganeau, His Majesty, Mrs. Myles, Kennedy, A. K. Williams, Jonheer, J. L. Mock, Countess Caledon, and Oberhofgartner Terks.

Messrs. B. R. Cant & Sons, Colchester, were placed 2nd with excellent blooms, of which the following were noteworthy :—St. Helena (especially fine), Mrs. Foley Hobbs, Lieut. Chaure, Margaret, Horace Vernet, E. Mawley, Mildred Grant, W. R. Smith, and Mrs. E. Mawley. 3rd, Messrs. A. Dickson & Sons, Newtownards, Belfast; this firm staged especially fine blooms of George Dickson, Lyon, and Mrs. A. Coxhead.

For 12 triplets Messrs. D. Prior & Son again secured the leading place with choice blooms of His Majesty, Horace Vernet, Gloire de Chedane Guinosseau, Mrs. A. Coxhead, J. B. Clark, Mme. Jules Gravereaux, Bessie Brown and Mrs. Myles Kennedy. Messrs. B. Cant & Sons were awarded the 2nd prize for smaller, but particularly richly-coloured fresh flowers, Horace Vernet, Gloire de Chedane Guinosseau and Mme. Jules Gravereaux being a selection. 3rd, Messrs. A. Dickson & Sons, Newtownards, with larger blooms, but they were too much dressed. Six competed in this class.

In the class for 12 Tea or Noisette varieties there were eight entries. Messrs. D. Prior & Son again excelled with grand blooms of Mrs. E. Mawley, Boadicea, Souv. de P. Notting, Mrs. Myles Kennedy, W. R. Smith and Mrs. F. Hobbs. Messrs. B. Cant & Sons were placed 2nd with smaller flowers of popular varieties; 3rd, Mr. G. Prince, Longworth, Berkshire.

Nurserymen's Classes.

No fewer than fifteen competed in the class for 24 blooms, distinct, the collections making a striking display. Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, won the 1st prize with clean, well-coloured blooms of medium size. Mme. Jules Gravereaux, Jonheer, J. L. Mock, Duke of Teck, Dr. O'Donel Browne, Hugh Dickson and Mrs. W. J. Grant were conspicuously good. Mr. G. Prince won the 2nd prize with larger blooms, but not so fresh as those in the premier collection. Mrs. Stewart Clark and Mildred Grant were conspicuous varieties. 3rd, Messrs. Perkins & Son, Coventry, who showed a magnificent bloom of Juliet.

Eleven staged in the class for eight triplets. Messrs. J. Burrell & Co. were placed 1st with large, good specimens of W. Shean, Mme. Jules Gravereauv, Bessie Brown, G. C. Waud, Dean Hole, Hugh Dickson, and Mildred Grant. Mr. G. Prince was a choice 2nd with conspicuous examples of Avoca, E. Mawley and Gloire de Chedane Guinosseau. 3rd, Mr. H. Drew, Longworth, Berkshire.

For 18 Tea or Noisette Roses eight competed, and Mr. G. Prince won the premier prize with neat, clean flowers of Blanche Martin, Boadicea, W. R. Smith, Mrs. E. Mawley, Mrs. F. Hobbs, and Mme. Jules Gravereaux. 2nd, Mr. H. Drew. 3rd, Messrs. J. Burrell & Co.

The class for 12 blooms of new varieties was especially interesting, as many as nine competing. Messrs. D. Prior & Son followed up their previous successes by winning the premier award with a distinctly interesting exhibit. The varieties were Mrs. A. Coxhead, Nita Weldon, Mrs. J. Welch, Mrs. F. Hobbs, Leslie Holland, Margaret, Mrs. J. W. Budd, Mme. P. Euler, Ferniehurst, Elizabeth, and Cynthia. Mr. G. Prince, who won the 2nd prize, showed extra fine blooms of E. Mawley and Juliet. 3rd, Messrs. Alexander Dickson & Son.

For 12 blooms of one variety of H.P. Rose, Messrs. D. Prior & Son excelled with Gloire de Chedane Guinosseau. 2nd, Messrs. S. Bide & Sons, Farnham, with Frau Karl Druschki. There were eight competitors in this class.

The best 12 blooms of a H.T. variety were shown by Messrs. A. Dickson & Son, Belfast, who staged Mrs. Cornwallis West exceptionally finely. 2nd, Messrs. Perkins, with Dean Hole. The competitors in this class numbered 15.

Eleven entered in the class for 12 blooms of any one Tea or Noisette variety. Mr. F. Cant excelled with small, clean blooms of Mrs. Foley Hobbs. 2nd, Messrs. D. Prior & Son, with large but rough blooms of Mme. Jules Gravereaux. The King's Acre Nursery Co., Hereford, secured the 3rd place with the variety Mrs. E. Mawley.

In the class for a representative group of cut Roses shown in vases in a space not exceeding 60 square feet there were only two exhibitors. Mr. Elisha J. Hicks, Hurst, Twyford, Berkshire, was easily 1st with a pleasing display of truly decorative varieties arranged lightly in masses of one variety and quite effectively. The leading sorts were General MacArthur, Pharisaer, Mme. A. Chatenay, American Pillar, Lady Hillingdon, Richmond, Rayon d'Or and Harry Kirk. Mr. H. Drew was the other exhibitor, and he was awarded the 2nd prize.

In the class for 24 varieties, not fewer than three nor more than 12 trusses of each, arranged in a space measuring 8 feet by 3 feet, six competed, the whole making a bold and attractive display. Mr. J. Mattock, Headington, Oxon, secured the premier award with fresh blooms neatly arranged of such varieties as Mons. Paul Lede, Lady Pirrie, Mme. Ravary, Mrs. A. Tate, Lady Curzon, Trier, Marquise de Sinety, and Richmond. Messrs. F. Cant & Co. were 2nd with Crimson Damask, Irish Elegance, Lady Pirrie and Margaret Molyneux. 3rd, Messrs. W. Spooner & Son, Arthur's Bridge Nursery, Woking.

There was a class for seven baskets of Roses, each containing one distinct variety other than exhibition sorts, and Mr. E. J. Hicks was placed 1st with an attractive exhibit of such varieties as Rayon d'Or, Comtesse du Cayla, Lady Hillingdon, General McArthur, Duchess of Wellington, and Mme. Jules Grolez. Mr. J. Mattock was placed 2nd with smaller blooms, of which Mme. Segond Weber, Mme. Mélanie Soupert, Lady Pirrie and Mrs. P. Blair were noteworthy. 3rd, Messrs. S. Bide & Son, Farnham. Messrs. D. Prior & Son had the finest exhibit, but they were disqualified.

Amateurs' Classes.

Much interest was centred in the class for 18 distinct varieties for which the Munt Cup was offered and for which 12 competed. The trophy was won by C. Lamplough, Esq., Kirkstall, Alverstoke, Gosport, who showed medium-sized, shapely, clean specimens possessing fine quality. A selection of the varieties includes: A. K. Williams, Countess of Ilchester, J. B. Clark, Queen of Spain, Mrs. Theodore Roosevelt, Alice Lindsell, Florence Pemberton, and Dean Hole. Mr. G. A. Hammond, Cambrian House, Burgess Hill, Sussex, was placed 2nd, and Mr. E. M. Eversfield, Deune Park, Horsham, 3rd.

Mr. H. L. Wettern, Waratah, Sanderstead, Croydon, had the best of 10 exhibits of six blooms of any H.P. variety with capital specimens of Frau Karl Druschki; 2nd, Mr. Lamplough, with the same variety.

Mr. E. F. Brown, Lynton, Sussex Place, Slough, won the 1st prize in the class for six blooms of a H.T. variety with Dean Hole in superb condition. Mr. Lamplough followed with Mildred Grant. There were 19 competitors in this class. Mr. Alex. Hill Gray, Beaulieu, Newbridge, Bath, was placed 1st for 12 Tea or Noisette varieties with desirable blooms of H. Kirk, Dr. F. Guyon, Mrs. Hubert Taylor, Maman Cochet, and White Maman Cochet. The Rev. R. Pawley, Upton Scudamore Rectory, was 2nd amongst six competitors.

Mr. E. T. Brown, Lynton Place, Sussex, excelled in the class for six triplets in a stiff competition amongst 11 exhibitors. The varieties Mrs. Theo. Roosevelt, Dean Hole, and Laurent Carle were especially fine.

In a class for 12 blooms for growers of fewer than 2,000 plants, Mrs. Croft Murray, Perivale, Isle of Wight, won the 1st prize.

For growers of fewer than 1,000 plants, Mr. Lamplough had the premier collection of 12 blooms.

For 12 distinct varieties of decorative Roses, not fewer than three nor more than 12 trusses of each, the Rev. Joseph Pemberton, Havering, Romford, was placed 1st. He showed such varieties as Red Provence, Aglaia, Gruss an Zabern, Seagull, Lady Curzon and Brunonis. 2nd, Mrs. Ethel M. Wightman, Bengeo, Hertford.

AWARDS.

Seedling Roses were staged numerously. Messrs. B. Cant & Sons were awarded a Gold Medal for St. Helena, a H.T. variety of sterling merit. It is a full-pointed, creamy-white flower with a delicate pink centre when opening, changing with age to a pleasing shade of pale apricot. It was raised from Joseph Hill crossed with Marquise de Sinety.

A Gold Medal was also awarded to Messrs. A. Dickson & Sons, Belfast, for single Rose Irish Flame, which may be best described as a magnificent form of Irish Elegance. It is a grand Rose.

A Card of Commendation was awarded to the variety Duchess of Normandy, a pale Dean Hole.

In the open classes medals were awarded the varieties (H.P.) *Victor Hugo*, shown by Messrs. D. Prior & Sons; (H.T.) *St. Helena*, shown by Messrs. B. Cant & Sons; and (Tea) *Mrs. F. Hobbs*, exhibited by Mr. P. Prince.

In the amateurs' section the following varieties received medals:—(Tea) *W. R. Smith*, shown by Mr. E. W. Morris, Uckfield; (H.P.) *A. K. Williams*, shown by the Rev. J. Pemberton; and (H.T.) *Mrs. Theodore Roosevelt*, shown by Mr. E. L. Brown, Slough.

Decorative Classes.

The displays in this section were of a moderate character beyond the 1st and 2nd prize exhibits. In the class for a decorated dinner table five competed. Mrs. Colston Hall, Virginia Lodge, Warminster, was easily 1st, arranging Roses Irish Elegance and Gottfried Keller with bronze coloured foliage in silver vases, with a bowl in the centre; 2nd, Mrs. G. A. Hammond, Cambrian House, Burgess Hill, Sussex.

In the local classes Mr. W. H. Myers, Swanmore House, Bishop's Waltham (gr. Mr. Ellwood), had a good bowl of Roses of mixed varieties effectively disposed.

Sweet Peas.—Two classes were provided for Sweet Peas by the Southampton Society, each for six bunches. In the class open to all the prizes were provided by Messrs. Toogood & Sons, Southampton, and there were 12 competitors. Mr. F. G. Bealing, Bassett Nurseries, Southampton, was placed 1st with handsome blooms of Barbara, Elfrida Pearson, Tennant Spencer, Clara Curtis and Thomas Stevenson. Mr. H. H. Lees, Havant, was a close 2nd. In the amateur class Mr. F. Green, The Beeches, Swaythling, excelled with handsome vases of Elsie Herbert and Sunproof Crimson as the best; 2nd, Mr. Lees.

Non-competitive Exhibits.

Messrs. B. Ladhams & Sons, Shirley, Southampton, staged a handsome group of hardy flowers.

Messrs. Toogood & Son, Southampton, staged a handsome group of Sweet Peas of grand quality.

Messrs. LONGSTER & Co., Southampton, and Mrs. STEVENSON, of Wimborne, also showed Sweet Peas.

Mr. C. W. BREADMORE had the new Sweet Peas Aggie Elder, Princess Mary, Mrs. Fred Arey, Duchess of Wellington, and Lord Kitchener, making an attractive display.

Messrs. W. H. ROGERS, Bassett Nurseries, staged Roses in pots and as cut blooms, making a capital display.

POTTERS BAR AND DISTRICT AMATEUR ROSE.

JUNE 21.—The annual meeting of this society was held on the above date in the grounds of E. Weber, Esq. Mrs. Trotter, vice-president of the society, presided. The secretary (Mr. H. R. Darlington) having submitted the formal business of the meeting, and the usual resolutions having been passed, the president announced that the summer show of the society would be held on July 11 next. He then called upon Dr. A. H. Williams, vice-president of the National Rose Society, to give an address on the subject of "Climbing Wichuraiana Roses," of which the following is an abstract.

ADDRESS BY DR. WILLIAMS.

THE WICHURAIANAS.

Wichuraiana Roses are of recent origin. Manda in America sent out the first. About the same time the climbing Roses of the Multiflora type came into prominence.

R. Wichuraiana, so far as Europe is concerned, was discovered about 1860. It is closely allied with the Multiflora group, Rubin, Tausendschon, and others. There was at first some confusion arising from the fact that at first they were examined only in dried botanical specimens, but there can be no difficulty about them when they are seen growing in the garden.

R. Wichuraiana possesses shining foliage and creeping growth, while R. Multiflora has stout, rather upright shoots and somewhat rugose foliage.

Since Manda sent out his first hybrids a very large number have been put into commerce. It is estimated that already some 150 varieties of Wichuraiana hybrids have been sent out.

CLIMBING VARIETIES.

Leaving the dwarf growers, which do not form part of our subject, the climbing varieties have many features in which they resemble the common parent. So far most of them are only summer flowering. Sylvia is the most promising as an autumn Rose; it was raised at Waltham Cross by W. Paul & Son. It is said to grow more rampantly under glass. Notwithstanding this, taking all the varieties together, we get flowers from May to Christmas.

The classification (see table in col. iii) is difficult, but the climbing Wichuraianas may be conveniently divided into three groups according as they are early, mid-season, or late-flowering. and then may be separated by their colours.

Lady Gay, Dorothy Perkins, and the like flower late. They all flower in clusters. They are near the Multiflora hybrids, but they contain no Rose with yellow-coloured flowers. The early group has greater variety of colouring, certainly more scent, and larger flowers. The latest introduction is the cross with the Moss Rose, called Wich-Moss. They are mostly rampant growers, producing shoots 16 or 17 feet long; so vigorous are they that, when room for them has to be found in the autumn, two-thirds of the plant has to be cut away. The shoots usually begin to grow upwards, but some (e.g., Marco) refuse to do so, preferring to push their shoots along the ground. The Dorothy Perkins group have very flexible growths, and may be trained down a bank or anywhere where they are wanted. Others like Gerbe Rose are too stiff for this purpose.

The foliage of nearly all resemble the parent in having shining foliage, which in some is nearly evergreen—Jersey Beauty, for instance; while in others (e.g. Léontine Gervais), the leaves fall early; others, again, are intermediate. Their foliage, especially in spring, has often shades of red, brown and copper, and is very beautiful.

Of these three sections: (1) The early group begins to flower about June 10. (2) The mid-season group begins to flower June 16 to 21. (3) The late group begins to flower the first week in July. Each section may then be sub-divided, according to the colour of the flowers, as follows:—

THE EARLY GROUP.

White.—W. F. Dreer. This Rose is not often seen, but is very beautiful. Though not a new Rose, it may be strongly recommended, and should be grown more than it is at present. La Perle I have found disappointing. Purity is the whitest we have, almost as white as Frau Karl Druschki. Fraulein Octavia Hesse is Wichuraiana crossed with Kaiserin Augusta Victoria, and has the same colour as the last-named parent.

Yellow.—Alberic Barbier is one of the best. Robert Craig is deep orange-yellow, buds developing to a great snowball of white. It wants hot weather. Before the hot summer of 1911 I nearly discarded it, but both last year and this year it has proved most satisfactory. Edwin Lonsdale, Francois Guillot, François Fouchard, Eliza Robichon, Marco, and Aviateur Blériot are other examples of this group. All these begin as yellow buds and finish up white. Alice Garnier is a dirty buff-yellow, but is interesting because it often gives quite a little show of flowers in autumn; it is sometimes very nearly white. Shower of Gold (Paul & Son) is the yellowest of all. Klondike is another good yellow.

I have been following the yellow colours from white, but from white you can also take a line down the reds, beginning with Miss Helyett, then on to Joseph Liger, which is beautiful when half open.

Jules Lavacher is Chinese pink. It is a new Rose, and possesses green foliage and a graceful habit of growth; it is very profuse in bloom, and lasts well in water.

Paul Transon comes next, then Pink Roamer, which, however, is not a real pink.

Distinct pinks are Gerbe Rose, Christian Wright; this is perhaps the clearest pink in this section, a good pillar Rose, growing 8 or 9 feet high.

Climbing American Beauty is a carmine, and is pleasing only in the young flower, but is delightfully fragrant.

Ruby Queen is a variable colour. At first an intense carmine, it becomes later a deep pink, and then the white centre expands and the flower becomes a pale pink.

Deepest in colour of all is Diabolo, semi-single, with brilliant gold anthers and petals of a deep crimson colour. It sends up a great supply of new shoots.

MID-SEASON VARIETIES.

Beginning again with white flowers, we have Schneeball, not a pure white, and a Rose that cannot compare with White Dorothy.

Frau Marie Weinbach is another white, with traces of pink. Joseph Liger is pale canary-yellow, and opens to white tinged with pink. Marco is more distinctly yellow, but the colour fades. Aviateur Blériot possibly ought to be in the early section. It is a useful Rose, with deep yellow buds opening to paler flowers.

For pinks we may take Garisendan, Debutante, earlier than Dorothy Perkins, but a beautiful colour and of graceful habit. Anna Rubsamen, Jean Guerin, Auguste Barbier are also to be placed in this group.

Combinations of yellow and red.—François Juranville is a distinct colour, and very sweet scented. Léontine Gervais may be called coppery-salmon colour, but the colour is really indescribable; it is very pretty, especially when picked young and put in water. Jean Guichard and Réné André carry on the deepening colour to the pink group. The last-named Rose is pink, and has a coppery bud closely pencilled with carmine, the mixture of colours as a whole giving a pink appearance to the blossoms. Alexander Girault is a rampant grower and profuse bloomer; it is a deep carmine on a yellow base. Joseph Billard, a companion to Jersey Beauty, is a Rose you must see before breakfast if you wish to see it at its best; the outer part is deep crimson and the centre yellow, but as soon as the sun gets on it loses its distinct colour, becoming pink with a white eye. Pinsion is coppery-pink, and opens to an indefinite pink. Ariel is sometimes and perhaps unfortunately described as a single Tea rambler, but it really is a Wichuraiana.

Desiré Bergera and Edmund Proust are in this group, but here the colour is too indefinite. Valentine Beaulieu is a deep rose-pink with a yellow base.

LATE-FLOWERING (WHITE).

R. Wichuraiana, the type, and all the rest, begin to flower the first week of July. White Dorothy is a good white, and would be better but for its tendency to sport back to its pink parent.

Mrs. L. Dewhurst is just a white Lady Gay; here also the colour is not stable. These Roses, together with Mrs. Portier Darel and Lady White, are all very much alike.

Milky Way is like the type but larger, and I will wind up this list with Silver Moon.

In this group are no yellows, but pinks are to be found in plenty, e.g., Paradise, Coquina, Dorothy Dennison, Lady Godiva and others, the colours deepening until we end the list with Hiawatha and Excelsa.

These are far from exhausting the list; there are some I have not referred to at all, and, beside these, I have noticed in catalogues the names of some 50 new varieties, which so far I have not seen.

FUTURE DEVELOPMENTS AND MODES OF CULTIVATION.

Then as to future development. Perpetuity is the quality which we want chiefly, also yellows in the late section, of which there are none as yet. In the early group we want more bright reds.

As to the way I grow these Roses. I have a high steep bank, and I simply dig a hole in the grass and put them in. I purposely have not prepared the ground in any way, as I want to curb their growths, but this I have quite failed to effect. In pruning I cut out all old wood that has not got what I call continuing laterals; where such a lateral which it is wished to retain springs from the old wood we simply cut back to this. They are true ramblers, and will grow on like a Strawberry plant, starting again when they reach the ground. These Roses will do for arches, pillars or pergolas, or weeping standards.

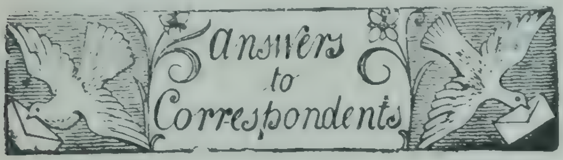
A vote of thanks to the lecturer terminated the proceedings.

CLASSIFICATION OF CLIMBING WICHURAIANA ROSES.

Early.	Midseason.	Late.
White. W. F. Dreer La Perle F. O. Hesse Purity	Frau. M. Weinbach Schneeball	Wichuraiana, type White Dorothy Mrs. L. Dewhurst Mrs. Portier Darel Lady White Milky Way Silver Moon
Cream to Yellow. Alberic Barbier Edwin Lonsdale Francois Guillot Eliza Robichon Francois Poisson Francois Foucard Robert Craig Jersey Beauty Gardenia Shower of Gold Mme. Alice Garnier	Joseph Liger Sylvia Marco Aviator Bleriot Klondyke	
Salmon or Coppery Pink. Francois Juranville Leontine Gervais Jean Guichard Réné Andre	Pinson Ariel Desiré Bergera Edmund Proust	
Carmine and Yellow. Alexander Girault Joseph Billard	Valentine Beaulieu	
Blush Pink or Pink and White. Jules Lavacher Miss Hellyett Joseph Lamy Paul Transom Pink Roamer	Garisendan	Paradise Jessica Evangeline Coquina Carissima Lady Godiva DorothyDennison
Pink. Gerbe Rose Christine Wright	Débutante Anna Rubsamen Jean Gerin	Minnehaha Dorothy Perkins. Lady Gay The Farquhar Rowena
Carmine. Climing American Beauty Ruby Queen	Auguste Barbier Rubra	Delight Casimir Moullé Francis Paul Plotor
Crimson. Diabolo		Sodenia Troubadour Hiawatha Excelsa

Obituary.

John Astridge.—The death of Mr. John Astridge, for many years gardener to the late Mr. Thomas Christy, at Upton House, Alresford, Hampshire, occurred on Monday, the 23rd ult., at the age of 61 years. The body was found in a tool shed in his market garden, with a gunshot wound in the head. At the subsequent inquest evidence was given to the effect that deceased was worried over his business affairs, and a verdict of suicide during temporary insanity was returned. Since the death of Mr. Christy, deceased had conducted a market-gardening business at Alresford. He leaves a widow and four grown-up children.



Answers to Correspondents

⁂ *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

Amaryllis Diseased: *L. W. & Co.* We have examined the Amaryllis bulb you sent, and, after a very long search, have found that our suspicion as to the presence of the bulb mite is correct. The red appearance of the leaves in places and the red markings of the bulb and roots are almost always indications of the presence of this destructive mite. In the case of the bulb sent, the attack is not hopeless, as the bulb itself was perfectly sound. It might be a good plan to take out any bulbs that are affected in this manner, and thoroughly wash the roots. Remove and burn all the bulb scales that are unsound, and repot the bulbs; another remedy is to wash or spray the bulbs with paraffin, repeating this during the interval of a fortnight, or, after removing the loose scales, to brush the bulbs with sulphide of potassium (liver of sulphur), 1 ounce to 3 gallons of water. The last method is useful against fungi, which follow the attacks of the mite. Still another treatment is to fumigate with bisulphide of carbon. Place the bulbs infested in an air-tight receptacle, and place a saucer containing bisulphide of carbon on the top of them, leaving the bulbs in the vapour for 48 hours. The fumes from bisulphide of carbon are very poisonous, and should not be inhaled. No naked light should be brought near them; the operator should not smoke while performing the work.

Basic Slag: *J. M. G., New York.* Basic slag contains from 14 to 20 per cent. of phosphoric acid, or equal to 30 to 42 per cent. of tricalcium phosphate. Write to Messrs. Richardson & Co., York, or The Chemical Works, 15, Philpot Lane, London.

Carnation Plant: *Carnation.* The plants are affected with Eelworm. (See reply to *F. M.*)

Carrots and Potatos Diseased: *W. B.* The Carrots are injured by Sclerotinia Sclerotiorum. The soil is infested with the fungus, and should be treated with gaslime before another crop is grown in it. The Potatos are attacked by Macrosporium. Some good might be done by removing and burning the diseased leaves and the haulm. Early sprayings with the Bordeaux mixture will be useful as a preventive measure.

Cymbidium Eburneum: *Humea, Yorkshire.* The Cymbidium leaves are injured by moisture depositing on the leaves when the temperature is falling. Afford more ventilation to the house, so that the leaves may become dry before night time.

Everlasting Pea: *Greatbridge.* There is no disease present in the specimens received; the trouble is due to some external condition.

Grapes and Tomatos: *A. H. P.* There is no disease to be found on any of the samples sent. The condition is due to some error in cultivation.

Grapes Diseased: *J. W. R.* and *J. M. A.* The Grapes are attacked by Grape rot, which is caused by Gloeosporium ampelophagum. During the resting season spray the entire plant with a solution of sulphate of iron, using 1 oz. in 1 gallon of water. Remove the diseased berries. Mulchings of rich stable manure favour the disease. The only thing that can be done at present is to dredge the bunches with flowers of sulphur.

Growths on Rhododendrons: *E. T. W.* The Rhododendrons are attacked by a species of Exobasidium, a fungus which causes gall-like swellings, usually on the leaves. If the galls are sought and burned before they develop any colour, the plants will be free from attack next year.

Grub in Rose Shoot: *J. M.* The pest which is burrowing in your Rose shoots is the pith-borer. Break off the shoot below the point of attack, and take care to destroy the caterpillar contained therein.

Horticultural Colleges for Women: *Y, Leicester.* The following are among the more important institutions where gardening is taught to women students:—The Horticultural College, Swanley, Kent; University College, Reading; Edinburgh School of Gardening for Women, Corstorphine, Kaimes Road, Murrayfield; Studley Agricultural and Horticultural College for Women, Studley Castle, Warwickshire; Glynde School for Lady Gardeners, near Lewes; Fruit and Flower Farm, Henwick, near Newbury; Training School for Ladies, Arlessey House, near Hitchin; and Home and Colonial School for Ladies, Lane House, Brandesburton, Hull.

Iris Corms Dying: *E. W.* The trouble is due to a bacterial disease. Remove the diseased portions and dress the soil with superphosphate of lime.

Melon Stem: *Humea.* Spray the Melon plants with liver of sulphur.

Monstrous Foxglove: *E. V. A.* The terminal flower has become regular, a condition known as peloria. The axis has also continued to develop, presenting an example of prolification. It is possible that these conditions have been caused by an excessively rich rooting medium.

Names of Plants: *J. B., Falfield.* Spiræa canescens.—*W. Eduntly.* 1, Cratægus orientalis; 2, Ulmus glabra.—*Angerton.* Irises. 1, no flower; 2, I. plicata; 3, I. pallida (? dalmatica), flowers all past; 4, I. variegata var.; 5, Mrs. George Darwin; 6, I. variegata var.; 7, I. amœna Victorine; 8, no flowers.—*A.E.L.* Cattleya Mossiæ.—*R. R.* 1, Oncidium cheirophorum; 2, Epidendrum vitellinum; 3, Oncidium sphacelatum; 4, O. flexuosum.—*A. L., Huddersfield.* Gazania splendens variegata.—*G. H., Stockton.* Selaginella Mertensii and Crassula coccinea.—*A. W.* Ornithogalum longebracteatum, usually grown in cottagers' windows.—*J. M.* A yellow variety of Eschscholtzia californica.—*Enquirer, Dublin.* 1, Jasminum azoricum; 2, Metrosiderus robusta; 3, variegated Mallow, Malva sylvestris; 4, Alyssum, probably A. semonense; 5, Polygonum amplexicaule; 6, Clematis recta.—*W. A. C., Oxon.* 1, Thuya dolobrata; 3, Juniperus japonica; 5, Berberis sp.; 6, Cupressus Lawsoniana var.; 2 and 4, specimens too small for identification; next time send larger portions.—*R. D. S.* Carnation Lady Hermoine.—*H. M.* Lonicera involucrata.

National Insurance Act: *J. H.* If your salary and other emoluments amount to more than £160 per annum, and you do not do any manual labour, you can be exempt from the Act. The question resolves itself into this:—Whether or not you are liable to pay income-tax? All income-tax payers not actually engaged in manual labour are exempt from the operation of the Act, but manual labourers are within the Act even if their salary is double that of the income-tax payer.

Nymphæa Ellisiana: *W. E.* There is no disease present in the plants; the unhealthy appearance is due to some wrong cultural treatment.

Pear Leaves: *H. H.* The leaves are affected with the Pear leaf blister mite. The only certain method is hand picking the leaves early in the season before the mites migrate into the buds.

Pears Cracking: *Constant Reader.* The cracking of the Pears is not due to a fungus disease; it is probably the result of excessive moisture in the soil.

Phloxes Diseased: *F. M.* Eelworm is present at the root. This is a very difficult pest to eradicate, insecticides being of little avail. The best plan is to burn the plants, and remove the soil in which they have been grown, either sterilising it by baking or burying it in some out of the way part of the garden.

Potato Haulm Diseased: *J. C. F., Eastbourne.* The Potatos are affected with the Potato disease, caused by Phytophthora infestans. Another season you should plant the crop on a well-drained soil in a situation free from excessive dampness. When the crop is lifted in the autumn every portion of the haulm should be gathered and burnt, and diseased tubers should be rigorously separated from the sound ones, and just as carefully gathered up from the soil. Where the disease is usually prevalent or has actually shown itself, spray the plants with the Bordeaux mixture. The first application should be carried out early this month, and be followed by one or two more sprayings at intervals of a fortnight. Care should be taken to spray both sides of the leaves.

Quoits: *A. R.* There is no standard size for a quoits ground, but the two iron pins, termed "hobs," are usually driven into the ground at a distance of 19 yards apart, the head being 1 inch above the ground. The quoits themselves may be of any weight, but must not measure more than 8 inches across; it is, however, customary to specify the weight of the quoits when arranging a match. The ground around the "hobs" should be clay, so that the quoits will stick where they pitch. The players may be of an even number, and each player throws two rings (quoits), either in succession or alternately. When a quoit pitches over the hob it is termed a "ringer," and two points are scored. There is no score if the quoits of each side lie equi-distant from the hobs; if both quoits of one player lie nearest to the pin two points are scored, and in the case of one being nearest the player scores one point.

Seedling Delphinium: *J. G., Burton-on-Trent.* Your seedling Delphinium possesses considerable merit. The colour is very beautiful and the inflorescence of good shape and size. It is worth perpetuating.

Sweet Peas with Small Flowers: *J. M. H.* You state that your Sweet Peas are growing very strong, with stems 18 inches long, and 80 per cent. of the spikes having four flowers. If you have not taken out some of the side laterals you had better do so. As the plants get a little less vigorous in growth, you will probably find that the flowers will be larger. If this is not noticed, give the plants a dressing or two of chemical manure.

Tenancy of Dwelling-house: *J. H. M.* We fear your landlord is correct in his contention, assuming he is not your employer. A tenant who enters into possession of premises without any agreement (either verbal or in writing) as to the duration of the tenancy, and who does not pay his rent every week or every month, is presumed at law to be a tenant from year to year. In that case he must give two quarters notice to quit, and such notice must expire at the end of a current year of the tenancy. For instance, if your tenancy began on the 25th March in any year, then you cannot leave before March 25, 1913, and you should give your landlord notice by registered post on or before September 28 next. (If your tenancy did not commence on a quarter day, you must give "six calendar months" notice instead of "two quarters.") You had better see your landlord again and point out that you are only a weekly servant, and cannot pretend to be able to pay the rent after you leave your employment, so that for his own sake he had better accept the notice you have already given him and re-let the property as soon as possible.

Communications Received.—E. F.—Y. Z.—W. A. C.—Journeyman—Devon—R. W. V.—A. B., Bedford—W. L.—H. T. Z.—W. G.—C. S., Wrotham. C. C.—H. V.—Peas, Lancashire—W. H., Earlswood—Enquirer, Dublin—J. B. G. W. R.—J. E.—Eddiford, Bath.—E. S.—A. R. A.—W. E. B.—W. J. M.—W. R. H.—K. M., Melton Mowbray—E. G. B.—S. & Sons—E. M. M.—J. G. W.—J. C.—E. M.—S. C.—A. H.—R. O. W., Feltham.

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THE MARKET FRUIT GARDEN.

On the whole, the weather of June was favourable to fruit trees and fruit crops, although if fewer cold nights had been experienced the results would have been better. My rainfall was 3.16 inches, and it has not been excessive after the spring drought, although the quantity for the month is above the average. In some parts of the country, apart from the rainy districts, the total has been much higher. All but about half an inch of my rainfall measurement was made in the first half of the month. The soaking that the land then received helped materially to promote the growth of new wood and to swell fruit of all kinds, while the subsequent dry or partly dry and sunny weather ripened such crops as Gooseberries, Currants, and Raspberries.

Crops Wholly or Partly Gathered.

There is no doubt that the Gooseberry crop was a great one, and yet prices kept up well until the latter part of the green fruit season. Red Currants appear to be generally an excellent crop, and they have been selling only moderately well. Black Currants, on the contrary, are a deficient crop, but the fruits are fine in size and quality. Up to the time of writing they have sold remarkably well—better than in any previous season since I began to grow them for market. My own crop, which covers many acres, was not harmed by frost, and it has turned out the best I have had for many years. In fact, it is my mainstay this season, and will yield me a larger money return than any other crop, unless prices for Plums and Apples should prove exceptionally high. Just before the spring drought ended, Black Currants began to show signs of suffering, and, as stated in a previous article, some of the fruits failed to set. But the rest grew to such a fine size that the yield was an agreeable surprise.

Some Fine Fruit Promised.

Plums, even where they are fairly thick on the trees, promise to be unusually fine fruit. In my own case this is partly because my trees missed their usual attack of aphis. Pears also will be remarkably fine, and most varieties in my orchard are clean and free from scab disease. Apples are swelling well where not spoilt by aphis, as is the case with a large number. As a consequence, the proportion of tail will be unusually large in many varieties, especially dessert Apples.

Persistence of Aphis.

There appears to be no end to the aphis attack on Apples this season, although ladybirds and their larvæ have cleared off multitudes. A few days ago I noticed for the first time numbers of aphides creeping about the trunks and branches of the trees, some winged, but the great majority not so. Why they had left the foliage to creep about the trunks and branches I cannot imagine, unless they had been disturbed by the swarms of linnets, which are busy on infested trees.

Silver-leaf Experiments.

In 1910 and 1911 different dressings were applied to Victoria Plum trees affected with silver-leaf, and the results have been recently examined, and are as follow:—

1. Magnesia 3½ lbs., carbonate in 1910 and sulphate in 1911. Tree dead and since burnt.

2. Magnesia 3½ lbs., and liberal dressing of farmyard manure. A little improvement and a little fruit.

3. Sulphate of iron 3 lbs., and liberal dressings of farmyard manure. Tree greatly improved, and bearing half a crop of fruit. A second tree similarly treated also improved in less degree, and is bearing a little fruit.

4. Sulphate of iron 6 lbs., and 7 lbs. of complete artificial manure, consisting of two parts of superphosphate to one part each of sulphate of ammonia and muriate of potash. Tree cured, and bearing a great crop.

The same dressings have been applied for the third time, except to the two dead trees. In another field a tree of Pond's Seedling Plum was dressed with 3½ lbs. of magnesia. No good resulted, and a dressing of 7 lbs. of complete artificial manure has now been applied. It is a pity that a heavy dressing of sulphate of iron was not tried alone and a heavy one of mixed artificial manures also alone.

A Disappointing Manurial Experiment.

For the third season in succession a liberal dressing of mixed artificial manures (8 cwts. per acre) has been applied to an orchard of Apples and Black Currants, with the exception of one row. The mixture in 1910 and 1911 consisted of two parts of superphosphate to one part each of sulphate of ammonia and muriate of potash, while in 1912 nitrate of soda replaced the sulphate of ammonia, and sulphate of potash was used instead of muriate. Careful examination on several occasions showed no difference between the manured and unmanured trees and bushes of the same varieties until this season, just before the Black Currants were picked, and then the only difference was darker colour and more vigour in the leaves of the manured Black Currants, which may be attributed to the nitrate of soda. No difference in size of bushes or quantity or size of fruit could be seen, and none of any kind was noticeable in the Apple trees—not even in colour of leaves. The trees and bushes are now in the sixth season from the planting, and apparently they have not been in need of manure, as they have grown well. But perhaps the inoperativeness of the manures may be accounted for by the fact that the field was dressed heavily with artificial manures for Potatos two or three times before the fruit trees and bushes were planted. Elsewhere, however, there has often been great difficulty in seeing any effect from artificial manures. I am disposed to think that for fruit trees and bushes the old saying—"there's nothing like muck"—holds good, as some marked improvement in trees dressed liberally with this natural manure has been noticed in three of my orchards. In one of two reports from different experiment stations in the United States recently received, the results of manuring Apple trees with farmyard and artificial manures for a number of years are declared to be practically unnoticeable, while great benefits are shown in the other report to have resulted in a different part of the country. In this case, the best results were obtained from very heavy annual dressings of mixed artificial manures; but it may be doubted whether the farmyard manure was of very high quality.

Apples Dropping.

Early Apples, and particularly Beauty of Bath and Early Julyan, are dropping from the trees to an extent even greater than that of last season. These two varieties are peculiarly liable to dropping, much of the fallen fruit being up to half the mature size. Probably the May drought and aphis attack together may be held accountable for the dropping. Beauty of Bath is always one of the varieties most infested with aphis. Fully half its crop this season will probably drop before the fruit is mature. *A Southern Grower.*

SPANISH AND DUTCH IRISES.

In an article on Iris filifolia, which appeared in the *Gardeners' Chronicle* for September 23, 1911 (p. 218), I mentioned the fact that it was not the true I. filifolia but another plant, which often appears under this name in catalogues and which might more appropriately be called I. xiphium præcox from its early-flowering habit, that was one of the parents of the hybrid "Dutch" Irises. I went on to say that the statement that all the known species of Spanish Irises were combined to produce these Dutch Irises was probably erroneous, for not one of them shows any trace of perianth tube, which would almost certainly have appeared sooner or later if either I. tingitana, I. Boissieri or I. juncea had been among the parents. I am sorry that this statement should have seemed to question the accuracy of the raiser's account of the origin of these hybrids, and it would have been doubtless more correct if I had said that none of the hybrids that I had seen showed any trace of any other parent than I. xiphium and its varieties præcox and lusitanica.

Mr. C. G. Van Tubergen, of Haarlem, the raiser, has assured me that the pollen of both I. tingitana and other species was used to fertilise the pseudo-filifolia or xiphium præcox. This statement I do not wish to traverse, but I am afraid I must still maintain that, except possibly in the shape of the blade of the falls and in the soft blue colouring of some magnificent flowers that Mr. Van Tubergen recently sent me, I have failed to find any trace of that structural difference which separates all the other species from I. xiphium. This difference is found in the perianth tube. In I. xiphium this is very short and funnel-shaped, and, as the flower withers, often breaks off from the top of the ovary with the withered remains of the segments. In all the other species, this short funnel-shaped upper end of the tube is separated from the ovary by a narrow, linear tube half an inch or more in length, which even when withered clings much more closely to the ovary.

None of the Dutch Irises that I have seen shows any trace of this linear perianth tube, and Mr. Van Tubergen admits that he has found no trace of it among his stock. This is the more curious because I had in flower this year a few plants of a cross of I xiphium × I. tingitana, which we owe to the skill of Sir Michael Foster. In this hybrid a linear tube of over half an inch is present, showing apparently that in the first generation of hybrids the presence of the linear tube is a dominant characteristic.

It had occurred to me that the seed parent might possibly have been I. tingitana, but Foster certainly called the hybrid I. xiphium × tingitana in a letter addressed to me not many weeks before his death. Another fact that tends to prove that I. xiphium was the seed parent is that the hybrid flowers freely every year and that the buds do not succumb to late spring frosts after the annoying fashion of those of I. tingitana, when the bulbs of the latter have at last been induced to flower.

This year both I. tingitana and I. xiphium × tingitana were growing here almost side by side and were in bud early in April. Then came the sharp frosts that played such havoc with the undeveloped flower shoots of I. germanica and caused large clumps of this species to remain apparently flowerless, though the frost-bitten immature flower stems could be dissected out of the bases of the tufts of leaves. These frosts killed the buds of I. tingitana entirely, but left those of the hybrid unharmed, so that they opened on April 15, which must surely be almost a record for a Spanish Iris flowering unprotected in the open.

The question of the date at which Spanish Irises flower is very curious. Only to-day (July 3) I have received from the south of France a few bulbs of what must probably be one of the last remaining colonies of I. xiphium that still survive in the wild state in France. These were found in flower on June 30, quite close to the Mediterranean on the coast of Hérault, although it was supposed that the extension of the vineyards right down to the sea-shore along that coast had exterminated the colonies of I. xiphium that used to grow there. It might certainly have been expected that I. xiphium would have flowered a month or two earlier in such a warm locality, for with regard to other Irises the month of April there corresponds to June in the south of England.

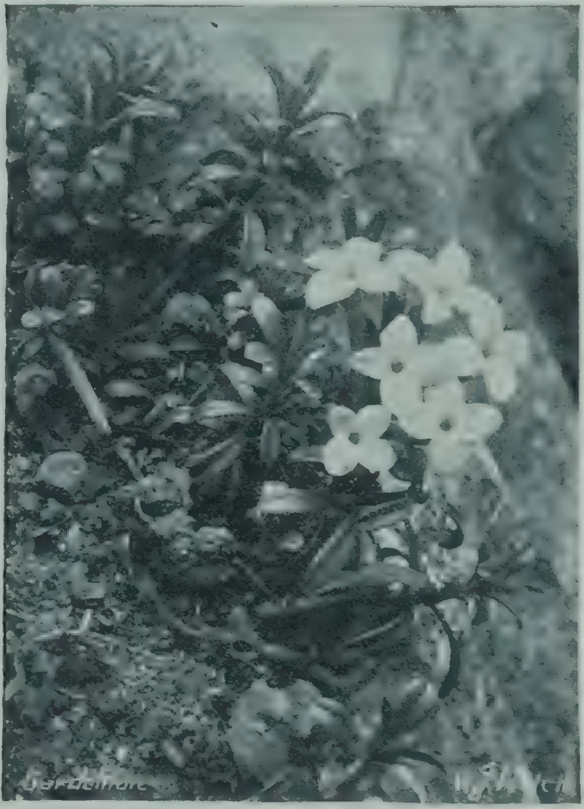

Fig. 9.—Daphne × thauma: colour of flowers, pink.
(D. rupestris × D. striata.)

The fact that the wild I. xiphium may flower so late, even in such a locality, tends, however, to show that it is unwise to separate from that species such Spanish plants as have been described under the names of I. serotina, Willkomm, and I. Taitii, Foster. Willkomm's name of serotina was given to a plant which was found in flower in August and September. Herbarium specimens also show that I. xiphium can be obtained in flower in August and even in September at a height of over 5,000 feet on the Sierras de Cazorla and del Pinar in the south of Spain. I. Taitii has been in cultivation here for several years now and flowers at the end of June or early in July.

In spite, however, of the existence of these late-flowering forms of I. xiphium, I cannot admit that the early-flowering character of a hybrid is evidence that its parents were species other than I. xiphium. Several hybrids of I. xiphium præcox, crossed with pollen of I. lusitanica, which is only a yellow-flowered form of I. xiphium, certainly flower a week or two before either of their parents with the first of the Dutch Irises, with which they seem to be identical.

It is an interesting speculation to try to discover the nearest point of contact between bulbous and rhizomatous Irises. It seems not impossible that this may be found in I. xiphium and I. spuria. The form of the segments of the two flowers is identical, the spathes are not dissimilar, and when, as sometimes happens in strong-growing examples of I. xiphium præcox and of hybrids raised from it, a lateral flower develops on a short vertical branch, the resemblance to I. spuria is particularly striking.

That I am not alone in seeing the resemblance between I. xiphium and I. spuria is proved by the fact that some years ago I was informed that flowers of I. hyèrensis were on their way to me from the south of France. Imagine my surprise when, on opening the box, I found a number of fine flowers of I. tingitana which had been picked and sent to me by mistake for I. hyèrensis. The latter, by the way, is nothing but a cultivated form of I. spuria, in spite of its reputed origin from a cross between a Kæmpferi hybrid and I. xiphioides! It is probably only one more example of the process which is continually going on in any collection of Irises, and by which self-sown seedlings of such self-fertilized species as I. spuria, I. Pseudacorus, I. versicolor or I. setosa come up where other seeds have been sown and have failed to germinate or where other and rarer species have failed in the struggle for existence. *W. R. Dykes, Charterhouse, Godalming.*

NEW OR NOTEWORTHY PLANTS.

DAPHNE × THAUMA (D. rupestris × D. striata).*

As I do not know of any natural hybrid among the European Daphnes (or, indeed, any others), I believe that the following discovery will be considered of special interest. While scrambling very slowly and cautiously last year upon one of the peculiarly unpleasant cliffs inhabited by Daphne rupestris, I came upon a mass or cushion of glossy verdure that for the first moment suggested some curious Arctostaphylos. Another moment's inspection showed me, however, that the plant was a Daphne, being neither D. rupestris nor D. striata (on the mountain classically famous for the former species), but, on the other hand, precisely intermediate between the two. With great care I secured portions of the plant, and these, contrary to the fashion among Daphnes, have thriven and grown with a surprising readiness, which cannot be an inheritance from either parent. At the same time I must premise that the accompanying photograph (see fig. 9), taken on May 23, 1912, in the rock-garden at Ingleborough (from a re-established clump collected on the Cima Tombéa in August, 1911), by no means represents as yet the lush and lavish mat of verdure that is a distinguishing feature of Daphne × Thauma. On my fourth visit to the Tombéa a month ago, I adventured further upon the cliff, and discovered one more large mass of the hybrid, as well as a smaller piece in flower. These remain inviolate on the Tombéa, which I think can be well trusted to safeguard its own secrets without the disguise of pseudonyms. The hybrid seems to occupy more open ledges and places less bare of soil than the pitiless rock-faces affected by D. rupestris.

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* Daphne × Thauma (D. rupestris × D. striata).—Frutex dense caespitosus, inter species parentes manifeste intermedius, aspectu magis ad D. rupestrem, colore florum ad D. striatam approximans. Ramuli lignosi, erecti vel paullo depressi, cm. 5–7 rarius excedentes. Folia dimidio majora quam in D. rupestre, minora quam in D. striatâ, laetissime imprimis virentia ac nitentia ; dehinc obscuriora ; ovata-lanceolata, alveolata, carinata, tandem marginibus paullulo revolutis, ita ut quasi ovata videantur, crassitudine tamen et coarctatione foliarum D. rupestris fere carentia, etiamsi duriora ac magis coriacea quam folia D. striatae. Flores in natura rarius (ut videtur) emissae, in capitulo paucifloro (5–8), ad colorem dilute roseam D. striatae magis accedentes, sed tubo villoso obscurius porphyreo D. rupestris praeditae valde suaveolentes.

In scopulo uno abrupto, nec facile accessu, montis tombeanensis inventa (locis tamen apertioribus quam rupes illi praerupti ac nudi quibus maxime gaudet D. rupestris) haec planta hybrida, in hortos mox translata, robuste floruit, floresque libenter emisit, documento habitus speciebus parentibus multo validioris.

Daphne × Thauma (D. rupestris × D. striata) stands midway between its parents. It forms a dense cæspitose mass 1 foot or 18 inches across. The branches are erect or slightly decumbent, rarely exceeding some 1½-2 inches in length, and growing with such uniformity as to give the effect of a green cushion. The leaves are approximately twice the size of those of D. rupestris and half that of those of D. striata; they are channelled and keeled, lanceolate-ovate, brilliantly glossy (as in D. rupestris) on the current year's growth, and then deepening to a less shining tone of green. As the season goes on their edges become thickened or revolute, so as to produce the effect of being rotundate-ovate, the point appearing to sink in between the shoulders on either side; in substance they are intermediate, less dense and hard than those of D. rupestris, but much more so than the comparatively flaccid leaves of D. striata (the illustration well shows their distinctive gloss). The flowers seem in nature to be rarely produced; neither of the large, lucent mats discovered had any sign of bud or blossom. In cultivation, however, the plant, besides its gratifying speed of recovery and adaptability of temper, shows a much greater generosity in the matter of flowers. These are produced in sparse heads of 5-8 blooms, and, despite their greater size and beauty, approximate more nearly in their soft, pale pink to the pallid tones of D. striata than to the dazzling clear rose of D. rupestris. Of this latter species, however, they have the darkly-flushed tube. I have seen no trace of fruit (never, indeed, on D. rupestris, and rarely on D. striata). Cima Tombéa, August 2, 1911, and June 9, 1912. *Reginald Farrer.*

LÆLIO-CATTLEYA BARONESS EMMA.

The beautiful hybrid Orchid illustrated in fig. 10 was raised from the fine original L.-C. eximia (L. purpurata × C. Warneri) and a special form of the natural hybrid Cattleya Hardyana (Warscewiczii × Dowiana aurea). The plant was awarded a First-class Certificate at the meeting of the Royal Horticultural Society on June 18 last, when exhibited by Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill). In size, form, and colour of the flower, and in the substance of the segments, L.-C. Baroness Emma is a great improvement on L.-C. eximia. The thick substance of the flower and the rich, velvety ruby-crimson of the lip may be traced to Cattleya Hardyana. The sepals and petals are silver-white, tinged and veined with bright rose-pink. The tube of the lip is white, with dark lines at the base, and the disc shows yellow colour, derived from Cattleya Warscewiczii.

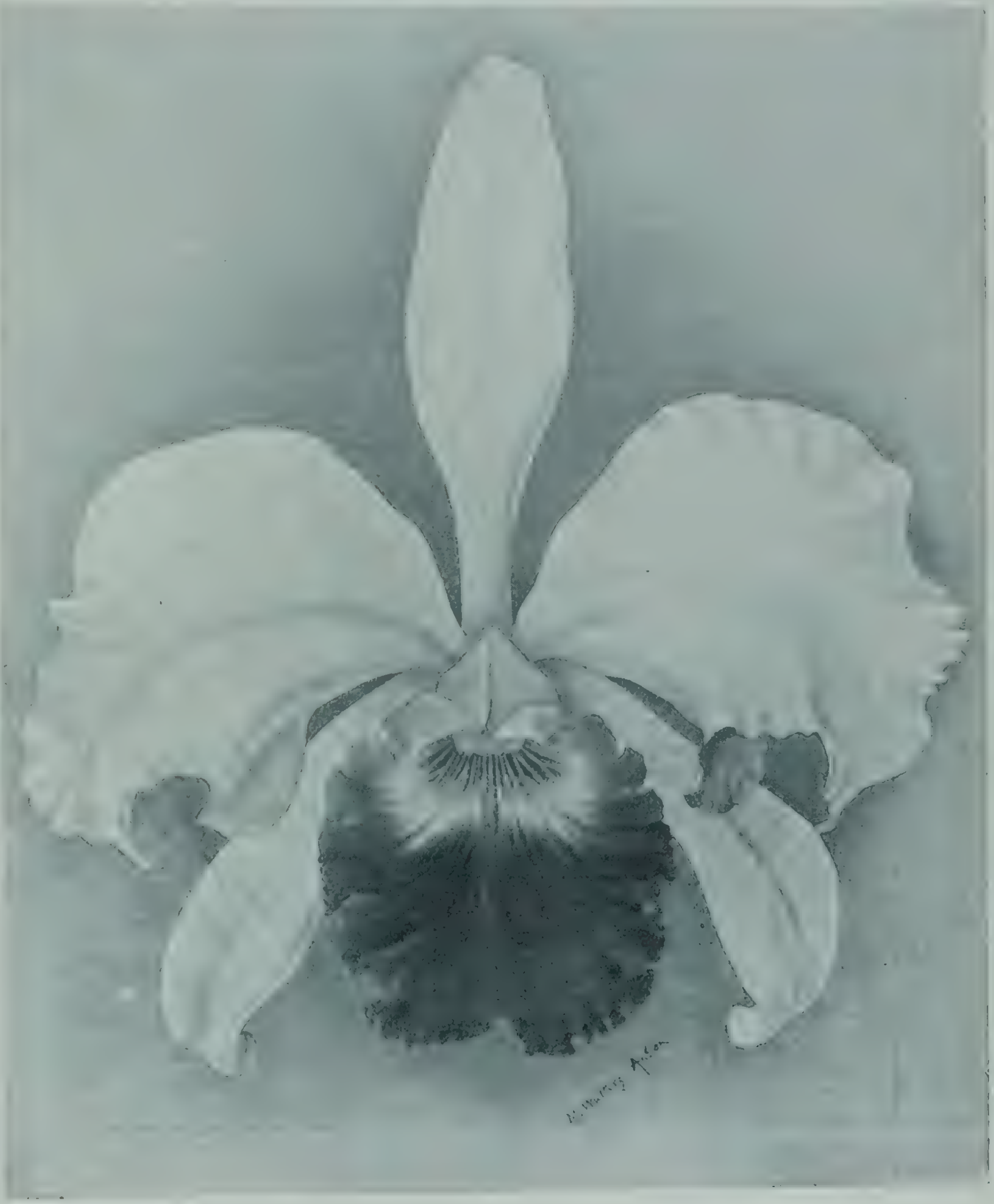

Fig. 10.—Lælio-Cattleya Baroness Emma: sepals and petals white tinged and veined with rose-pink; lip purplish-crimson. (½ nat. size.)

THE ROSARY.

REMINISCENCES OF THE "INTERNATIONAL."

Outside the classes for new Roses at the "International," there were in several groups, notably in those of Messrs. Paul & Son, Cheshunt, and Messrs. Wm. Paul, of Waltham Cross, certain Roses of recent introduction which are worth mention.

One of the most striking of these was Magnolia, so called from its general resemblance to flowers of the Magnolia; they are scarcely more than semi-double, but possess large outer or guard petals with crinkled edges, and the form of the flower is very graceful. As shown, they were cream-coloured, but the raisers describe the Rose as a derivative of Maréchal Niel and deep orange-yellow or golden-yellow, so perhaps the colour comes deeper on outdoor plants. I was pleased to see Freda again. At the autumn show of 1911 it was obviously not at its best, but I thought it seemed promising even then. It is a large Rose with a good point and globular centre, the colour being a distinct shade of pink, more pronounced towards the edges, the body colour approaching a Peach tint. It certainly seems to do well under glass, and I noticed it as free-flowering out-of-doors during last autumn, so it should be a useful garden Rose also.

"My Maryland" was to be found in several places, and, as one might expect from a Rose with an American name, will certainly be useful under glass. It is not a full flower, not much more so than Papa Gontier, but it has long, oval buds with petals of good substance, and, no doubt, will be most charming in the stage just before the flowers expand.

Some fine flowers of Lady Alice Stanley were shown. Down to the present this Rose has been somewhat disappointing on account of its rough outer petals, but under glass these seem to come smooth enough.

Portia, a large flower, creamy-white with pale-rose centre, was well shown at the Temple Show, 1911, but I had scarcely seen it since. It would seem to be of that rather stumpy habit technically called robust, which perhaps makes it particularly suitable for growing under glass.

Mrs. Charles Hunter is a very striking colour; most of us know the colour of strawberry ice; if this is made rather deeper and richer we get something very near this Rose.

Souvenir de Gustave Prat, a Rose of French origin, would appear to have a good habit and to be free-flowering; it was noticeable in several groups. The flower has large petals of a sulphur-yellow colour loosely put together.

Jonkheer J. L. Mock was shown very much in the condition we saw it last year at the Temple. It has a fine pink colour and a large petal squarely set in the flower.

Ophelia I should like to see again before forming a definite opinion; it was a pretty Rose, no doubt, but the inner petals seemed too short to be quite pleasing; at the same time, the shades of salmon and rose were fresh and attractive. *White Rose.*

NOTICES OF BOOKS.

Cucumber Culture.*

This work, the sub-title states, is "A handbook dealing with the cultivation of Cucumbers in glasshouses and frames, suitable for amateur, market, and professional gardeners." Chapter I deals with the average crop, cost of production, including manure, fuel, carriage, cartage, and labour. Chapter II relates to capital charges, which are based on the cost of erection and upkeep of house and cost of production of crop in 600 feet run of glasshouse. The author estimates that the plants should produce two flats of Cucumbers per foot of house during the season, making a total of 1,200 flats, equal to 24 tons of fruit. If these are estimated at an average price of 5s. per flat, they would realise £300. The total cost of production, including fuel and carriage, is given as £175. The author considers that an expert workman would be able to look after the 600 feet run of Cucumber houses, doing all the stopping, tying, watering, damping, and cutting, but would require assistance when top-dressing and packing. Five chapters are devoted to such subjects as houses and their preparation, soil for the crop, raising the plants, general treatment, such as planting, training, watering, and damping, shading, top-dressing, feeding, temperature, ventilation, and packing of the fruit for market. Cucumbers in frames on hot-beds are dealt with, whilst three chapters are devoted to the various insect pests and fungous diseases which attack Cucumber plants. The advice to pot the seedling plants direct into 6-inch pots, instead of the customary 3-inch size, will not commend itself to all cultivators. On p. 39 it is stated that if "no shading is used, air will be needed when the temperature rises to 73°, and that more air must be gradually admitted as it goes up." This advice is contrary to the method of ventilation practised by all good Cucumber growers, who very seldom admit any fresh air to their Cucumber houses before the end of March, and then not before the thermometer has indicated 90° or 95°. Shading is rarely used except during such exceptionally hot weather as we experienced last summer. The object of the grower of Cucumbers for market should be to obtain all the fruit possible from strong, vigorous-growing plants within as short a time as possible. Young and vigorous plants, when kept well supplied with water at the roots, and in a uniformly moist atmosphere, revel in high temperatures. The book will prove helpful to those who contemplate growing Cucumbers for market. *H. W. W.*

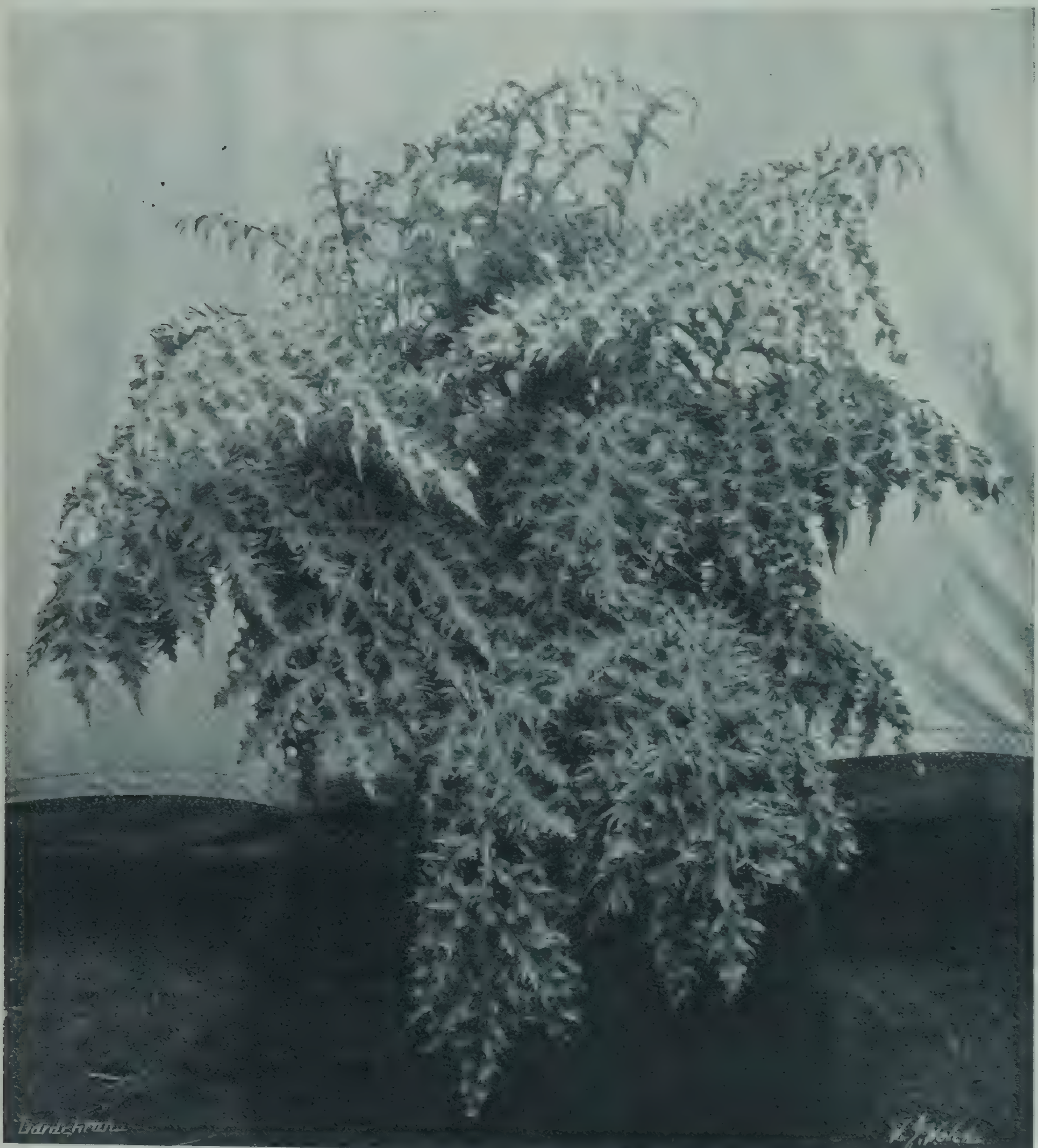

Fig. 11.—Polypodium mandaianum.
(Awarded R.H.S. First-class Certificate at the Holland House Show. See page 15 *ante*.)

Transactions of the National Chrysanthemum Society, 1911.*

Encouraged by the success which attended the publication of the report of the conference held in 1910 under the title of *The Culture and Exhibition of Large Chrysanthemum Blooms*, the Publications Committee of the National Chrysanthemum Society decided to publish a yearly volume of *Transactions*. The first number contains much valuable information, and members who were unable to attend the conference in 1911 will be specially interested in the reports of the discussions on the papers on "Chrysanthemums for Market" and "Soil Preparation and Some Chemical Foods for Chrysanthemums."

SCOTLAND.

THE ROSE SEASON.

The season of Roses may be said to have opened very inauspiciously this year—amid veritable floods of rain. As a natural consequence, many of the finest of the earlier flower-buds suffered severely, a large proportion of them being destroyed. I especially lamented the loss of some of the grandest blooms on Frau Karl Druschki. If this pure-white variety had only fragrance and a somewhat fuller centre, such as that which is the endowment of Kaiserin Augusta Victoria, for example, or the superb Marchioness of Londonderry, it would be as near to perfection as it is possible for human imagination to conceive. White Maman Cochet, which is unfolding its lovely blooms at present, in more favourable atmospheric influences, is also a very attractive Rose, but it can hardly be described with any expressiveness as being pure white, since it manifestly exhibits, even in its earlier stages, a distinct shading of yellow. Its pendulous habit is very regrettable; it is even more pronounced than in that invaluable derivative from Souvenir d'un Ami, namely, the snow-white, richly-odorous Souvenir de S. A. Prince. The Bride, which is a daughter of Catherine Mermet, is, like the latter exquisite variety, somewhat difficult to open, and does not, therefore, succeed in such a season as we have, for the most part, experienced this year. An occasional shower is an inspiration to Roses in their floral development; but, on the other hand, they may easily get too much rain, and, before they have the privilege of expanding, be utterly destroyed. None suffer more from such adverse influences than the pure-white varieties, and especially those to which I have incidentally referred.

Among Roses of comparatively recent introduction, some of the finest this season are Duchess of Westminster (a variety of refined form and lovely complexion) and Viscount Carlow. Florence Haswell Veitch, of splendid growth (a rare attribute in many modern Roses), has a semi-climbing habit, and great floriferousness, but its fine dark, crimson colour was seriously affected at first by the influence of heavy rains. Leslie Holland and Countess of Shrewsbury were most deservedly awarded the Gold Medal at the National Rose Society. I have also at present in radiant bloom a new variety, of medium size, highly effective and fascinating in its fragrance, which, I believe, has not yet been introduced. It ought to prove a veritable acquisition. The most luxuriantly-flowering Rose in my garden this season, falling in what Dean Hole would have described as "cascades of flowers" from the branches of a venerable Damson tree, has been the Waltham Bride, though Hiawatha, probably the finest of the Wichuraianas, promises to be almost equally commanding in its floral effect, which is greatly enhanced by its extremely picturesque situation, growing upwards most gracefully and pyramidally through the branches of an Ailanthus or "Tree of Heaven," which has not reached a heavenly height in my garden. Towering above it is a remarkably fine specimen of Magnolia Watsonii, which, during this extremely variable season, has borne nearly 40 magnificent flowers (with the aspect of Water Lilies opening on a Laurel), many of them almost 6 inches across. Like some of the Hybrid Tea and Hybrid Perpetual Roses, this Japanese Magnolia, inspired by the season, flowered twice last year. It is not yet too late to record this achievement, at least incidentally, in the pages of the *Gardeners' Chronicle.*

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* *Cucumber Culture*, by W. Dyke. (London: The Lockwood Press.) Price 1s. net.

* Price 1s. to non-members.

Some of the new Roses, as I have indicated, are very charming, though, perhaps, considerably more in aspect than in fragrance; but I still cling fondly to the older varieties, which, in virtue of their great attributes, have stood the test of time. I sometimes wonder what our Rose gardens, with all their recent acquisitions, would be like without such pre-eminently vigorous and grandly-flowering varieties as La France, Clio, Margaret Dickson (here flowering at a height of 21 feet), Caroline Testout, Viscountess Folkestone, Clara Watson, Devoniensis, Beauty of Waltham, Duke of Edinburgh, Prince Arthur, Mrs. Sharman Crawford (not surpassed by any of the latest Newtownards introductions), and Mrs. John Laing? I hope the day is very far distant when any of these shall be relegated to oblivion. The sweetest Rose in my garden within the last fortnight has been my English namesake; the grandest, an individual bloom of Pharisaer, closely approximating to 7 inches across. *David R. Williamson, Wigtownshire.*

THE FLORA OF FORMOSA.

Having recently spent two months in this island, little known to any but Japanese botanists, though my colleague, Dr. Henry, was the first to publish a list of its flora, I am able to form some idea of its vegetation, of which I had heard such glowing accounts. The island lies between 21° 40′ and 25° 30′ N. Lat., and is, therefore, entirely within the tropics. It consists of a mountainous backbone rising at two points to over 12,000 feet elevation, and falling on the east side in very high and steep cliffs to the sea. On the west, the foot-hills are bounded by a very fertile plain, which produces large quantities of Sugar, Rice, and other tropical crops, and on the north are lower hills, on which a good deal of Oolong Tea, exported largely to the United States, is grown.

The flora of the plains, lower hills, and of parts of the central mountain range is fairly well known, the most recent list of Formosan plants, by the Government botanist, Mr. Kawakami, containing no fewer than some 2,700 species. But a great part of the interior, and especially of the high mountain range in the north, known to Europeans as Mt. Sylvia, is unknown or but little explored, because the aborigines are so hostile that no one can go into their country without great risk of being killed, head-hunting being the favourite pursuit of some of these tribes from time immemorial. Although, since their occupation of the island in 1895, the Japanese have done an immense deal to civilise the country, and the plains are safer to travel in than are some parts of Europe, it is at present quite impossible to visit many districts, and though a large force of police is engaged in trying to subdue the mountain tribes, yet the hope of getting to really new ground with which I left England has been disappointed. Nevertheless, the Japanese Government has given us so much help in districts that are safe, that we have already made a considerable collection of plants, and I have little doubt that my companion, Mr. W. R. Price, who intends to remain during the whole summer and autumn in the island, will enrich Kew with the finest set of Formosan plants that has yet come to Europe.

From what we have seen, I expect that these plants will be of more interest to botanists and foresters than to gardeners, for the climate, even of the mountain ranges up to 8,000 feet, which is as high as we have yet ascended, is, even in the coldest season of the year, so mild, that few of the plants, trees, or shrubs are likely to be hardy in England, and the really Alpine plants found above 9,000 to 10,000 feet seem but few in number, and not likely in most cases to be popular garden plants.

The first thing that struck me on entering the central mountain range of Arisan, which is at present the most accessible of the higher ranges, was its general resemblance to some parts of the Sikkim Himalayas. The virgin forest has been for a long period cut and burnt by the Chinese settlers, who went into the hills to collect camphor, and have settled in the most fertile spots up to about 3,000 feet. Areca Palms and Pineapples are grown nearly up to 3,000 feet, and also large areas of a valuable Bamboo (Phyllostachys bambusoides), which is now being worked up into a coarse paper. Great quantities of Longan trees (Nephelium Longana) have been planted by the Chinese, and their fruit is an important export to China. Pandanus, Musa, Rattans, and another stemless Palm, whose name is at present doubtful, form a conspicuous feature in the forest up to 2,000 or 3,000 feet, together with a particularly fine species of Alpinia, allied to A. nutans; a very ornamental-leaved Aroid, which may be an undescribed species and (on the trees) many large plants of the Fern, Asplenium nidus. The trees generally in the lower forests are not large, all the best, including the Camphor trees, having been cut by the Chinese; but they are much covered with large climbing plants, such as Entada scandens, Mucuna, and climbing Hydrangeas. In addition the many species of Ferns, Mosses and other epiphytes lend great beauty to the forest scenes. We found a very handsome Eriobotrya here, which is probably new. Orchids are, in some districts, plentiful, and more than 100 species are found in the island; but by far the greater number are inconspicuous, and of more interest to the botanist than to the gardener.

The only really fine species is Phalænopsis Aphrodite, which was formerly common at the south end of the island, but which is now becoming quite rare in accessible districts, as it is collected for sale by the natives. At the time I was there, in February, it was in full flower, though the weather, considering the latitude, was very windy and cold (50° to 60°) at night.

In the Arisan forest, at 6,000 to 7,000 feet, are quantities of a Dendrobium with long, thin pseudo-bulbs, which are collected for some medicinal use by the Chinese. I saw several other Dendrobes, one with whitish flowers, resembling D. crepidatum, and a variety of D. nobile in the mountains of the north. I also saw a fine variety of Phaius grandiflorus, cultivated in gardens, and a beautiful white Calanthe, with flowers twice as large as those of C. veratrifolia, of which it may be a variety. Among the most remarkable plants is a Vanilla, supposed by the Japanese botanists to be a variety of Vanda Griffithii, which we found at about 2,000 feet in the north, growing over the trunk of Libocedrus, and having thick, fleshy leaves and stems, 10 to 15 feet long, with pink and green flowers.

Of Lilies, we found two in flower. One, which the Japanese call longiflorum, or philippinense, but which I consider much more nearly allied to Brownii, is abundant in the north about Tamsui and up to nearly 3,000 feet. It bears from one to eight or nine flowers, and would, if imported in quantity, probably become a valuable plant for forcing, as it naturally flowers about Easter. The other is either a variety of L. speciosum, or a nearly-allied species, and is not yet determined. We only found this in one place, where it grew on steep rocks, and the first flowers were just open on March 30. In the same mountains a beautiful Hydrangea and a splendid white Rose, allied to R. lævigata, were in great perfection, and Mr. Price found a few of last year's fruits, which I have brought home. A large white or pink Rhododendron, and a large red Azalea were conspicuous on the hillsides where they occurred,

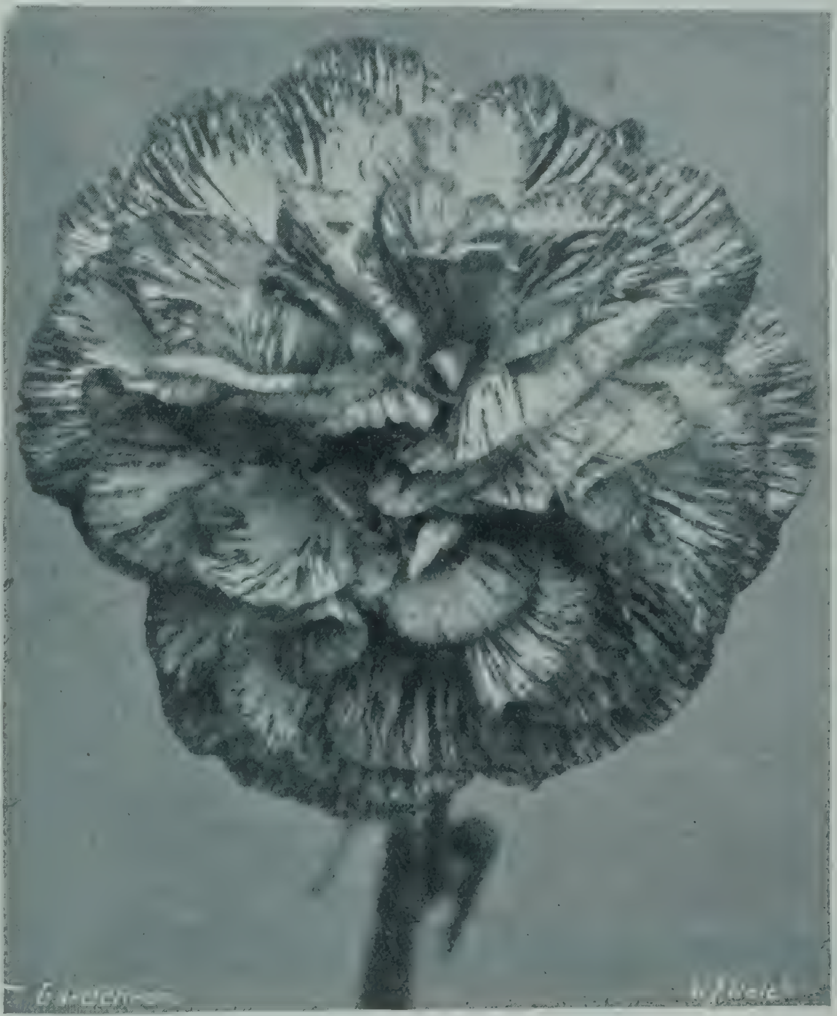

Fig. 12.—Carnation John Ridd: a yellow-ground "fancy" marked with rose-pink.

(Received an Award of Merit at the Holland Park Show. See p. 15 in last issue.)

but not numerous. A fine Crinum, probably C. sinicum, was seen out of flower in the same district. At this season very few plants were in seed, or in a condition to send home alive; but Mr. Price will do his best to bring home any that seem worthy of general cultivation. Of the very remarkable endemic Conifers, which were the principal object of my visit, I was able to see all but Cunninghamia Konishii, which is only known in one locality, which I could not reach; but want of space will not allow me to mention them here, and they are described in the *Journal of Forestry* for July. The season of the year was too early for me to see many herbaceous plants in flower. Among the most handsome were Tricyrtis sp., Paris formosana, resembling the Himalayan P. polyphylla; a large Arisæma, also near the Himalayan Arisæma concinna; and several small but interesting Violets. A most interesting discovery on Mt. Randai was a Shortia, hardly yet in flower, but probably Shortia uniflora; and a Scitaminaceous plant, of which the genus is unknown to me and may be new. It seems very doubtful whether the Cycas described as C. taiwaniana by Carruthers now exists in the island, and the evidence given by Sir W. Thiselton-Dyer in *Journal* Linn. Soc., 26 pp. 560 and 561, is not confirmed by any of the Japanese botanists whom I asked about this plant. It is doubtful whether any species of Cycas is found in Formosa, and C. revoluta, which is naturalised in a very limited area near Kagoshima, in South Japan, is probably not indigenous. *H. J. Elwes.*

NUNEHAM PARK.

(See figs. 13-15, 17 and Supplementary Illustration.)

THE country residence of the Rt. Hon. Lewis Harcourt, M.P., is situated amidst most delightful surroundings at an angle almost equally distant from the historical city of Oxford and the market town of Abingdon. Culham, on the Great Western Railway, is the nearest station, and on leaving the train the visitor immediately enters the Nuneham estate. The way lies along a gently-rising drive, with well-considered curves, in a broad, undulating park. About midway the park proper is entered through an arched lodge. Here, when we visited Nuneham a week ago, the grass was just ripe for the scythe, and when we returned an hour or two later three mowing machines had done so much work that the landscape was altered; the rich brown waving flower-spikes had been laid low, leaving swathes of pale pea-green. Away on either side there are belts of trees with fresh green foliage, bordered with tangled masses of wild Roses—real wild Roses—with dainty, pink-edged petals surrounding golden stamens; flowers with all too short lives but of transcendent beauty. The woods are composed chiefly of shining Beech and feathery Larch, with here and there a lofty Elm, that told of deep, fertile soil. Amongst the more solitary park trees there are many old Thorns—Thorns so old that the trunks of many of them are hollow at the base. We paused to speculate on the significance of the Thorn trees to be seen in so many English parks. Were they planted in these irregular, thin groups of set purpose, or did Nature place them there for discerning owners of the properties to treasure them? Around the trees fallow deer graze in the deep pastures, with a watchful eye on their babies of varying colours and markings. Giant emus and rheas also find a home—the former have young—in this portion of the park, whilst in another place kangaroos may be seen carrying their progeny in their pouches.

The mansion is reached through a pair of hammered gates. The enclosure is bordered by a good hedge of Cistus laurifolius and lines of Roses: the French variety Hermosa, which has numerous mauve flowers, instantly attracts attention, and harmonizes pleasantly with the Chinese monthly Roses. Immediately in front of the mansion the family crest is displayed in dwarf shrubs (see fig. 14). A peacock in green Box surmounts a golden crown set out in a yellow-leaved variety of the same shrub.

WALL SHRUBS.

The Elizabethan mansion is clothed with many interesting and uncommon shrubs, which have made excellent growth during the few years they have been planted. On the north face, Lonicera gigantea superba has long trails of rich golden flowers; Berchemia volubilis has grown up finely; Periploca græca has climbed fully 35 feet, and the growths are terminated with many of its curious brown, green-tipped flowers; a Forsythia, here labelled F. superba (Decumaria barbara?), flowered freely in the spring; Clematis montana rubra in this aspect develops unusually fine colour. The eastern angle of the house has good Bay trees in tubs, and Fuchsia fulgens in old leaden cisterns. On this wall there are many shrubby climbers, including various Clematises; C. coccinea, a very large C. montana grandiflora, and such varieties as Countess Onslow. Ipomœa Leari flowers well; Acacia dealbata appears to be quite at home; Magnolia Campbellii flowered two years ago, but does not seem to be quite happy. Vitis Henryi, in an angle of the house, where it is warm but shaded from the noon-day sun, does extremely well. Magnolia macrophylla is growing only moderately well. There are several sorts of Ceanothus which have flowered profusely and now bear fruits, notably C. rigidus, C. dentatus and C. papillosus. Actinidia Kolomikta has uncommon leaves, the terminal halves being coloured rosy-purple. Clematis æthusiæfolia finds a place next to a Maréchal Niel Rose. Many of the wall shrubs which we are accustomed to see in the gardens of Cornwall and other warm districts are represented at Nuneham, and are quite vigorous, e.g., Lapageria rosea, Carpenteria californica, Solanum crispum, Tricuspidaria dependens, Trachelospermum jasminoides, Edwardsia microphylla, Akebia quinata, Solanum jasminoides and Clianthus puniceus. There is also a large plant of Wistaria chinensis which has spread around the side of the house and embraces a balcony. Myrtles flower and fruit alongside the white and yellow Banksian Roses.

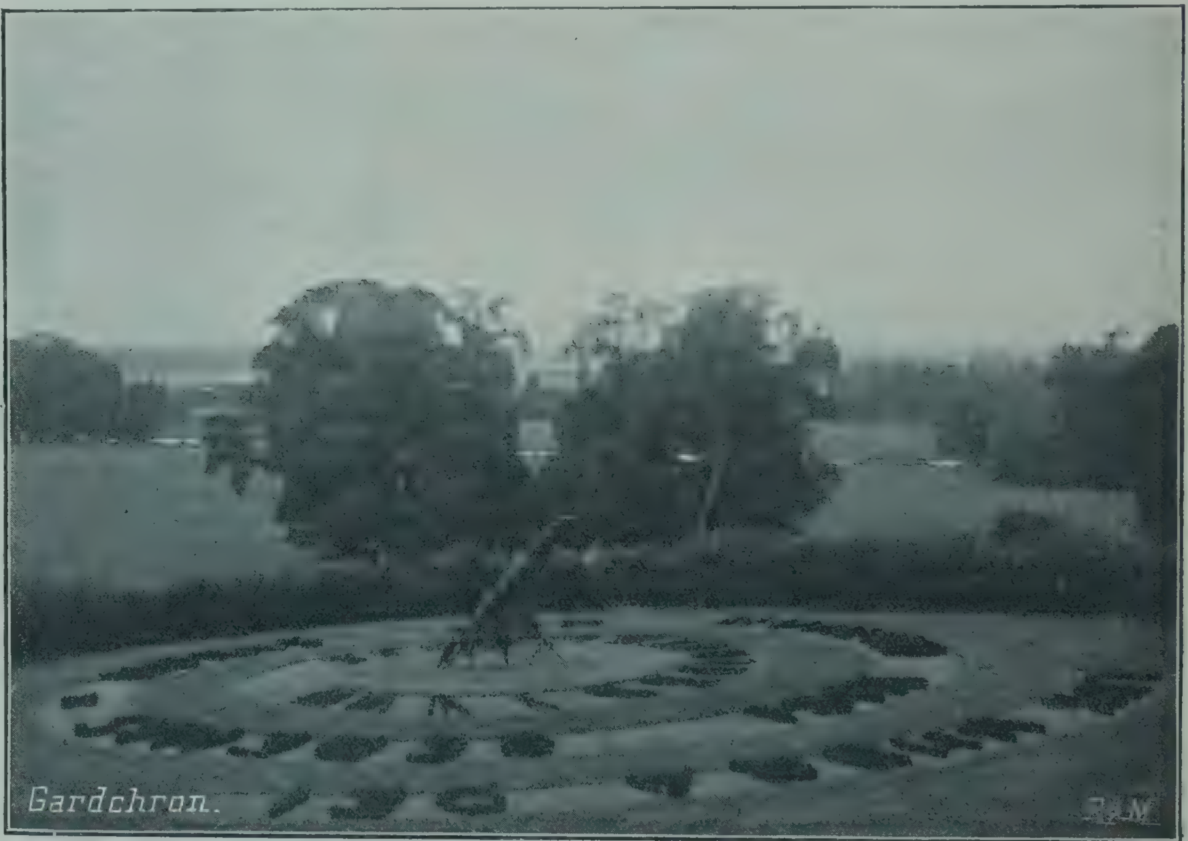

FIG. 13.—NUNEHAM PARK : SUNDIAL WORKED IN BOX.

THE TERRACES.

The terrace gardens are very attractive features of Nuneham. Next to the house the terrace is paved with irregularly-laid paving stones, and many lowly, sweet-smelling plants have been placed between the stones. This terrace is devoted to Roses, which are planted in large, rectangular beds of one variety. The deep red Hugh Dickson, the pink Caroline Testout, and the white Frau Karl Druschki, are wonderfully successful, and almost smother the Viola Maggie Mott, which carpets the beds. The next terrace is also filled with Roses, but here the terrace is of gravel, and the beds are bordered with Mrs. Sinkins Pink. In the centre there is a beautiful bronze statue, and around the granite base cluster the dainty flowers of Cecile Brunner Rose. The beds on this terrace are also restricted to separate varieties, such as Killarney, Beauté Inconstans, President Carnot, Antoine Rivoire, and L'Ideal. The retaining wall is covered with Clematis Nellie Moser, and has a border furnished with Rose Mme. Abel Chatenay.

Below the Rose terraces there is the "Nymphæan Terrace," with a small, stone-enclosed pool of Water Lilies, a paved walk, and beds planted with shrubs. Standards of Hydrangea paniculata grandiflora, which line the middle of these beds, promise to be exceptionally fine. The herbaceous borders around this garden are gay with flowers, and the walls are clothed with a great variety of shrubs, the most uncommon being Distylum racemosum, Cestrum lucidum, C. aurantiacum, Adenocarpus anagyrus, and Coprosma lucida. Outside the terrace there are more uncommon wall plants, and in the border there are bushes of Leptospermum scoparium (L. bullatum) 3 to 4 feet high. On the other side of the walk there stretches a long narrow "Blue" border in which Anchusas, Delphiniums, Campanulas and Aconitums are in full bloom. The path to a large croquet terrace, which is bordered with pink Roses, overlooks a bank covered with various Wichuraiana Roses, which have grown rampantly. These terraces are comparatively new features at Nuneham; it was a happy inspiration that prompted the owner of Nuneham and Mrs. Harcourt to make these charming additions to their home.

Under the guidance of Mr. C. E. Munday, the able head gardener, who has cared for the gardens for the past 15 years, and who superintended the extensive alteration at Nuneham, we reluctantly left the terraces, with their beautiful Rose gardens and brilliant herbaceous borders, but there were fresh attractions in store; a long walk, bordered with dwarf French Lavender, disclosed a living sun-dial (see fig. 13). The gnomon is a growing Box, pruned and trained into correct shape, and is as tall as a man; the hours on the large dial are also of Box. We next pass by large groups of Rosa rugosa, Rose Gruss an Teplitz, a fine Rhus Cotinus, placed for autumn effect, on our way to the "Wall Walk," which is nearly 700 feet long, and contains a variety of Alpine and other plants. We passed up the steps (see Supplementary Illustration), taking care not to unduly crush the Pansies or the Pinks, or any of the Rockfoils which luxuriate in them. In the spring time many bulbous plants serve to brighten these stone walls. Space does not permit the mention of a tithe of the plants which grow so well, but we feel that the names of some of the Cacti which thrive under this method will be of especial value. These are Opuntia camanchica gigantea, O. pachyclada rosea, O. rhodantha pisciformis, O. r. brevispina, O. fragilis brachyanthera, and O. Rafinesqui.

Below the wall walk there are many flowering shrubs planted in bold masses, including Cornus capitata, Enkianthus campanulata, Magnolia Alexandræ, and Styrax obassia.

THE DELL AND BOG GARDEN.

The far end of this interesting walk brings into view the "Pools of Silence," a series of small ponds culminating in a beautiful garden of Japanese Irises. On the left there is a collection of Japanese shrubs, which has only recently been planted. Leaving the Irises, we ascended to the bog garden, which has been made in an open glade. Here many moisture-loving plants flourish; Gunnera manicata, Rodgersias of several kinds, Spiræas and Astilbes, Polygonum amplexicaule, and smaller patches of Primula Cockburniana, and Cypripedium spectabile. We paused to watch the brilliant flamingoes stalk majestically around the plants, and then continued our upward way. On either side there are large informal beds of rare trees and shrubs. Magnolia glauca, M. Watsonii, Romneya Coulteri, Olearia macrodonta, a standard Fremontia californica, with stout-petalled yellow flowers, Rosa sinica Anemone rioting up Larch poles, a tall Eucalyptus coccifera bearing masses of fragrant flowers, Eriobotrya japonica in the form of a vigorous, healthy bush, many Rhododendron hybrids and a large group of the pink-flowered Indigofera Gerardiana. When nearly at the top, we turned and passed along a fine avenue of Almonds towards the old parish church, passing a tall Maidenhair tree (Ginkgo biloba), which promises to become a fine specimen. Beyond the church is the Heath Garden, with Liliums planted amongst the Heaths.

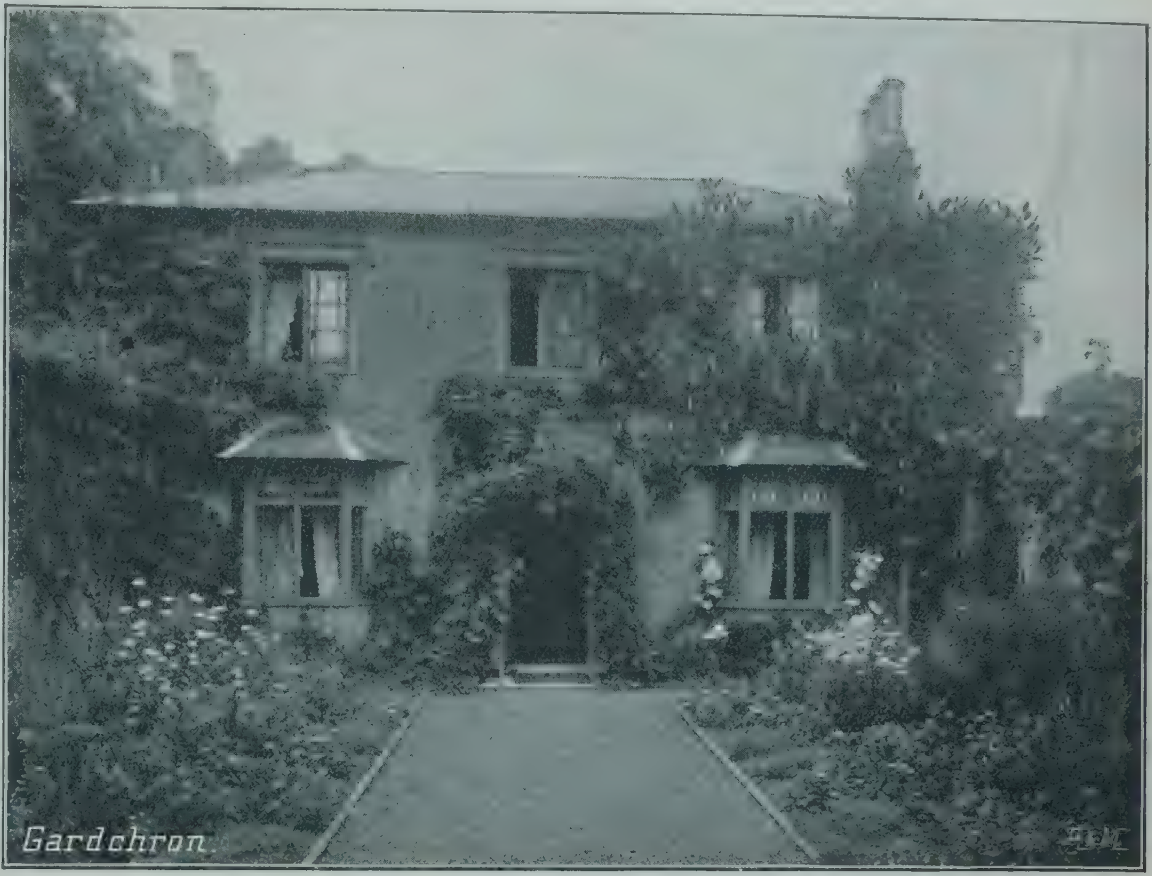

FIG. 15.—NUNEHAM PARK: THE GARDENER'S COTTAGE.

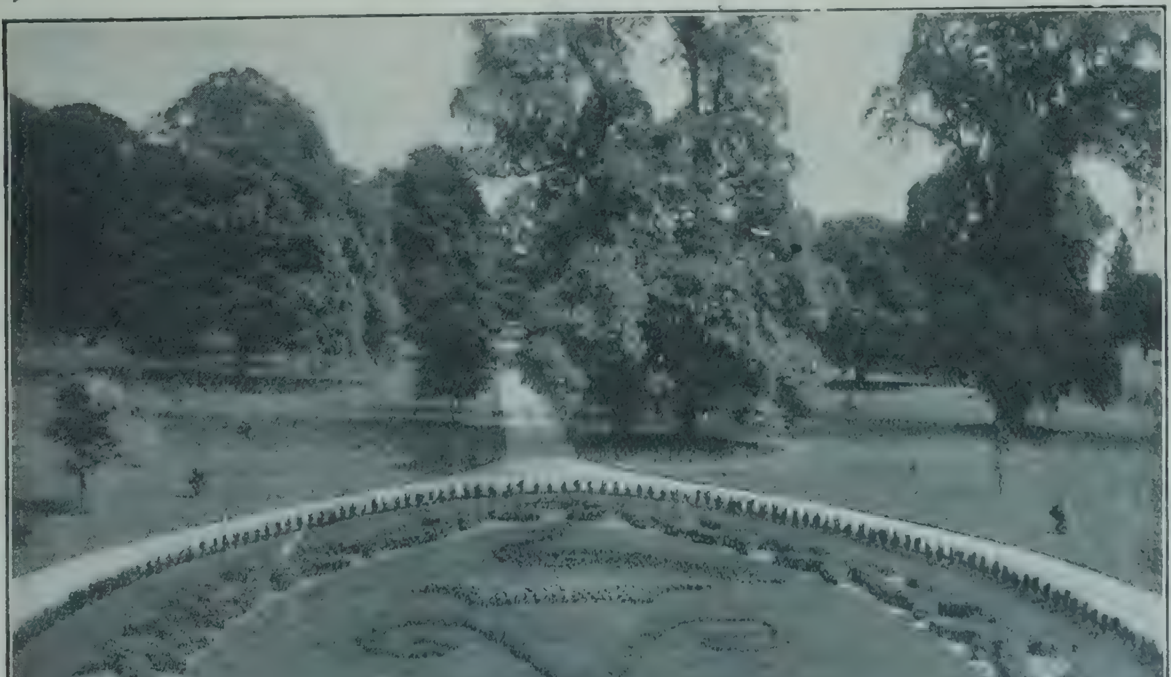

FIG. 14.—NUNEHAM PARK: SHOWING THE CREST AND MONOGRAM REPRESENTED IN EVERGREENS.

THE ROSE GARDEN.

In a quiet place is an old-style Rose garden of semi-circular shape, enclosed by a tall hedge of Box, which Tropæolum speciosum adorns with trails of scarlet flowers. There is a fine Dorothy Perkins Rose in the centre, and the many beds and stone figures are all deserving of admiration. Capability Brown originally designed the gardens, but the alterations have destroyed much of his work, although "Brown's Walk" still remains. This is a delightful, gently-winding, gravel walk, bordered, not too closely, with trees and shrubs with "peeps" between them. The terraces in front of the house have commanding views, but they cannot compare with the view obtainable from the highest point of Brown's Walk.

The brick pergola, which surrounds a small Lily pond (see fig. 17), in front of the gardener's house (see fig. 15), is now almost hidden by the luxurious growth of the Roses and vines. In the well-filled kitchen garden there is a long arch of Roses and many herbaceous borders. The fruit garden is entirely enclosed with $\frac{5}{8}$-inch mesh wire-netting, which is supported by a large angle-iron framework 20 feet high at the apex, 180 feet long by 50 feet wide. In this structure we saw splendid crops of Cherries, Raspberries, Currants, cordon Gooseberries and Loganberries.

Much might be written of the crops in the kitchen garden and the plants in the glasshouses, but the chief interest of Nuneham lies in its out-of-doors garden.

PUBLICATIONS RECEIVED.—***Scientific Bulletin of the Royal Agricultural College, Cirencester.*** Price 1s. 9d.—***The Management of a Cottage Garden,*** with a Preface on the Labourer and His Plot. (Belfast: Municipal Technical Institute.) Price 1d.—***Report of Committee with a List of Subscribers, &c., of the Gardeners' Royal Benevolent Institution.*** (92, Victoria Street, Westminster, S.W.)—***The Agricultural Output of Great Britain.*** Report on Enquiries made by the Board of Agriculture and Fisheries in Connection with the Census of Production Act, 1906. (London: Board of Agriculture and Fisheries.) Price 9d.—***Sub-Alpine Plants of the Swiss Woods and Meadows,*** by H. Stuart Thompson. (London: George Routledge & Sons, Ltd.) Price 7s. 6d.—***Scheme of Agricultural Education.*** Lancashire Education Committee, County Offices, Preston.

The Week's Work.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Hanging Baskets.—During hot, dry weather plants in hanging baskets require an almost unlimited supply of water. Those of a vigorous habit of growth should be afforded liquid manure freely, and, where necessary, a dressing of artificial manure. Acalypha hispida is one of the most beautiful of plants for growing in baskets, and if planted as advised in a former Calendar (see p. 169), they should now be carrying some fine inflorescences, which must not be wetted with the syringe or the flowers will turn a brown colour.

Layering "Malmaison" Carnations.—Directly Souvenir de la Malmaison Carnations have finished flowering they should be layered. If the plants are infested with red spider, every endeavour should be made to cleanse them before the layering is done. There are several good specifics on the market, and to make sure of destroying all the insects, two applications should be made, the second at an interval of two or three days. The plants should be layered in a frame, using a light compost for plunging them in and for covering the shoots after the layers are made. The foliage should be removed from the shoot up to the point where it is desired to make the cut, this being started just below a joint and finished at the next joint. This length will ensure a good "tongue," from which roots will soon develop, provided the shoot is made quite firm in the soil. After the shoots are layered, keep the frames rather close for a few days, spraying the foliage once or twice daily according to the condition of the weather. But this treatment must not be maintained for too long a period, or the young foliage will grow rank and soft, and be subject to attacks of "spot" (fungus) during the autumn and winter months. A little shade may be provided during the early stages of layering, but as soon as the shoots appear to be making roots, a fairly hardy treatment should be given them, so that the plants will grow hardy and be "stocky" when the time arrives for potting them. To secure a batch of large plants for next season some of the best of those in 6-inch pots should be shifted into 9-inch pots, using a compost of loam, lime rubble, and a little bonemeal. The addition of peat or leaf-mould is by some considered necessary, but I am not greatly in favour of adding either material, especially if good fibrous loam is employed. The plants grow best in a light house, shading the glass a little during the hottest part of the day. Syringe the foliage when the weather is favourable, but let it be remembered that "Malmaison" Carnations do not require a great amount of moisture, especially during damp weather. Winter-blooming Carnations should be stopped to induce a bushy habit of growth, and if the plants are grown in sufficient quantities, they should be arranged in two batches, the one batch being stopped the last time about the end of this month, and the other, say, three or four weeks later. This practice will ensure a good succession of flowers during the winter and spring.

FRUITS UNDER GLASS.

By E. Harriss, Fruit Foreman, The Royal Gardens, Windsor.

Tomatos.—Plants which are fruiting in pots will require an abundance of moisture at the roots, also plenty of stimulants, and further top-dressings if there is room for them. Should white fly become troublesome, remove all the fruits which are colouring and fumigate the plants with a nicotine compound. Sow seeds for raising a batch of plants for furnishing fruits during late autumn and winter. Sow the seeds thinly in pans and germinate them in gentle heat. When the seedlings are well above the soil, place them on a shelf near to the glass in a light, airy house. When large enough, pot the seedlings into 3-inch pots, and keep them growing near to the roof glass. For the first few days the atmosphere should be kept rather close and moist. When the plants have filled the pots with roots, shift them into 6-inch pots, using a compost consisting chiefly of loam mixed with a little manure from a spent Mushroom bed and a sprinkling of crushed mortar rubble. Make the soil firm, or the plants will produce soft, long-jointed growth.

Cucumbers.—At this time of the year the growths of Cucumbers require to be thinned and regulated frequently, otherwise they will quickly become a tangled mass of weak, useless shoots. To keep the plants in a steady fruit-bearing condition, the growths should be stopped and regulated about every 10 days. Do not allow more fruits to develop than are required to meet the demands of the establishment. Cut the fruits when they are a medium size, and, if not required for immediate use, place them in a cool cellar, where they will keep in a good condition for several days. Apply to the surface of the beds frequent small top-dressings of loam and leaf-mould or well-decomposed horse-manure. Plants in full bearing must be given plenty of stimulants; liquid manure from the farmyard, alternated with a sprinkling of fertiliser, will be suitable. Except during cold or wet weather, fire-heat may be dispensed with at this time of the year. When artificial warmth is necessary, be careful not to heat the pipes to excess, as this is very injurious to the plants, and will often cause red spider to appear on the leaves. Syringe the foliage twice daily, and, during hot weather, promote a moist atmosphere by damping the paths and walls of the house several times daily. An occasional syringing with an insecticide will keep the foliage free from insect pests. Another batch of plants should be raised for autumn fruiting.

Cucumber in Unheated Frames.—Cucumbers planted in cold frames will need careful attention in regard to ventilation; during unfavourable seasons it is impossible to be successful with this method of growing Cucumbers, unless the frames are ventilated intelligently. When the plants are in full bearing, give them the same liberal treatment as advised above. Keep the growths well thinned and regularly stopped, and remove old leaves when they are turning yellow. An occasional fumigation with a nicotine compound will keep the plants free from aphis.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Blackberries.—Such varieties of Blackberry as Rubus laciniatus, Wilson Junior, and the Mahdi may always be depended upon to produce good crops of fruit, and might be more often used, with profit, for covering unsightly fences, &c. The old growths should be removed as soon as they are cleared of fruit, and the young canes trained in their places. Apply liberal mulches of manure, especially to plants growing near to walls or other dry places. Even the common wild Blackberry is worthy a place in any garden, and, when well grown, produces fruits superior in flavour to the named varieties. They should be protected from the birds.

Stone Fruits.—As soon as Peaches, Nectarines, and Apricots have finished stoning, the fruits should be thinned finally. Apricots are an uncertain crop, and when a good set is obtained it is a temptation to allow the trees to carry too many fruits. But over-cropping exhausts the trees, so that they require at least a season to recover from the effects. At the commencement of thinning, remove all badly-placed fruits and those that are in contact with the wall or wires, leaving the fruits rather closer together than is recommended for Peaches. In the case of varieties such as Large Early, it always pays to liberally thin the fruits, which, given good cultivation, are almost as large as a Peach. The rains have thoroughly soaked the borders, and water is not necessary, unless the trees are protected by fixed copings. Examine the trees at short intervals while the fruits are swelling to see that the latter are not spoiled by being crushed against the wall, but do not expose the fruits. Apricots develop better when they are slightly shaded with the foliage. Syringe the trees frequently, as recommended in a previous calendar. Pinch and repinch them as it becomes necessary, it being important that the spurs and all shoots should be fully exposed to sunlight and air. Peaches and Nectarines require to be well thinned, removing first those that are not well placed. These fruits, unlike the Apricot, require to be fully exposed to the sun, and the crop should be distributed over the tree as evenly as possible. One Peach fruit to each square foot of surface is a heavy crop even for the most healthy specimens, and the trees should not carry more than this on the average when the stoning is finished. The remarks on watering Apricots apply to Peaches. Trees that are heavily cropped should be assisted by an occasional sprinkling of some artificial manure, just before rain falls. Examine the trees frequently, and keep the laterals persistently pinched, pushing the foliage on one side, or removing a leaf here and there to expose the fruits.

Pears.—There appears to be a good average crop of Pears this season, and the trees are looking fresh and healthy. Large trees which have filled their allotted space should be kept closely pinched, whilst young trees having further space to furnish must be allowed to extend. In some few cases even young trees may require strong shoots to be stopped in order to preserve a proper balance of the specimen. Thin the fruits where they are too numerous, those of the largest varieties most freely, as was recommended in the calendar for June 29.

Morello Cherries.—The trees of Morello Cherries may be pruned, and those who wish may tie in the shoots, but nothing is gained by tightly tying in young branches. The trees produce the finest fruits when the young growths are allowed to extend freely. Protect the fruits from birds before they change colour.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Epidendrum.—Most of the Epidendrums have but little garden value, but certain species are well worthy of cultivation. One of the most useful and decorative is E. prismatocarpum. As plants of this species pass out of flower, they should be given attention at the roots. The most suitable receptacles to grow them in are pots or deep pans. Specimens that are pot-bound, and, having grown over the sides of their pots, are somewhat bare in the centre, should be turned out of their receptacles, and have most of the back pseudo-bulbs removed, leaving only two or three behind each lead. They should then be repotted, placing them so that the growths point to the centre. Any plants that are well furnished with leaves and are in a healthy condition at the roots may be shifted into larger receptacles. Those that have sufficient root space for another season's growth and with compost in a good condition, should have some of the old materials removed from the surface, and a top-dressing afforded them. After repotting, the plants should be watered with care, not letting moisture settle in the centre of the new growths, as it would cause them to decay at the base. When the roots have grown well in the new compost, they should be afforded water liberally until the pseudo-bulbs have completed their growth. The plants grow well in the coolest and lightest part of the Cattleya house, and should be treated the same as for Cattleyas.

Epidendrum bicornutum (syn. Diacrum bicornutum).—Plants of Epidendrum bicornutum and its many hybrids are difficult to cultivate for many years in succession. At the present time, just before the new growths develop roots from their bases, they should, if necessary, be repotted. Shallow pans are the most suitable receptacles in which to grow this species, and they should be well drained, as during the plant season of growth liberal supplies of water are needed; later, when the pseudo-bulbs are fully developed, the amount of moisture should be diminished gradually until, during the resting season, a very small quantity is required. The plants should be suspended or staged near to the roof-glass in the warmest Orchid house, or in an ordinary plant stove.

Epidendrum vitellinum majus.—The winter-flowering variety of this bright, coolhouse Orchid should be repotted or resurfaced when new growth commences. Employ shallow pans provided with ample drainage and either suspend or stand the plants on a stage near to the roof-glass in a light, airy part of the Odontoglossum house. Afford water sparingly during the early stages of growth, but when root action is most vigorous, give liberal supplies of moisture until the pseudo-bulbs are completed. During the resting season afford only sufficient water to keep the growths firm.

SOBRALIA.—Plants of S. macrantha, S. xantholeuca and its variety concolor; S. Lucasiana and the hybrids S. Amesiana, S. Veitchii, S. Wiganæ and S. Colmanæ will need repotting directly they pass out of flower. The pots or pans should be well drained, and the compost should consist of two parts good fibrous loam (broken up rather roughly and with all the small portions removed), and one part A1 fibre or Osmunda fibre with a quantity of crushed crocks and silver sand added. Pot moderately firm, and when the work is finished let the base of the plant be a little below the rim of the pot. These are rich-feeding, strong-rooted plants, therefore they should be allowed ample pot room. Newly-potted plants should be watered carefully until the roots have grown well into the compost. Sobralias should be grown in a moist position in a house having an intermediate temperature. Being subject to attacks of red spider, they should be syringed freely on all favourable occasions, taking care to wet the undersides of the leaves. The foliage should also be sponged occasionally with a suitable insecticide.

THE FLOWER GARDEN.

By J. G. WESTON, Gardener to Lady NORTHCOTE, Eastwell Park, Kent.

ROMNEYA COULTERI.—The Californian Tree Poppy is an exquisite plant when seen at its best, and no pains should be spared to grow it well. The species thrives best in a warm, sheltered situation. The shoots should be cut down to the ground before very cold weather sets in, and the plants given a good mulch of manure. This will serve the double purpose of protecting them from frost and supplying extra food to the roots, resulting in strong shoots that will flower next season over an extended period, especially if the plants are assisted by copious waterings during times of drought.

ESCALLONIA LANGLEYENSIS (see figs. in *Gardeners' Chronicle*, July 10, 1897, fig. 4; and July 2, 1898, fig. 4).—This beautiful evergreen shrub does not appear to be so widely known as its merits deserve. It was raised by Messrs. Veitch about 15 years ago, and is perfectly hardy. The growth is of a semi-scandent habit, and the flowers show to great advantage. The petals are of a bright rosy-carmine shade, the blossoms being produced in hundreds, on branchlets of the previous year's growth. The hybrid is a quick grower, and with good cultivation small plants soon grow into fine specimens. The long, slender shoots grow pendulous as they become older. Even when not in bloom the graceful shoots, furnished with small, oval, evergreen leaves, are ornamental. I strongly recommend the plant to those who do not already possess it. E. exoniensis is another choice variety, with creamy-pink flowers, and makes a suitable companion to E. langleyensis.

HERBACEOUS PHLOX.—See that the growths of Phlox decussata are supported whenever necessary, remembering that shoots of the most sturdy-growing varieties are liable to become broken at the base in windy weather. Border Phloxes require a very liberal treatment, and though established clumps do well in the mixed border, their requirements can be better supplied when grown in separate beds and borders. Keep the ground well hoed, and, as drought is very detrimental to them, a mulch should be applied immediately after a heavy rainfall or the roots have been well watered. During dry weather the plants should be watered copiously.

PANSIES AND VIOLAS.—The old blossoms and seed-pods should be removed from Pansies and Violas regularly, in order to prolong their flowering. Neglect of this will soon cause a total cessation of blooming, and the plants will appear starved and untidy. On thin, hot soils, they are very apt to become exhausted, and should be afforded a light top-dressing consisting of a little artificial manure with some sifted leaf-mould or other light soil. The top-dressing should be applied during dull, showery weather if possible. This will be of great assistance in keeping the plants in good health, and it will improve the quality of the blooms to a surprising degree. During times of drought they should receive copious waterings, especially if the soil is hot and gravelly. Both Pansies and Violas delight in a cool, rich rooting medium and partial shade during the middle of the day.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Hertfordshire.

THE SEASON.—At the time of writing the weather is dull and, for the time of year, cold. The crops generally are clean in growth, but maincrop Onions, Beans, and many other vegetables require more seasonable conditions, need more sunshine, although the dull weather has suited recently-planted winter greens, and has saved a considerable amount of labour in watering.

CHICORY.—Ply the Dutch hoe between the rows of Chicory, and if the plants of the earliest sowing have not been finally thinned attend to this at once, allowing the plants a distance of from 9 inches to 1 foot apart. Should the crop have failed through any cause, or it is thought insufficient to meet the requirements of the establishment during the winter, a sowing may be made at once as recommended for the earlier planting. Choose an open site, and if encouraged to grow quickly the plants will prove of value for late supplies.

CUCUMBERS.—Where plants have been in bearing for several weeks it will be advisable to make another sowing of suitable varieties for succession, and to supply a good crop of Cucumbers during the autumn months. Sow the seed thinly in the same way as advised for the earlier sowings, and raise them in a warm house. Place the young plants near to the roof-glass as soon as they appear. Plants in full bearing must be syringed regularly, and the growths stopped and regulated, removing the oldest leaves. Top-dressings of suitable materials should be afforded at intervals—just a covering only to keep the rootlets active. When water is needed thoroughly soak the roots and apply stimulants alternately with the water, using liquid manure and fertilisers. Damp the paths late in the evening, and should red spider be present on the leaves syringe the underside of the foliage just before closing time with tepid, soft water.

GLOBE ARTICHOKES.—As the flower-heads become large enough for use cut them with a fair length of stem, and place the stalks in water until sufficient are secured for a dish. In this way they may be kept fresh for a fortnight. Every encouragement must be given the plants to bear freely. Give them an abundance of water and plenty of manurial assistance. Even in showery weather water is essential, as the foliage prevents a great deal of the rain from reaching the roots.

CELERY.—Continue to plant out the latest batches of Celery if possible before the plants become starved or drawn. Care should be exercised in lifting, preserving as much of the soil as possible about the roots, as this precaution will do much to lessen the check to the plants and hasten their recovery. Remove decayed leaves, and guard against the Celery maggot, removing any leaves that are infested with the pest. For this planting double rows are preferable, therefore the trenches should be made wide. It is a good plan, especially when the weather is warm, to form the trench or trenches between rows of Early Peas, as the latter afford shade to the Celery for a week or so after planting. Dust growing plants of the earlier batches with soot at intervals, and remove side growths and split leaves.

LETTUCE.—The rains have suited this crop. Make small sowings wherever sufficient space is available in shallow drills, and thin the seedlings as soon as they are large enough, transplanting the thinnings. For summer use the varieties Superb White and Mammoth White Cos may be selected.

MUSHROOMS.—For the next two months it is a difficult matter to maintain a supply of Mushrooms, excepting where a very cool structure is available. Failing that, beds may be formed in a cool, shady position out-of-doors. The Mushroom house should be kept well damped, and the walls syringed with cold water as often as is necessary to promote moist conditions. Slugs are very troublesome at this season, and means must be taken to destroy them. Beds that pass out of bearing should be removed and fresh beds prepared.

THE APIARY.

By CHLORIS.

BEES AND WATER.—During dry weather it is very necessary, where streams do not exist, to provide water for the bees if brood raising is to be carried on at the rate necessary to keep the stocks sufficiently strong to yield a good harvest. Add a teaspoonful of salt to each pint of water, placing the water in any vessel that prevents all danger of bees being drowned. If an open vessel is used, put some corks in the water or large stones, so that the bees may have plenty of foothold. A barrel with a very small hole bored in its lower edge, from which a small quantity of water can drip, makes an excellent supply if allowed to fall on a sloping board.

SWARMING.—At this time of the year bee-keepers are often very busy, and are all the time anxious to increase their stocks by swarming, but the method is so uncertain that much time is lost in watching and waiting for the swarm to emerge, because bees are often prevented from swarming by reason of our uncertain climate. Much time and worry may be saved by artificially swarming the bees, and a few rules are only needed for the guidance of those who wish to do it successfully. When a colony is very strong and crowded with bees, and honey is coming in plentifully, then the bees may be swarmed on any fine day that is convenient.

TO MAKE THREE COLONIES FROM TWO.—Where a small increase of stock is desired, it may only be necessary to form three colonies from two. Choose a bright day, and at noon, when most of the bees are out foraging, remove six frames from a very strong hive, brushing off all the bees; crowd together in the centre the combs remaining, and fill in the empty spaces on each side with frames containing full sheets of wired foundation. Take the six frames of brood and eggs and place them in a new hive, putting it on the stand where another strong colony has worked, giving this second a new stand. The flying bees will be sufficient to people the new hive, and will set to work to raise a new queen from the eggs in the frames supplied. Put no new frames in this hive, but shut off the empty space by means of the dummy. Much time may be saved if a ripe queen cell can be added, or, better still, a fertile queen may be caged on one of the frames for 36 to 48 hours before being liberated, and then add a frame containing a full sheet of foundation each week until all the space is filled. Where a number of strong colonies exist, say five, then from each of four take two frames of brood and eggs from the centre of the brood nest, brushing off all bees, then on the site of the fifth place a new hive, and in this put the eight frames taken, allowing the flying bees of the fifth to supply bees to raise a new queen as before, while the fifth occupies a new site. Supply each of the four hives with two new frames of wired foundation, which may be placed in the centre of the brood chamber, and this will probably prevent swarms issuing from the colonies so treated. In this case, if a laying queen can be caged as before, much valuable time may be saved; failing this, a ripe queen cell may be placed in a hole in the centre comb, fixed in by the aid of pins. In cutting and handling ripe queen cells, always take great care not to cause unnecessary jarring, or the occupants will be killed. When it is desired to make one colony into two, take the comb in which the queen is found, place a new hive on the site of the old, and put the comb, bees and queen in the centre of the hive, filling in with frames of full sheets of foundation, and these, with flying bees, will form the new colony or swarm. Those in the old hive, removed to a new position, with the frames closed up and an empty comb placed on the outside, will raise another queen and form an excellent colony for next year. Of course, time can be again saved and honey stored if a young queen can be added at once.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JULY 16—
Royal Hort. Soc. Coms. meet. (Lecture at 3 p.m. by M. E. A. Bunyard on "The Flowers of Apples and Their Aid in Identifying Varieties.") Southampton Royal Hort. Soc. Jubilee Sh. (2 days). Brighton and Sussex Hort. Soc. Rose and Violet Pea Sh. (2 days).

WEDNESDAY, JULY 17—
Bishop's Stortford Fl. Sh. Cardiff and County Hort. Soc. Sh. (2 days). Caterham Hort. Sh. Tooting, Balham, Merton and Mitcham Hort. Soc. Sh. Sussex County Agric. Sh. (2 days). Saltaire, Shipley, and Dist. Rose Sh.

THURSDAY, JULY 18—
Horticultural Club, annual Summer Outing. Dunfermline Fl. Sh. (2 days). Deal, Walmer, and Dist. Hort. Soc. Ann. Sh.

FRIDAY, JULY 19—
Nat. Rose Soc. Sh. at Belfast. Birmingham Hort. Sh. 2 days).

SATURDAY, JULY 20—
Royal Bucks Sweet Pea and Hort. Soc. Sh.

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—63·3.

Actual Temperatures:—

London.—*Wednesday, July 10* (6 p.m.): Max. 78°; Min. 60°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, July 11* (10 a.m.): Bar. 29·8°; Temp. 71°; *Weather*—Sunshine.

Provinces.—*Wednesday, July 10:* Max. 63° Cambridge; Min. 58° Ireland, S.W.

Eel-worms. The gall-like malformations which are set up in the roots of plants by the eel-worm (Heterodera radicicola) are, unfortunately, only too familiar to gardeners, though it is to be doubted whether even they all realize the enormous extent of damage that is to be attributed year in year out to the activities of this pest.

When an outbreak of eel-worm manifests itself in a crop of Melons, the gardener realises to his cost the loss which he suffers; but in cases of less severe attacks, undergone by plants out-of-doors, the agent is apt to pass unnoticed, and the partial failure of the crop is attributed often to poor soil or to some other adverse cultural condition. Eel-worm disease, which was described first in the pages of the *Gardeners' Chronicle* by Berkeley in 1855, has been with us so long, the disease affects so many different crops, and its results are so disastrous that it is high time that a comprehensive investigation into the methods of prevention was undertaken in this country. Pending such an investigation, we may profit by the information which is forthcoming as the result of researches made in other countries, and in particular we may call attention to the excellent work of Professor Bessey,* of Michigan Agricultural College, on the distribution, life-history and modes of destruction of this pest.

Although the eel-worm (Heterodera radicicola) is now widely distributed throughout the world, there is some reason to believe, as Professor Bessey points out, that it was introduced to Europe and America from tropical countries, and that the general trade in tropical plants, which sprang up about a hundred years ago, was the cause of the extensive introduction of the pest into various European countries. It is significant, in this connection, that the pest originally discovered by Berkeley was found in the roots of greenhouse plants.

If the eel-worm is a comparatively newcomer, it has certainly made the most of its time, for according to Professor Bessey it is now at home in the roots of between 450 and 500 different species of plants. Of these susceptible species, nearly 100 suffer very severely indeed when eel-worms gain access to their roots; upwards of 100 plants serve as fertile breeding grounds for the pest, but do not appear to suffer markedly, and the remainder of the susceptible plants make light of the attack.

The first category includes many plants—florists' plants, fruit and other trees, and vegetables—which are in common cultivation. Among those plants which suffer severely from attack by eel-worm the following may be mentioned:—

Flowering and ornamental plants: Amaranthus tricolor, Musa, Antirrhinum, Carnation, Chrysanthemum, Centaurea, Deutzia crenata, Eschscholtzia californica, Gardenia jasminoides, Hibiscus Sabdariffa, Hollyhock, Ipomœa purpurea, Lobelia erinus, Passiflora, Pæony, Petunia, Sweet Pea, Stock, Nicotiana, Thunbergia fragrans, Tuberose, Violet and the Yellow Lupin.

Of the fruit and other trees, those which are most badly affected when attacked by eel-worm include Cherry, Elm, Fig, Grape, Peach; and among vegetables those which suffer in a marked manner include Beet, Salsify, Carrot, Celery, Cucumber, Egg plant, Endive, Lentil, Lettuce, Melon, Potato, and Tomato. Red and White Clover, Rape and Bitter Vetch are also highly susceptible.

A point well worth notice is that, whereas few, if any, of our common weeds are among the plants which are apt to be destroyed by eel-worm, not a few are of the second category; that is, are aiders and abettors of eel-worm, acting as "nurse-plants" to the pest. In such weeds the eel-worm increases and multiplies, passes out into and spreads through the soil, and so is prepared to attack any susceptible plants that may be grown on the infected land. The moral is obvious, and the clean cultivator perceives an added reason for the success which attends his unceasing war on weeds.

The list of immune plants is, unfortunately, as short as that of the susceptible plants is long. Among the commoner plants which appear to resist the attack of the nematode are some varieties of Oats and Barley, Maize, Solidago, Zinnia, and certain grasses, such as Timothy—a list, be it noted, of poor comfort to the grower who is seeking for a worm-proof plant to grow on his infected soil.

Into the life-history of Heterodera radicicola we need not go at any length, although the habit of the worm in taking up, as its first position in the plant, a station just beyond the growing point of the root, near the cells along which food substances are passing, must excite our admiration, if not our applause.

The larva, which hatches from an egg, is 1-50th of an inch (or less) in length, of cylindrical shape, with tapering ends. The female matures rapidly, and the first crop of eggs is produced within about 20-30 days of the entrance of the larva into the root.

The root is stimulated to excessive growth by the presence of the eel-worm, and hence the gall-like malformations which so often serve to indicate the presence of the pest. Unfortunately galls are produced only after infection has been established for some time, and hence microscopic examination is necessary for the detection of the early stages of the disease.

The natural rate of spread of eel-worms in soil is slow; but, of course, there are many means by which they may be carried and disseminated. Chief of these means are the planting of diseased stock, for instance Potato tubers and cuttings from diseased plants, the spreading of infected soil from greenhouses and frames on the open ground, and the dissemination of the eggs of the pest during horticultural operations, such as digging and watering.

It is noteworthy that the eel-worm has a marked preference for light soils, and according to Professor Bessey, it is found but rarely on clays. Manuring with potash manures has, at all events in many instances, a detrimental effect on eel-worm, and hence potash manures should be tried in the garden when the soil is known to harbour the pest. In spite of their ubiquity, eel-worms are not very resistent to unfavourable conditions. Drought reduces their numbers in the soil, and so also does excessive moisture. Hence, eel-worm-infested soil, which has been removed from a house, should, if no more effectual means of sterilisation are available, be spread in a thin layer on boards, and left to the weather during the winter before it is again used.

As to the best means of exterminating eel-worm, there is a choice of methods, though none may be regarded as ideal. First, the worms may be starved by fallowing the land for two years and keeping it free from weeds. Second, they may be killed by chemicals. Of chemicals, carbon-bisulphide is perhaps the most efficient, but it is expensive. In spite of the high price its use is favoured by French cultivators, who employ a specially-designed apparatus for bringing the carbon-bisulphide into contact with the soil. Unfortunately, eel-worms can exist several feet below the surface, and it is difficult to destroy them.

In greenhouses, the general method is to turn out the soil; but soil sterilisation presents a more profitable alternative. A suitable system of perforated pipes, about 12 inches apart, connected with a boiler generating steam under pressure, has often proved valuable. Potatos are buried in the soil, and steam is passed through it till the tubers are found on examination to be cooked.

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* *Bulletin* No. 217, Bureau of Plant Industry, U.S. Dept. of Agriculture.

Instead of heat, formaldehyde may be used. One part commercial formalin in 100 parts of water is applied at the rate of 1-1½ gallon per square yard of shallow soil. Formaldehyde has also been used in the open, and—so it is claimed—with success.

Undoubtedly the most promising measure is a preventive measure; to wit, the breeding of "eel-proof" varieties. This has been done in the case of the Cow Pea and Water Melon with striking success, and there would appear to be no reason why it should not be accomplished in the case of other crops.

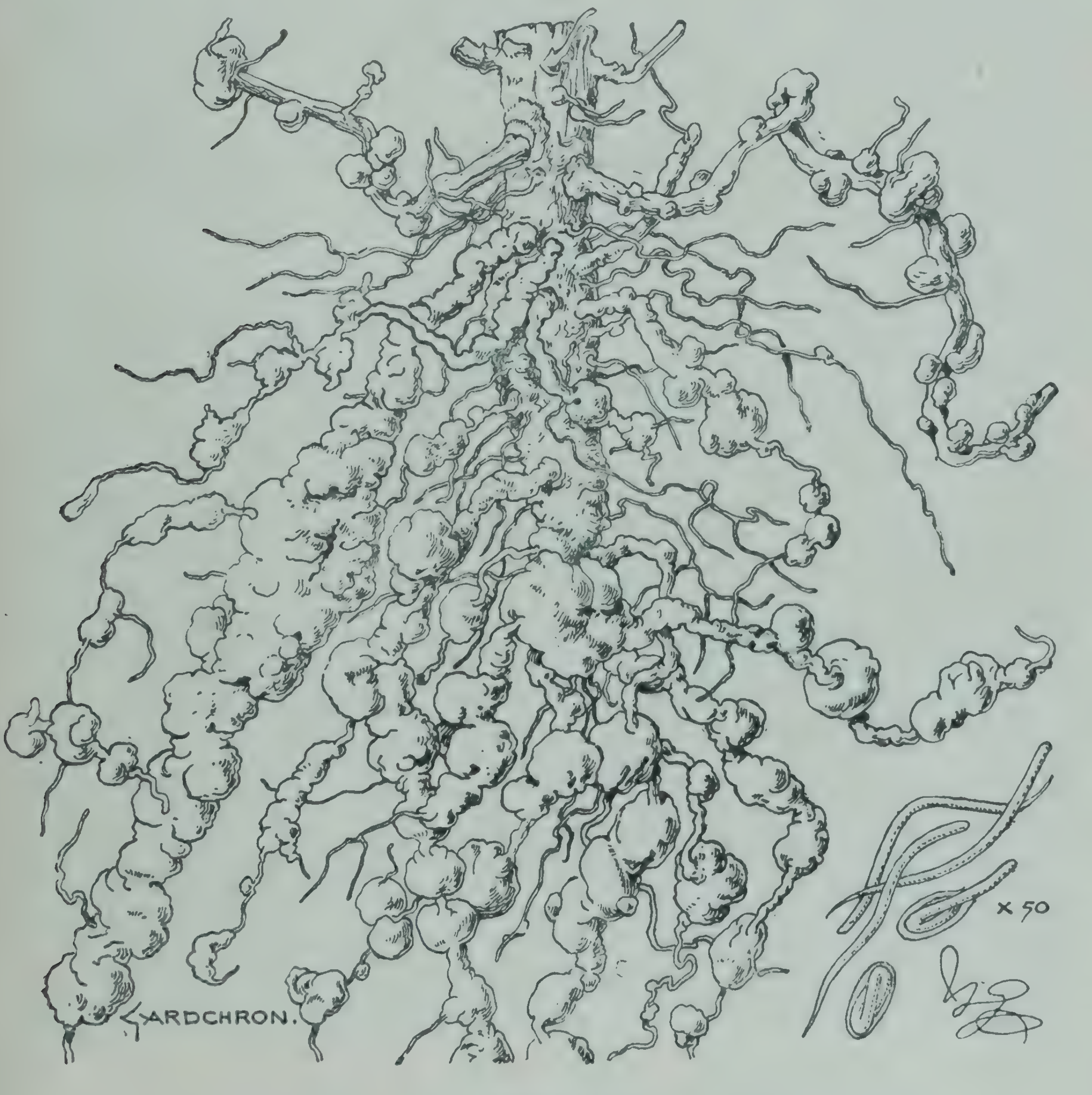

Fig. 16.—EFFECT OF EEL-WORMS IN ROOTS OF MELON PLANTS.

Horticultural College, Swanley, Kent.—On Tuesday next, the 16th inst., Mrs. Runciman will present the prizes to the students at the Swanley Horticultural College. The meeting will take place at 4 p.m., and the Hon. Sir John Cockburn, K.C.M.G., will preside.

Begonias at Holland House Show.—In addition to the collections of tuberous-rooted Begonias noticed in our report of the Holland House Show, a fine exhibit of these flowers was made by Messrs. T. S. Ware, Ltd., Feltham.

Horticultural Club.—The annual outing of the Horticultural Club will take place on Thursday, the 18th inst. Members and friends will meet at Paddington Station (G.W.R.) and proceed by the 10.40 a.m. train, in saloon carriages, to Slough Station. Conveyances will be in readiness at Slough to carry the party to Burnham Beeches, calling on the way to see Stoke Poges Church. After luncheon at the Beeches, the party will drive to Cliveden and make a tour of the gardens, by the kind permission of W W. Astor, Esq. Afterwards East Burnham Park will be visited, where Sir Harry and Lady Veitch will entertain the party to tea. Members are asked to write direct to the Hon. Treasurer, Sir Harry Veitch, East Burnham Park, Slough, not later than the 13th inst., intimating how many tickets they require. The following have been elected members of the Club since March 1, when the last list was printed:—Messrs. Harold Beale. Gilbert Beale, Arthur Bullock, George A. Bunting, Herbert F. Cheese, William H. Dunnett, Reginal Farrer, B. Mayo Haynes, Thomas Humphreys, Hugh Lewis, William H. Morter, Victor J. Neal, Leopold Salomons, Hermann Spooner, W. J. Stevens, David Swain, Charles H. Tandevin, Hugh V. Warrender, John G. Weston, E. T. Willis, and Henry Stephenson Yates. *R. Hooper Pearson, Hon. Sec.*

Mr. Edward Harriss, the present writer of our weekly articles on the cultivation of fruits under glass, will leave the Royal Gardens, Frogmore, on the 27th inst. to take up his duties at Lockinge, where he will succeed the late Mr. Fyfe as gardener to Lady Wantage. The many friends of Mr. Harriss will wish him well in his new sphere of labour.

Southampton Royal Horticultural Society.—The Jubilee Show of this society will be held at the County Ground, Southampton, on Tuesday and Wednesday, the 16th and 17th inst. The prizes offered are valued at nearly £250, and include a Rose trophy, silver cups, and medals. There are classes for Carnations, Sweet Peas, miscellaneous plants, cut flowers, fruit and vegetables. Particulars of the show may be obtained from the secretary, Mr. C. S. Fuidge.

Presentation to a Gardener.—Mr. J. J. Teasdale, gardener for the past seven years at Milton Hill, Steventon, Berkshire, and for four years hon. secretary of the local flower show, has received a presentation from the Committee on the occasion of his leaving the neighbourhood.

Mr. Alexander Dean, V.M.H.—Miss E. M. Dean writes that her father wishes to thank his many friends, especially his colleagues of the R.H.S. Fruit and Vegetable Committee, for the kind enquiries during his illness. Mr. Dean is suffering no appreciable pain, other than that which arises from bed weariness. He gets no relief from the prostrate position other than sitting up for an hour when his strength will allow. Excessive debility makes him quite unable to talk with friends.

Nursery Employés Outing.—The annual outing of the members of the recreation club of Messrs. James Backhouse & Son, Ltd., York, took place on the 29th ult., when a visit was made to Edinburgh. After breakfast, the party visited the castle and Holyrood Palace, and later in the day the Forth Bridge. Many took advantage of the opportunity to return by steamer to Leith, thence by tram to Edinburgh for tea, after which a few of the party journeyed to Glasgow for the evening. Others went to Leith, Portobello, and other places in the vicinity.

Rose Miss Flora Mitten.—We have received flowering sprays of a very charming Rose from Mr. H. Elliott, Hassocks, who very kindly furnishes the following particulars:—The plants are 8 to 10 feet high, and covered with large sprays of bright pink, single blooms, which are 3 inches across. The variety is a very strong grower, making shoots from 15 to 20 feet long, and it is hardy in any situation. This variety was raised by the late Mr. William Mitten, a well-known botanist. One of the parents is supposed to have been Rosa Brunoni. It is pre-eminently a Rose for the open garden, being less satisfactory when grown in pots, as it requires plenty of root room.

Potato Diseases.—We are requested by the Board of Agriculture and Fisheries to inform Potato growers that a case of wart disease of Potatos (Synchitrium endobioticum) has occurred in Cheshire, and to remind them that all cases of this disease must be reported to the police or other officers appointed by the local authority for the purpose. Notifications may be sent to the Board, who will forward them to the proper quarter. The Board desire also to warn Potato growers that in view of the rainfall of the past month, the Potato disease caused by Phytophthora infestans may be expected before long to attack the Potato crop, and they recommend that crops should be sprayed with the Bordeaux mixture at once. This disease is not required to be notified. Leaflets as to both the above-named diseases may be obtained free of all cost on application to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. Letters so addressed need not be stamped.

Flowers in Season.—Messrs. Kelway & Son, Langport, Somerset, have sent for our inspection several spikes of Delphiniums. They represent distinct shades of colour, the blues being especially beautiful.

The Wages of L.C.C. Gardeners.—The proposals of the Parks Committee of the London County Council for improving the conditions of the gardeners employed by that committee, which were described in our issue of June 22 last, were discussed at a meeting of the Council on July 2. Mr. Jesson, a Labour Member, moved an amendment instructing the Parks Committee to submit forthwith supplementary proposals providing by means of special service allowance or otherwise that all employés in the parks' service, who have served over two years and are in receipt of less than 30s. a week, shall receive an immediate increase of one shilling a week, rising by yearly increments of one shilling to 30s. a week; and that all employés at present receiving between 30s. and 35s. a week shall be granted, on similar conditions, increases of wages equal in amount to those specified for employés at present in receipt of less than 30s. a week. Mr. Lorden, chairman of the Parks Committee, stated that the committee's proposal would mean an immediate rise of two shillings a week for 58 per cent. of the men. The amendment was rejected by 56 votes to 45, and the committee's scheme was agreed to.

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

A National Institute of Gardeners.—Will you allow me to advise your correspondent (see p. 430) that if he will use his influence to persuade gardeners to join the "British Gardeners' Association," he will be doing his best to obtain what he believes they require, and to advance horticulture by ensuring that employers will be able to get capable men to fill their situations? I do not see how gardeners can improve their conditions if we have associations, institutes, and other concerns all running in opposition to one another; better there be one strong association with all gardeners joined together, pulling the same way. As the B.G.A. is already organised to obtain for the gardener that which is so necessary for his well-being, every gardener should endeavour to increase its membership, so that it can be made "progressive but not aggressive." *E. H. Chitty.*

————If I read your correspondent aright (see p. 430) he is desirous that an Institute shall supersede the British Gardeners' Association. Anyhow, the assertion he has made to the effect that the existing association has failed to rope in a large percentage of head gardeners throughout the country is true, and the same applies to the absence of sympathy on the part of employers. There is, however, nothing to prevent a change of title from B.G.A. to N.U.G., and, provided an institute was established on the right lines, nothing but good would follow the change. What I feel in the matter is that present-day gardeners are up-to-date from a practical and cultural standpoint, but the majority are deficient in technical knowledge in other directions. Is it not a fact that employers are often obliged to call in a landscape gardener when new gardens or extensive additions are under consideration? Who will be bold enough to credit gardeners generally with a knowledge of mensuration, land-surveying and the principles which govern landscape gardening? It may be urged that the small wage gardeners command is hardly likely to act as an incentive to acquire such knowledge, but it should be remembered that its acquisition would do more to command respect and a status than everything else combined. The authorities should consider the suggestions offered by Mr. Divers (see p. 7), namely, to establish classes at convenient centres throughout the country to teach not practical gardening but the sciences which appertain to it. Granted this, head gardeners and superintendents of public parks should, both in season and out of season, impress upon their assistants the importance of acquiring a technical knowledge. It is a deplorable fact that gardeners are dubbed domestic servants by law. The B.G.A. intend to lodge an appeal at the earliest possible moment with a view to the removal of the slur. Signs are not wanting that horticulture and those who are engaged in it professionally are likely to receive a more full and generous recognition in the near future, and it is a good sign when prominent representatives like Sir Fred. Moore and Sir Harry Veitch are honoured with knighthood. It may be selfish to suggest that public gardeners should stand alone, but it is clear that they could demand their rights provided they were hedged with an Institute and a diploma. What are the conditions in public service to-day? Why in 95 cases out of 100 the surveyor is at the head of affairs, and can anything be more utterly farcical seeing that, as a class, the surveyors are ignorant of the work? The gardener has perforce to knuckle under and wait upon this official, whose legitimate duties are the maintenance of roads and sewers. It is true that many corporations, borough councils and even urban district councils have formed separate departments, and it is equally true that if a united effort were made, backed up by an Institute and possibly by the Royal Horticultural Society, public parks and gardens and municipal surveyors would soon know each other no more. We have witnessed other callings and professions, by co-operation and fixed determination, obtain recognition, and while we see the difficulties in our own path, the peculiar conditions and the prejudice, yet we know that something will have to be done whereby the status of gardeners will be raised. *Walter H. Aggett.*

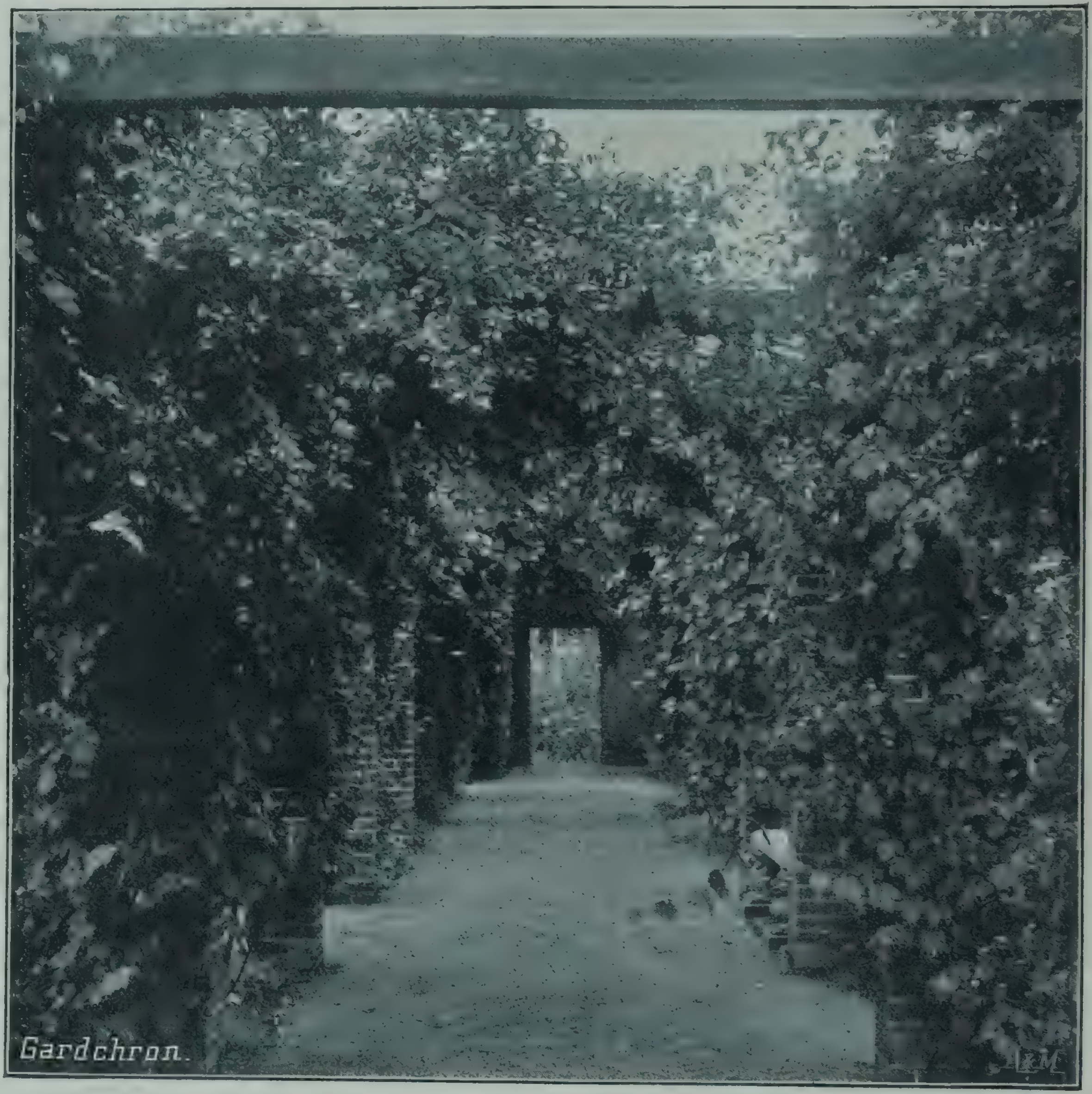

Fig. 17.—PERGOLA AT NUNEHAM PARK.

(See p. 27.)

————Throughout the English-speaking world there are signs of an awakening in regard to horticulture. The powers and the people are gradually realising the possibilities of horticulture as a means to reach the full life. In clubs, on the terrace, in councils and committees, the question of horticultural education is discussed. We are on the eve of great happenings. Are we ready to play our part? Mr. Weathers rightly says "the British Gardeners' Association is the only serious attempt made in recent years to weld gardeners together." Then he loses heart. The real reason why the B.G.A. is not 50,000 strong is because the aims and objects of the Association are not thoroughly understood. The new regime is out to perfect the organisation, and to assiduously push the cause of the B.G.A. in every possible quarter. Already steps are being taken to urge local authorities to provide facilities for classes for the benefit of professional gardeners. Another object in view is to obtain special travelling facilities to enable its members to visit shows and educational institutions. The quality of the work done depends entirely upon the amount of support given. New members are coming in weekly, and there are ample signs that in the near future the B.G.A. will be a power for good in the horticultural world. Honest employers have nothing to fear from this Association, for it is willing to co-operate in every possible manner for the advancement of gardening. The B.G.A. hopes to persuade city authorities to provide more parks, garden cities, and open spaces. We aim at organisation and inspiration. The co-operation of the whole profession is necessary. *Cyril Harding (Secretary British Gardeners' Association).*

The Horticultural Department of the Board of Agriculture.—I read your leading article (see p. 428), and having had the opportunity of gathering some information bearing on this matter, perhaps you will allow me to point out one or two things. (1) Whether we agree with it or not, the fact remains that the English custom is to place a "layman" in as head of a Government Department. We have not yet reached the millennium when a Business Government will be the order of the day. (2) Another English tradition is that the Government is not "parental." It does not bring into being and nurse industries as do our Colonial Governments.

"Things" grow until such a time as they obtain general recognition, and consequently need Parliamentary administration. (3) Therefore I take it, from all I can gather, that the new Horticultural Department is to be an Administrative Department concerned specially with "plants" as distinct, so far as is possible, from "animals," but also acting as a registering and collecting agency. Plant pests and diseases will come naturally under its care—plant pests *including* definitely horticultural pests. (4) Let us suppose an "expert" practical horticulturist, although it would be difficult to find an all-round, first-class man, is officially appointed as head of the department. How long would such a man remain an "expert" in practical matters? Taking into consideration the progress being made daily in the experimental side of practical gardening, especially commercial horticulture, would not the desk-chair very soon put him out of sympathy with living progressive horticulture? Administrators are needed—men in touch with "traditions," men with a knowledge of present-day human activities, but also in "touch" with experts "in the field." This applies to admirals, bishops, and labour leaders, as well as to leaders in agricultural and horticultural affairs. (5) I conclude therefore, although I may be wrong, that it is useless for us to knock our heads against a brick wall. The new department is *not* to initiate, not even to nurse, but (a) to administer Acts of Parliament, (b) to receive and gather up information, and (c) to give official advice, utilising the services of "experts" all over the country. *J. B. H.*

Rose-budding.—At pp. 4 and 5 in the last issue, *Practice* gives the whole art of budding Roses with most excellent detail. On one point I should like to join issue with him. Why make the process unnecessarily difficult by recommending such an extraordinary length of bud? "Cut off the bark behind the bud, leaving about three-quarters of an inch on that side and 1 inch upon the other." This, including the short length occupied by the bud itself, would make the piece for insertion at least 2 inches. This is quite unnecessary; it would not matter much in budding dwarfs, but would be absolutely wrong with standards, as the object is to get the bud so close down to the main upright stock that, when the bud grows, it shall grow right over the top of the standard stock, which it would never do if it is budded an inch or more away from it. I have budded Roses with some success as an amateur now for more years than I care to remember, and my rule is to leave about *a quarter of an inch* behind the petiole, and about three-eighths or so in front of the bud. A slit in the bark then of about an inch and a half will be found ample for inserting the bud, instead of the 2½ inches advised. The shortening of the inserted bud means less disturbance of the stock, getting the bud into its proper place, especially in standards, and making everything much easier for the operator. *Robt. P. S.*

———The directions I gave were specially intended for the novice, and I purposely intended them to be as plain as possible for the beginner. The space occupied by the Rose-bud itself can scarcely be reckoned in addition to the lengths upon each side of it, and an inch and three-quarters is not much for an amateur to work upon. What can *Robt. P. S.* mean by "the object is to get the bud so close down to the main upright stock that, when the bud grows, it shall grow right over the top of the standard stock, which it would never do if it is budded an inch or more from it"? We cannot have any but the extreme top bud so close to the top as he apparently suggests, and then never right over. My advice was that 2½ inches was ample for the slit in the bark, and I doubt if many make less from point to point. At all events, the extra half-inch would be no impediment to healing if properly tied in, and would naturally assist in getting the Rose-bud into position by slipping it down. Nor is a quarter of an inch behind the bud enough to secure the seat or heel being sufficiently prominent to rest well upon the exposed wood as I suggested. *Practice.*

The Golden Tulip Tree.—I send you some flowers of the Golden Tulip Tree (Liriodendron tulipiferum marginatum) blooming for the first time here. I fancy the blooms are much more golden than the type, but have not the flowers of the old form for comparison. *George Paul, The Old Nurseries, Cheshunt.*

SOCIETIES.

ROYAL HORTICULTURAL.

HOLLAND HOUSE SHOW.

(Concluded from p. 17.)

IMPLEMENTS AND SUNDRIES.

Messrs. Robert Sydenham Limited, Tenby Street, Birmingham, filled a table with the "Sydenham Rural Table Decorations," in which Sweet Peas and Carnations were tastefully displayed

Messrs. T. Crowther & Son, 282, North End Road, Fulham, London, exhibited a valuable and interesting collection of old, iron garden gates; some of them of exquisite workmanship, and in splendid condition. Amongst an attractive set of sundials, the bronze dial of one which bore the "mottoe" "Amende to-day and slack not" was dated 1640, and looked it. Messrs. Crowther also exhibited magnificent stone garden seats, vases, and many desirable leaden vases.

The Leyton Timber Co., Trundleys Road, Deptford, built lightly-designed, but strong, pergolas, and rustic fencing made of Larch and Oak poles. The well-designed summer-houses were tiled with Oak shingles, which make a waterproof and lasting roof. At the ends of this exhibit the Leyton Co. fixed lengths of Jarrah (Eucalyptus marginata) fencing. Although a trifle dearer than Oak the Jarrah lasts much longer, and is now used extensively by the great railway companies, who appreciate its value.

Messrs. Castles, Baltic Wharf, Millbank, Westminster, London, made their customary large display of Teak-wood garden furniture. Besides these well-made articles Messrs. Castles had on view immense figureheads from the old battleships H.M.S. "Formidable" and H.M.S. "Duke of Wellington," and a huge wooden steering-wheel.

Messrs. Harry Freeman, Ltd., Mulgrave Road, Sutton, filled a large trellis-work enclosure with rustic summer-houses, chairs and tables treated with their preservative. The "Little Folks" miniature set of tables and chairs would be appreciated by many juvenile gardeners.

Messrs. Liberty & Co., Regent Street, London, arranged many dwarf Japanese trees around a central stand with Bamboo windscreens at right angles. In another place this firm displayed garden pottery in a variety of designs.

Messrs. Geo. Trollope & Sons, West Halkin Street, Belgrave Square, London, fixed a fine old Venetian well-head in a setting of greenhouse Ferns, and partly surrounded by a few Roses and foliage plants.

The Potters' Art Guild, Compton, Guildford, showed a good selection of their garden pottery.

Jeyes' horticultural washes and sprayers were attractively displayed. As is well known this firm manufactures excellent preparations for garden use as well as their noted disinfectant.

Messrs H. Hartgen & Co., Noble House, Noble Street, London, demonstrated the value of the "Holder" pneumatic sprayers.

Messrs. E. A. White, Ltd., displayed their non-poisonous "Abol" insecticide, which is so useful for eradicating thrips, mildew, aphis, and other pests. An attendant illustrated the handiness of their garden syringe and sprayer.

Messrs. Cooper & Nephews, Berkhamsted, exhibited various fungicides and plant foods, such as Apterite, V1 Fluid and V2 K Fluid.

Messrs. Wakeley Bros. & Co., Ltd., Honduras Wharf, Bankside, London, had samples of their Hop manure.

The Three C's. showed the Chase Continuous Clôche—a valuable article for advancing early vegetables, or for protecting tender Alpine plants.

The Folding Span Light Co., Slough, exhibited their useful little seed and plant protector.

The Royal Society for the Protection of Birds, 23, Queen Anne's Gate, London, showed some nesting boxes and feeding trays.

Preserved Roses and Red Carnations were shown by the Preserved Roses Co., Bournemouth.

Miss Hilda Sewell, 67, Harcourt Terrace, South Kensington, had a stand of jams and jellies.

Excellent flower baskets were shown from the Meath Home for Epileptics, Godalming.

Mr. M. Johnston, New Park, Cranleigh, Guildford, showed excellent samples of loam. Freshly cut turves of medium loam suitable for Carnations, heavier samples for Roses, and mature turves were all in view.

Mr. James MacDonald, Harpenden, Herts., laid out small turves of a great number of grasses suitable for making tennis lawns, golf greens, &c. The model croquet lawn of real grass, and the baize and similar materials on which grass seedlings were growing, formed interesting parts of this exhibit. The different species of grass so well shown had a great educational value.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

June 6.—The annual meeting was held on this date. The Rev. J. Crombleholme was re-appointed chairman; Mr. Z. A. Ward, vice-chairman; Mr. R. Ashworth, hon. treasurer; Mr. H. Thorp, hon. auditor; and Mr. H. Arthur, secretary. The committee was also elected. The prizes were presented to the successful exhibitors as follow:—

Robson's Gold Cup, presented by the Executors of the late Mr. John Robson, to W. R. Lee, Esq. (gr. Mr. Branch).

Silver Trophy, presented by Mr. W. R. Lee, to Z. A. Ward, Esq. (gr. Mr. Weatherby).

Gold Medal, presented by Mr. W. R. Lee, to J. McCartney, Esq. (gr. Mr. Holmes).

Gold Medal, presented by Messrs. J. Cypher & Sons, to Z. A. Ward, Esq.

Messrs. Sander & Sons' Prizes to Mr. Lupton (gr. to Col. J. Rutherford, M.P.), and Mr. Weatherby (gr. to Z. A. Ward, Esq.), equal 1sts, and Mr. Holmes (gr. to J. McCartney, Esq.), 3rd.

Mr. Ed. V. Low's Silver Vase, to J. J. Holden, Esq. (gr. Mr. Johnson).

Messrs. Stuart Low & Co.'s Prizes to J. McCartney, Esq. (gr. Mr. Holmes).

The Society's Gold Medal (amateurs) to G. H. Peace, Esq., Monton Grange (gr. Mr. Mace); Silver-gilt Medal to A. Warburton, Esq. (gr. Mr. Dalgleish); Gold Medal (for amateurs not employing a gardener) to W. J. Hargreaves, Esq., Burnley; Silver-gilt Medal to F. A. Hindley, Esq., Bradford; Silver Medal to H. Arthur, Esq.

A Gold Medal (given by a member of the Society) was presented to the Rev. J. Crombleholme for his meritorious exhibits during the session.

SCOTTISH HORTICULTURAL.

July 2.—The monthly meeting of the above Association was held at 5, St. Andrew Square, Edinburgh, on this date. Mr. Massie, the President, was in the chair, and there was an attendance of 90 members.

Miss Burton, New Saughton Hall, Polton, read a paper on "Pelargoniums." After explaining that the so-called Geraniums used for bedding and other decorative purposes were really Pelargoniums derived from P. inquinans, P. zonale, and other species, most of which had been introduced from South Africa, Miss Burton dealt with the uses of the plants of the various sections, with their cultivation, and the manner in which they should be employed with other plants in house and garden decoration.

The exhibits included a collection of Regal, zonal, sweet-scented, variegated, and other forms of bedding Pelargoniums from Messrs. Dobbie & Co., Edinburgh (cultural certificate). A variegated variety named Show Queen was awarded a certificate of merit. A collection of Pelargoniums from Mr. R. McAndie, Inveresk Gate, Musselburgh, was awarded a cultural certificate, and a collection illustrating her paper was shown by Miss Burton. Other exhibits included six seedling varieties of Delphiniums, from Mr. John Fraser, The Old Manse Gardens, Inverkeithing (highly commended for strain); new sweet-scented Pæony, Wm. Mesman, from Messrs. Dickson & Co., Edinburgh; a seeding from Viola Cornuta, shown by Mr. Andrew Ogg, Knockdolian, Ayrshire; six vases of Pinks, from Mr. C. Comfort, Broomfield, Davidson's Mains; Carnation, showing reversion, from Mr. R. McAndie; and Culinary Peas in pots, showing good results of inoculation with bacteria after sterilisation of the soil, from Mr. Geo. P. Berry, East of Scotland College of Agriculture.

At the meeting on August 6, a discussion will take place on the training and education of young gardeners.

REIGATE ROSE AND SWEET PEA.

June 29.—The seventh annual exhibition of this Society was held in the Priory grounds, Reigate, the residence of Somers Somerset, Esq., on the foregoing date, and proved by far the finest of the series. A very high standard of excellence marked the exhibits in both the Rose and Sweet Pea sections, the classes being well filled and the competition keen.

Roses.

In the classes open to nurserymen, Messrs. D. Prior & Son, Colchester, won the challenge cup offered for 48 blooms, distinct. Prominent in this collection were fine blooms of Mrs. Myles Kennedy, Leslie Holland, Cynthia, Gloire de Chedane Guinoisseau, Frau Karl Druschki, J. B. Clark, Mrs. Cocker, White Maman Cochet, Her Majesty, Comte de Raimbaud, and Horace Vernet. 2nd, Ben. R. Cant & Sons, Colchester.

In the class for 24 distinct varieties, Mr. Henry Drew, Longworth, Berks., secured the premier award, with Mr. Geo. Prince, Longworth, 2nd, and Mr. Elisha J. Hicks, Twyford, Berks., 3rd.

For 18 distinct varieties of Tea or Noisette Roses, Mr. Drew again excelled, having choice blooms of Mrs. Myles Kennedy, Molly Sharman Crawford, White Maman Cochet, Mrs. Foley Hobbs, and Mrs. Ed. Mawley. 2nd, Mr. Geo. Prince. 3rd, Messrs. D. Prior & Son.

For 12 bunches of garden Roses, distinct, Messrs. Frank Cant & Sons won the 1st prize, which included a challenge cup, with fine blooms of Mrs. Herbert Stevens, Gardenia, Lady Hillingdon, Gruss an Teplitz, and Mrs. Alfred Tate; 2nd, Messrs. W. Spooner & Son, Woking; 3rd, Messrs. Geo. Jackman & Son, Woking.

In the amateurs' classes, Alfred Tate, Esq., secured the challenge cup offered for the best collection of 24 Roses, distinct, his best varieties being Avoca, Mildred Grant, White Maman Cochet, Mme. Mélanie Soupert, Horace Vernet, and Yvonne Vacherot. The last-named was awarded the Silver Medal offered for the best bloom in the amateurs' classes. 2nd, Mr. E. M. Eversfield.

For 18 distinct varieties, John Hart, Esq., was placed 1st; Geo. R. Bonner, Esq., 2nd; and F. Slaughter, Esq., 3rd.

For 12 distinct varieties, open to growers of fewer than 1,000 plants, Mr. E. Lehmann secured the challenge cup, Mrs. Henry Balfour being placed 2nd, and C. Davies, Esq., 3rd.

Sweet Peas.

In the open classes, F. A. Wellesley, Esq., won the challenge cup offered for 12 bunches, distinct varieties, showing beautiful sprays of Mrs. C. W. Breadmore, Thos. Stevenson, Freda Elsie Herbert, and Elfreda Pearson. 2nd, Sir Randolf Baker Bart., Blandford (gr. Mr. A. E. Usher).

For six bunches, Sir Randolf Baker led, followed by J. W. Franks, Esq.

Non-competitive Exhibits.

Gold Medals were awarded to Mr. Elisha J. Hicks, Hurst, Berkshire, for a collection of Roses, and Messrs. E. W. King & Sons, Coggeshall, who displayed Sweet Peas.

Silver-gilt Medals were awarded to Messrs. Dobbie & Co., Edinburgh and Mark's Tey, for Sweet Peas; Messrs. Wells & Co., Merstham, for Carnations, Roses, and rock plants; and Messrs. Bide & Son, Farnham, for Sweet Peas. A Silver Medal was awarded to Messrs. Geo. Jackman & Son, Woking, for Roses and hardy flowers.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.

At a recent meeting of the above society, the schedule of the spring show for 1913 was approved. Several new classes have been added, notably for Calceolarias and herbaceous plants.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

This society is now approved under the National Insurance Act. At the committee meeting held on Monday, the 8th inst., 82 new members were elected.

ROYAL AGRICULTURAL.

EXHIBITION AT DONCASTER.

July 3, 4, 5, 6.—The horticultural exhibits in connection with the show of the Royal Agricultural Society, held at Doncaster, on these dates, were staged in three large marquees. Exhibitors were at a disadvantage in getting their collections from the station to the show-ground, all the available horses being requisitioned for the return of cattle, sheep, and pigs, in conformity with the Government order that these animals could not remain at the show. Nevertheless, the staging was completed well up to time.

Competitive Classes.

There were four entries in the class for a group of miscellaneous plants in and out of bloom, arranged on a space not exceeding 350 square feet. Messrs. James Cypher & Sons won the premier prize with an excellent group, having a background of lofty Palms and a series of arches furnished with well-grown plants. The foreground was occupied with bright, single-stemmed Codiæums (Crotons), interspersed with Carnations, Odontoglossums, Begonias, and other flowering plants. (Gold Medal.) 2nd, Mr. W. A. Holmes, Chesterfield; 3rd, Mr. J. S. Sharp, Almondbury; 4th, Mr. W. Vause, Leamington.

Messrs. Cypher & Sons were the only exhibitors in the class for a collection of Orchids arranged for effect, and were awarded the 1st prize.

For a group of tuberous-rooted Begonias, in pots, Messrs. Blackmore & Langdon led easily with an admirable collection, in which the varieties Duchess of Cornwall and the Hon. John R. de C. Boscawen were especially fine. Lena, a bright-scarlet variety, of free flowering habit, was shown very effectively in baskets.

In a class for a display of hardy flowers, Messrs. Harkness & Son, Bedale, excelled with a collection of much merit splendidly arranged. The subjects included Delphiniums, with massive spikes, Gaillardias, Poppies, Irises, Lilium umbellatum erectum, and L. u. grandifolium. Messrs. W. Artindale & Son, Sheffield, were placed 2nd for a good group, but it lacked lightness in arrangement.

Messrs. Harkness & Son led for a collection of cut hardy flowers, having fine masses of Papaver orientale Mrs. Perry, Gaillardias in variety, Irises, Liliums, and other seasonable species. 2nd, Messrs. W. Artindale & Son.

In the class for a collection of stove and greenhouse plants, Messrs. James Cypher & Sons staged Statice profusa, Ixora Pilgrimii, Clerodendron Balfouri, Allamanda nobilis, and others, and were awarded the 1st prize.

The best collection of cut sprays of Carnations was shown by Mr. C. Engelmann, Saffron Walden, the varieties Lady Northcliffe, Triumph, and Sunstar being noteworthy.

The class for a collection of cut Roses brought a grand array, the prize-winners being Messrs. F. M. Bradley, Peterborough; Messrs. W. & J. Brown, Peterborough; and Messrs. R. W. Proctor & Son, Chesterfield, in that order. The variety Edward Mawley and some of the single Roses were conspicuous in the premier collection.

Messrs. E. W. King & Co., Coggeshall, were placed 1st for a collection of Sweet Peas, with arches, pillars, and vases containing strong, well-coloured spikes, artistically arranged.

Fruit and Vegetables.

For a collection of eight kinds of vegetables, the Duke of Portland, Welbeck Abbey (gr. Mr. J. Gibson), was the only competitor. The exhibit fully deserved the premier award that was given. Peas Centenary and Onion Sutton's Leviathan were extra fine.

The best decorative display of fruit, of 30 dishes, was shown by the Duke of Portland, who showed splendid black and white Grapes, Brown Turkey Figs, Gros Mignonne and Dymond Peaches, Spencer and Kirk's Plums, Pineapple and Dryden Nectarines, Lady Sudeley Apple, and Waterloo Strawberries. The exhibit was pleasingly arranged with a background of Carnations and foliage plants. The same exhibitor was successful for four bunches of Grapes; two bunches of "Muscat" Grapes; two bunches of Black Hamburgh Grapes; two bunches of Madresfield Court Grapes; two dishes of Peaches, with fine fruits of Goshawk and Dymond; and two dishes of Nectarines, showing the variety Early Rivers.

For four dishes of Strawberries, Charles Thellusson, Esq., Doncaster, was placed 1st.

Non-competitive Exhibits.

These were exceedingly numerous and formed the bulk of the show. Herbaceous Alpines and other cut flowers were staged by Messrs. S. Broadhead & Son, Huddersfield, in which Campanulas and water plants were effective. (Silver Medal.)

Messrs. Seagrave & Co., Sheffield, had a fine collection of Violas, Delphiniums, and Pelargoniums. (Silver Medal.)

Messrs. Kent & Brydon, Darlington, showed Delphiniums, Carnations, Liliums, and other flowers. (Silver-gilt Medal.)

Messrs. R. Bath, Ltd., Wisbech, staged Delphiniums, Roses, and hardy cut flowers. (Silver-gilt Medal.)

Mr. W. Sydenham exhibited Delphiniums, Violas, and other hardy flowers. (Silver Medal.)

Mr. G. Gibson showed a bank of Delphiniums, Gaillardias, Carnations, Papavers, and foliage plants.

Mr. W. J. Godfrey, Exmouth, showed border flowers and Canterbury Bells. (Silver Medal.)

Messrs. Bakers, Wolverhampton, had a fine group of hardy flowers, Conifers, and Water Lilies. (Large Gold Medal.)

Messrs. Dickson & Robinson, Manchester, showed a bold array of Delphiniums, Gaillardias, Irises, Rambler Roses, and an imposing bed of Ghent Azaleas. (Silver-gilt Medal.)

Messrs. W. & J. Brown, Peterborough, exhibited Liliums, Gaillardias, and other seasonable garden flowers.

Messrs. James Backhouse & Son, Ltd., built a rock-garden, making a pleasing display.

Mr. H. N. Ellison, West Bromwich, showed a collection of small plants of various Cacti, staged against a background of Ferns. (Silver Medal.)

Messrs. Sutton & Sons, Reading, contributed a group of their strain of Gloxinias, of which the varieties King George V and Duchess of York were good types; they also showed a fine batch of Nemesias, backed with Ferns, Palms, and other greenery. (Silver-gilt Medal.)

Mr. Charles Thellusson staged in good form Anthuriums, Dracænas, and Palms. (Gold Medal.)

Messrs. H. B. May & Sons, Upper Edmonton, contributed Ferns. Nephrolepis Marshallii compacta was especially good and plants of Ixora Williamsii were seen to advantage amongst the Ferns. (Gold Medal.)

Mr. C. J. Batchelor, Harrogate, also showed Ferns, including Nephrolepis Batchelori. (Silver Medal.)

The King's Acre Nursery Co., Hereford, showed fruit trees, including Figs, Peaches, Plums, Nectarines, and Apples. (Silver-gilt Medal.)

Messrs. John Waterer & Co., Bagshot, made a fine display with Rhododendrons and Kalmias, relieved with standard Hollies, Bays, and other foliage plants. Gold Medal.)

Messrs. D. Pennell & Son, Lincoln, had a good assortment of Ivies, Hydrangeas, trees, and shrubs, and a collection of Delphiniums, Roses, Carnations, and Irises.

Messrs. Kent & Brydon, Darlington, staged Palms, Hydrangeas, Roses, &c. (Gold Medal.)

Messrs. Stuart Low & Co., Bush Hill Park, had a pleasing collection of Orchids in good variety, also Souvenir de la Malmaison Carnations, of which the varieties Princess of Wales and The Colonel were excellent. Rayon d'Or Rose was also noticeable in their stand of Roses, which together formed an effective display. (Gold Medal.)

Mr. C. F. Waters, Balcombe, set up Carnations, in which the variety Edith Waters was very fine. (Silver Medal.)

Messrs. Young & Co., Cheltenham, had an excellent array of Carnations. Lady Henderson and Duchess of Devonshire were in good form. (Large Gold Medal.)

The Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. E. Beckett), showed a fine table of vegetables. (Large Gold Medal.)

Messrs. Toogood & Sons, Southampton, had a pleasing collection of vegetables, staged on freshly-grown grass. (Silver-gilt Medal.)

Mr. R. Bolton, Warton, exhibited Sweet Peas, &c. Stirling Stent and Sunproof Crimson were fine in substance and colour. (Large Gold Medal.)

Miss Hemus, Upton-on-Severn, showed Sweet Peas, also Petunia Paradise Blue, which should prove an acquisition. (Silver Medal.)

Mr. George Massey, Spalding, showed vegetables and hardy flowers. (Silver Medal).

Messrs. J. Burrell & Co., Cambridge, also showed Roses, in which single varieties were well represented. (Silver Medal.)

Messrs. B. R. Cant & Sons, Colchester, had an imposing display of Roses, blooms of Juliet being prominent. (Silver Medal.)

Messrs. Clibrans, Altrincham, had lofty vases of well-known varieties of Roses. (Silver Medal.)

Messrs. W. & J. Brown, Peterborough, also contributed Roses, including finely-coloured masses of the Lyon Rose.

Messrs. Alex. Dickson & Sons, Newtownards, had an extensive display of good Roses in vases and boxes. (Gold Medal.)

Mr. W. Artindale showed Pansies and Violas in pots, making a very pleasing display.

Mr. Charles Warner, Leicester, had a collection of hardy Fuchsias in variety. (Silver Medal.)

Messrs. Whitelegg & Page showed their new fruit, the Newberry.

Messrs. Jarman & Co., Chard, showed Centaureas in delicate shades of colouring. (Silver Medal.)

Mr. A. F. Dutton, Iver, Buckinghamshire, exhibited Carnations (Gold Medal). Messrs. J. Cypher & Sons, Cheltenham, displayed specimen flowering plants (Gold Medal). Messrs. Henry Morse & Co., Norwich, were awarded a Silver Medal for a floral group.

DURHAM, NORTHUMBERLAND, AND NEWCASTLE-ON-TYNE BOTANICAL AND HORTICULTURAL.

July 3, 4, 5.—The 88th annual show of the above society was held in the Recreation Grounds, Newcastle. The dates were earlier than usual, and this fact prevented many local exhibitors from putting in an appearance. The shows at Holland House and at Doncaster on the same day also had their effect. Exhibits of special merit were contributed by Messrs. Samuel Finney & Co., Newcastle-on-Tyne, who showed floral designs and decorative foliage and flowering plants; Messrs. Hugh Dickson & Co., Ltd., Belfast, who exhibited Roses; and Messrs. Gibson & Co., Bedale, who showed border flowers and Sweet Peas.

The exhibits of fruit, and especially of Grapes, were much below the usual standard for these shows, the classes being poorly contested. The groups of miscellaneous plants were scarcely worthy of the important prizes offered for them.

Rain fell during the first day of the show, but the attendance was good, and on the subsequent days above the average.

Mr. H. H. Hillier, Darlington, was placed 1st in the class for a group of miscellaneous plants arranged for effect, occupying 20 feet by 12 feet. Several fine Codiæums were included in the group, and at the back were coloured Acers, Roses and foliage plants, but the quality of the flowering plants was not equal to the usual standard of this firm. 2nd, Messrs. Carnegie & Co., Newcastle-on-Tyne; 3rd, Mr. T. Wilkinson, Newcastle-on-Tyne.

Trade Exhibits.

Gold Medals were awarded to Messrs. G. Finney & Co., Granger Street, Newcastle, for floral designs; to Messrs. Laing & Mather, Kelso, for a rockery, ornamental trees and border flowers; to Messrs. W. Lawrenson & Sons, Newcastle-on-Tyne, for a rock-garden, &c.

Silver Medals were awarded to Mr. F. J. Bell, Whitley Bay, for an exhibit of Pansies, Violas and border flowers; and Messrs. Ord Bros., North Shields, for tuberous-rooted Begonias, Palms and decorative foliage and flowering plants.

NATIONAL SWEET PEA.

July 9, 10.—The twelfth exhibition of this Society was held on Tuesday and Wednesday last in the Royal Horticultural Hall, Vincent Square, Westminster. The show was one of the best of the series, but the new rule which reads "flowers with double standards will disqualify in all classes except those numbered 6, 9 and 12," caused endless trouble.

Exhibitors had not exercised sufficient scrutiny of their spikes, with the result that numerous disqualifications arose from this cause. In many instances, the best exhibits were passed over by the judges and inferior collections awarded the prizes. In the "Burpee" Challenge Cup Class, the whole of the nine exhibitors transgressed, whilst in another class there were no fewer than 13 disqualifications.

A speaker at the judges' dinner on the evening of the first day said that this would be remembered as the "double-standard year," but he was sure it would be the first, the last, and the only year when such a regulation could exist, a statement that appeared to voice the feelings of those present.

The trade exhibits, taken generally, were not quite so good as usual, but the flowers in the competitive classes were excellent throughout. The exhibitors numbered 180.

The competitive exhibits were arranged against tall green backgrounds, which prevented any general view of the displays, except from the gallery. Although this had the effect of throwing the bunches into better relief, the general spectacular effect was spoiled. The gallery was prettily decorated with bunches of Sweet Peas and greenery by Mr. Tigwell and the secretary, Mr. C. H. Curtis, who is to be congratulated on the excellent arrangements.

Amateurs' Classes.

In the first six classes traders were debarred from competing. The Sutton Cup was offered in Class 1 for the best collection of 21 bunches of Sweet Peas, distinct, to be selected from the varieties recommended by the Floral Committee in the Society's Classification List. There were six competitors, and two of the finest displays were disqualified because they included flowers with double standards. These were from Sir Randolf Baker, Bart., Ranston House, Blandford (gr. Mr. A. E. Usher), and A. Pitt Brooks, Esq., Rose Hill, Par Station, Cornwall (gr. Mr. W. H. Prophet). Sir Randolf Baker showed splendid flowers of Edna Unwin, Earl Spencer, Mrs. R. Hallam, Flora Norton Spencer, John Ingman, Etta Dyke, Miss F. Nightingale, Evelyn Hemus, Princess Victoria, and Mrs. W. J. Unwin. The 1st prize was awarded to A. W. Stirling, Esq., Holme Lea, Goring (gr. Mr. A. Moring), who showed a good collection, notably Evelyn Hemus, Gladys Burt, Thomas Stevenson, Hercules, Elsie Herbert, Florence Nightingale, Flora Norton Spencer, Paradise Ivory, American Spencer, Nubian, John Ingman, Mrs. Hardcastle Sykes, Earl Spencer, and Helen Lewis. 2nd, C. Hopton, Esq., Greenford (gr. Mr. E. W. Humphrey).

There were six competitors in the class for 24 bunches, distinct, and no fewer than four were disqualified for including blooms with double standards. It is to be regretted that the fine exhibit shown by Sir Randolf Baker was again one of those passed over, for he showed splendid flowers. Still, the 1st prize collection, exhibited by Mrs. A. E. Kensington, Haverbruck, Uckfield (gr. Mr. F. C. Beale), included magnificent vases of Mrs. W. J. Unwin, ·Winsome, Tennant Spencer, Doris Usher, Maude Holmes (a fine red variety), Mrs. Routzhan, Thomas Stevenson, Nettie Jenkins (fine lavender), Barbara (orange), and Menie Christie. 2nd, A. W. Stirling, Esq., Holme Lea, Goring (gr. Mr. A. Moring), with a good display, his best varieties being Constance Oliver, Helen Lewis, Senator Spencer, Zephyr, Edna Unwin, John Ingman, and Hercules. W. H. Rawnsley, Esq., Well Vale, Alford, Lincs. (gr. Mr. T. Vickers), showed finely, but he had double standards in his examples of Chas. Foster and Elsie Herbert. He showed splendid bunches of Audrey Crier, Mrs. R. Hallam, Helen Lewis, Edna Unwin and Mrs. Hardcastle Sykes.

The Henry Eckford Memorial class required 12 bunches, distinct, to consist of named varieties in commerce. Beside the Henry Eckford Memorial Cup, the 1st prize included the Gold Medal of the National Sweet Pea Society and a sum of money. There was a good contest between 10 competitors, and the collective exhibits made a beautiful display. The judges awarded the 1st prize to E. G. Mocatta, Esq., Woburn Park, Addlestone (gr. Mr. Thomas Stevenson), for one of the grandest exhibits in the show. However, after the award was made, a double standard was detected in his bunch of Mrs. C. W. Breadmore, and the award was withdrawn. The varieties were Queen Mary, Thomas Stevenson (splendid), John Ingman, Melba, Hercules, Efrida Pearson, Marjorie Linzee, Mrs. C. W. Breadmore, Elsie Herbert, R. F. Felton, Edrom Beauty, and Queen of Norway. The 1st prize was awarded to Sir R. Baker, Bart., M.P., Ranston, Blandford (gr. Mr. A. E. Usher), who also showed splendid spikes, the varieties being Clara Curtis, Lavender George Herbert, Audrey Crier, Edrom Beauty, M. Holmes, Tennant Spencer, Edith Taylor (big deep rose), Evelyn Hemus, Barbara (orange-salmon), King Manuel (fine crimson), and Dora Usher. 2nd, Capt. Ernest Twist, Early Lodge, near Reading (gr. Mr. Thos. Bethell). In this exhibit were choice blooms of Senator Spencer and Mrs. W. J. Unwin (both marbled varieties), Nettie Jenkins, Sunproof Crimson, Clara Curtis and Mrs. Hardcastle Sykes. 3rd, A. W. Perkins, Esq., Greenford Green, Harrow (gr. Mr. G. Baldwin), for bright, clear flowers of well-known varieties.

There was a keen competition in the class for six bunches of new Sweet Peas, distinct, selected from varieties introduced into commerce since the autumn of 1911. The 1st prize included the "Dobbie" Silver Cup, to be won outright. The judges made their awards as follow:—1st, E. G. Mocatta, Esq. (gr. Mr. Thomas Stevenson); 2nd, Mr. Edward Cowdy, Greenhall Mills, Loughgall, Co. Armagh; 3rd, Mr. Tom Jones, Bryn, Penylan, Ruabon. Afterwards it was discovered that Mr. Mocatta had a flower with a double standard of his variety Walter P. Wright and Mr. Jones of Melba. The judging was, therefore, done again, with the result that Mr. Cowdy was placed 1st. Mr. Mocatta showed the following varieties, all of superb quality:—Barbara, Walter P. Wright, Coronation, Edith Taylor, Mrs. Cuthbertson and White Queen. Mr. Cowdy's blooms possessed exceptionally long stems, and the spikes were of tremendous growth, but the petals were not quite so bright in colour as those shown by Mr. Mocatta. The best varieties were W. P. Wright, Prince George, Dobbie's Cream, Mrs. Cuthbertson, King Manoel, and R. F. Felton. R. P. Brooks, Esq. (gr. Mr. W. H. Prophet), showed fine spikes of Mrs. Cuthbertson, Dorothy and Lady Knox.

No fewer than 12 competed in the class for three bunches of pink or cream-pink varieties with waved standards. The 1st prize was awarded to F. Chetwynd, Esq., Stapylton, Englefield Lodge, Englefield (gr. Mr. H. Langdown), who selected Mary Langdown, Miss Chetwynd Stapylton, and Mrs. R. Hallam. 2nd, R. B. Brooks, Esq., for Gladys Burt, Hercules, and Mrs. H. Dickson. 3rd, Sir R. Baker for Dora Usher, Mrs. H. Dickson, and Audrey Crier.

There was a similar class for three bunches, distinct, with double standards. Mrs. A. E. Kensington, Haverbrack, Uckfield (gr. Mr. F. C. Beale), was awarded the 1st prize for choice blooms of Audrey Crier, Scarlet Emperor, and Orange Perfection. 2nd, Sir R. Baker, with Dobbie's Cream, Mrs. Breadmore and Bertram Deal. 3rd, Dr. J. E. Phillips, Malpas (gr. Mr. W. Davies), with Mrs. Hardcastle Sykes, Maude Holmes, and Mrs. Cuthbertson. There were seven competitors in this class.

Open Classes.

Classification Class.—This class was for a collection of 24 varieties to illustrate the colour distinctions in the Society's classification list, and to bring into special prominence the finest varieties in the several colours. Sir Randolf Baker exhibited the finest collection, but a bloom of Prince George had a double standard, and the exhibit was passed over in favour of Mr. J. Stevenson, Poole Road, Wimborne, for the varieties Prince George, Mrs. H. Dickson, Earl Spencer, Nubian, Flora Norton Spencer, Mrs. W. J. Unwin, Princess Victoria, Maud Holmes, Elfrida Pearson, and others. No exhibit displayed the 2nd prize card, but the 3rd prize was won by Mr. H. D. Tigwell, Greenford.

There were 13 exhibits in the class for 12 bunches, distinct, and the whole of them were disqualified for the reason stated above. This brought things to the same level again, and the judges recommended the award of the prizes to the three best collections. The finest blooms were shown by Mr. F. G. Bealing, Burgess Street Nurseries, Bassett, a selection of the finest varieties being Mrs. W. J. Unwin, Elfrida Pearson, Stirling Stent, Othello Spencer, Tennant Spencer, Thos. Stevenson, Asta Ohn, and Elsie Herbert. 2nd, C. B. Gabriel, Esq., Easdale, Horsell, Surrey (gr. Mr. G. Hewitt). 3rd, E. Otter, Esq., Stanhope Park, Greenford (gr. Mr. F. Fairbairn).

Eleven exhibits were forthcoming in the class for three bunches of seedling varieties, distinct, not yet in commerce, but no great advance was seen in any of the collections. The 1st prize was awarded to Mr. R. Bolton, Warnton, Carnforth, who showed Andrew Aitken (very pale salmon-rose), Agricola (blush on white), and Birdbrook (crimson mottling on a grey ground). 2nd, A. W. Stirling, Esq., Holme Lea, Goring (gr. Mr. A. Moring), for Cissie (white, suffused with lavender), Mrs. A. W. Stirling (a large, bright-rose flower), and Hetty (like Agricola). The 1st prize included a silver vase presented by Mr. F. Herbert Chapman.

The "E. W. King" Challenge Cup was for the best 12 bunches of waved varieties, distinct, offered for sale and catalogued during the autumn of 1911 or spring of 1912. Besides the challenge cup, the gold medal of the Society was included in the 1st prize. The trophy and medal were at first awarded to Mr. Cowdy, but a double standard in a bloom caused disqualification, and they were finally won by Alfred F. Blades, Esq., Brookfields, Reigate (gr. Mr. F. Cordell), for a very fine collection. Edrom Beauty, Mrs. Heslington, Melba, Flora Norton Spencer, Mrs. Breadmore, and Elsie Herbert being especially good. 2nd, R. P. Brooks, Esq. (gr. Mr. Prophet). 3rd, R. Julian Lemon, Esq., Bransfield, Godstone (gr. Mr. J. G. Cowlard).

The class for six bunches, distinct, gave greater opportunity to the smaller growers, and no fewer than 24 competed. Of this number six were disqualified for the same breach of the rules as before. The 1st prize was awarded to R. P. Brooks, Esq., for Doris Burt, Isobel Malcolm, White Queen, Mrs. W. King, Anglian Orange, and Dazzler. 2nd, Mr. Thomas Jones. Sir Randolf Baker was at first awarded the 2nd prize.

There was only one exhibit in the class for six bunches, distinct, of varieties with double standards. It was shown by Mr. F. G. Bealing, Burgess Street Nurseries, Bassett, and the 1st prize was awarded. The varieties were Bertram Deal, Duplex Spencer, Sunproof Crimson, Clara Curtis, Seedling, and Elfrida Pearson.

Burpee Cup Class.

The Burpee Challenge Cup and the Gold Medal of the Society were offered for a display of waved Sweet Peas, arranged on a table measuring 8 feet by 3 feet. The eight tables occupied much floor space, and, although they made a pretty display, they occupied more room than could well be afforded in a crowded exhibition. Again all the exhibitors transgressed the rules, and the judges recommended the award of the 1st prize to Mr. Alsen Denmead, Waterlooville. It was a very fine collection, and embraced such sterling varieties as Maude Holmes, Freda, Black Knight Spencer, May Campbell, Mrs. Cuthbertson, Senator Spencer, Mrs. W. J. Unwin, and Bertha Massey. 2nd, F. A. Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins); 3rd, Mr. C. W. Breadmore, Winchester.

DISTRICT CLASSES.

Amateurs Only.

London County Class.—There was only one competitor and the exhibit was disqualified.

Scottish Class.—There were only two exhibits in this class for six bunches, distinct, and one was disqualified. The 1st prize was awarded to Mrs. Dunbar-Dunbar, Seapark, Forres (gr. Mr. John A. Grigor).

The following six classes were for nine bunches, distinct :—

Irish Class.—Again there were only two exhibits. The schedule required nine bunches, distinct, and the 1st prize was awarded to Mr. Cowdy; 2nd, Mr. James Hall, Moy, Co. Tyrone. Both exhibitors showed well.

Welsh Class.—The Principality was also represented by two exhibitors, Mr. J. E. Alan Gibbs, Dinas Powis, Glamorgan, and Mr. Tom Jones. Mr. Gibbs was awarded the 1st prize, Mr. Jones, who showed best, being disqualified, but recommended to receive the 2nd prize.

Northern Class.—There were six exhibits, and four were disqualified. Dr. J. E. Phillips, Malpas (gr. Mr. W. Davis), won worthily with good blooms of Flora Norton Spencer, Clara Curtis, Thos. Stevenson, Mrs. Cuthbertson, Hercules, and others.

Eastern Counties Class.—This proved a good class, there being 12 exhibitors. The 1st prize collection, shown by Mr. F. E. Hall, Cumberland Cottage, Redbourn, was very choice, and included the varieties Sunproof Crimson, Edna Unwin, Mrs. Heslington, George Stark Improved, Dobbie's Cream, Edrom Beauty, Hercules, Flora Norton Spencer, and Nubian. 2nd, Sir M. Turner, Bedfords, Havering, Romford (gr. Mr. A. Humphrey), with very clear flowers, a vase of Elsie Herbert being of outstanding merit. 3rd, Mr. H. Tysoe, The Lodge, Bedford.

Midland Counties Class.—The better of two exhibits was shown by Mr. Robert Hallam, Radcliffe-on-Trent, Nottinghamshire, blooms of Nettie Jenkins, Clara Curtis, King Manoel, and Hercules being very good.

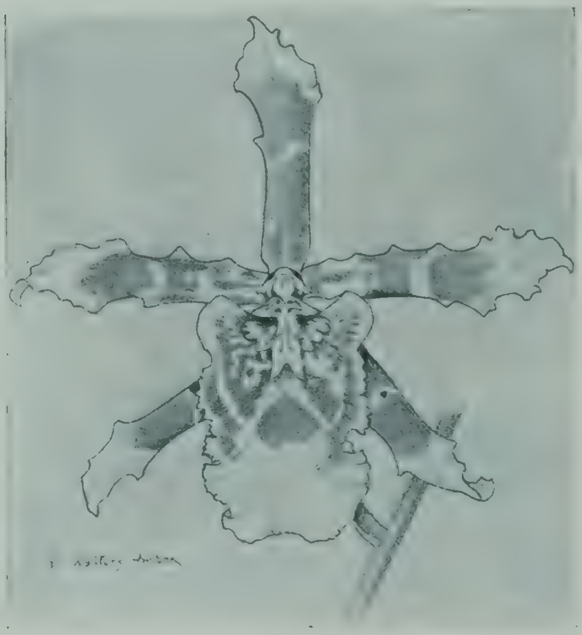

Fig. 18.—Odontonia "Edna": flowers white, blotched with brownish-yellow.

(Received R.H.S. Certificate of Appreciation on the 2nd inst. See p. 17 *ante.*)

Southern Counties.—This section was represented by six growers, and Mr. Mocatta won the premier prize with excellent bunches, the varieties Mrs. Routzhan, Edrom Beauty, Marjorie Linzee, Edith Taylor, and Barbara being a selection. 2nd, Sir R. Baker, who showed Anglian Pink, Tennant Spencer, Moneymaker, and Florrie uncommonly well.

Winners in the other principal classes were :—(*a*) Breadmore Challenge Vase for 12 bunches, distinct : 1st, Mr. Cowdy; 2nd, Marshall Green, Esq., The Lodge, Eynsford (gr. Mr. W. White). (*b*) The Breadmore Challenge Cup for six bunches, distinct : 1st, Mr. W. H. Smith, Hailsham. (*c*) Hawlmark Challenge Cup, offered by Messrs. Alex. Dickson & Sons : 1st, Mr. Tom Jones. (*d*) Horace Wright Challenge Cup : 1st, Mr. W. N. Holloway, Percyville, Port Hill Gardens, Shrewsbury. (*e*) Walter Voss Challenge Cup : 1st, Mr. Ernest J. Gee, Broadway, Chesham, Buckinghamshire. (*f*) James Green and Nephew Challenge Bowl : 1st, Mr. E. D. Marshall, Reading.

Table Decorations.

In the lecture room upstairs 14 tables, each measuring 8 feet long by 4 feet wide, were set out for table decorations. These embraced Class 35, and a conspicuous feature of most of the exhibits was the use made of the silvered rural flower stands representing little archways, epergnes, gateways, and various other designs. The 1st prize was awarded to Mrs. W. Fulcher, jun., 21, Moulsham Street, Chelmsford, whose centre-piece was the dominating feature. The varieties used were chiefly of the soft pink standard type with creamy wings, and sprays of Asparagus plumosus nanus, narrow and broad-leaved Crotons and Ampelopsis Veitchii were used as reliefs. 2nd, Mr. A. D. Ruff, High Street, Sharnbrook, for a glowing display of salmon-scarlet, relieved by sprays of Asparagus plumosus. 3rd, Mrs. Alfred Everett, Fairview, Chappel, Essex.

Awards of Merit.

The following varieties have received Awards of Merit after cultivation in the Society's trials :

R. F. Felton, a very large, mauve flower with reddish-purple in the standards. (From Mr. Bolton.)

Agricola, a blush-white and pink variety, (From Mr. Bolton.)

Decorator, a red flower, from Messrs. G. Stark & Son, Messrs. Dobbie & Co., and Messrs. Malcolm.

King White, a fine white flower, from Messrs. A. Dickson & Sons.

Lady Miller, a very pretty, pink variety.

Bertrand Deal, a mauve flower, from Mr. Bertrand Deal.

Non-competitive Exhibits.

Messrs. Aldersey & Marsden-Jones, Tilston, Malpas, Cheshire, were awarded a Silver-gilt Medal for a group of three dozen bunches backed with half-a-dozen fine vertical columns in tubes. "Rosemary" was one of the finest rose Selfs, becoming brilliant cerise with the sun on it.

Mr. W. O. Cantley, Bury St. Edmunds, was awarded a Silver Medal for a small collection, in which Seamew, a beautiful lavender, was a conspicuous feature.

Messrs. S. Bide & Sons, Farnham, Surrey, staged a magnificent collection, for which a Gold Medal was awarded. The arrangement was wonderfully bold and effective.

Messrs. Dobbie & Co., Edinburgh, made a striking display by having upright battens fixed to the back stage, and, from these, arms at right angles standing out holding a vase, in which a bunch of well-grown flowers was arranged, the vases being draped with sprays of Asparagus Sprengeri. (Gold Medal.)

Messrs. J. K. King & Sons, Coggeshall, Essex, were awarded a Silver Medal for a good collection of standard varieties, decorated by means of an arch, the uprights of which were covered with pink Gladys Burt and Smilax, the arch with Masterpiece (mauve).

Mr. C. W. Breadmore, Winchester, was awarded a Silver-gilt Medal for a group in which Clara Curtis (primrose) and Marie Corelli (deep rose-purple) were conspicuous varieties.

Messrs. E. W. King & Co., Coggeshall, Essex, were awarded a Silver-gilt Medal for a very effective collection, in which the flowers were arranged in vases, columns and Gothic arches.

Mr. T. Cross, Bury St. Edmunds, had a collection with a central bower and side archways, and was awarded a Silver Medal.

Mr. W. J. Unwin, Histon, Cambs., secured a Gold Medal for a collection containing about 40 fine masses of superbly-grown flowers.

Messrs. Jas. Carter & Co., Raynes Park, Wimbledon, staged an excellent bower with conspicuous central masses hanging down and filled with the lovely pink Mrs. Hugh Dickson. The whole arrangement was unique and festooned with "Smilax." (Silver-gilt Medal.)

Mr. James Box, Lindfield Nurseries, Haywards Heath, was awarded a Silver-gilt Medal for a bold and very effective group.

Mr. W. E. Olsen, Denmead, Hants., was awarded a Silver-gilt Medal for a collection of some three dozen masses, remarkable for their long stems and large blooms.

Mr. Robert Bolton, Warton, Carnforth, staged a collection remarkable for its bold, upright pyramids and massive vases of flowers, for which a Gold Medal was awarded.

Messrs. Jarman & Co., Chard, was awarded a Silver-gilt Medal for a very fine collection.

Mr. J. Stevenson, Wimborne, Dorsetshire, staked a choice collection. (Silver-gilt Medal.)

Messrs. Jones & Sons, Coton Hill Nurseries, Shrewsbury, arranged a collection set off with sprays of Asparagus Sprengeri. (Silver-gilt Medal.)

Robert Sydenham Limited, Birmingham, arranged a collection in silver stands that gave a light and graceful effect. Lilian (pink), Princess Mary (blue), Orion (carmine-crimson), and Edith Taylor (old rose) were shown well. (Silver Medal.)

Messrs. Stark & Son, Great Ryburgh, Norfolk, set up a collection decorated with trails of Asparagus Sprengeri. (Silver-gilt Medal.)

Messrs. Walter Voss & Co., Millwall, E., staged a bold collection of standard varieties, for which a Silver Medal was awarded.

Messrs. Barr & Sons, Covent Garden, were awarded a Silver Medal for a choice collection, the chief features of which were purity of colour, size of blossom and length and strength of stem.

ANNUAL DINNER.

Mr. Robert Sydenham, president of the Society, presided at the dinner held on the evening of the first day. About 80 sat down, including several visitors from overseas, Mr. Beatson (Sydney, N.S.W.), Mr. Carey Hill (New Zealand), Mr. Howard Earl (of W. Atlee, Burpee and Co.), Mr. Lester L. Morse (California), and Mr. Trevethick (New Zealand).

Mr. Sydenham, in proposing the toast of "The National Sweet Pea Society," said it was gratifying to note that the Society still maintained its popularity. He said that the present show contained many superb exhibits, but it was unfortunate that some of the best were disqualified. It had been suggested that a consolation prize should be awarded to Mr. Thos. Stevenson, and he had great pleasure in offering a Rose bowl.

Mr. Lester L. Morse, of California, responded. He said that he had been anticipating this show for the past eight years. Reality was better than anticipation. He had been amongst Sweet Peas since his youth, but he had to say that until July 9, 1912, he had never seen Sweet Peas. He had no idea that blooms could be like banners and stems like flagstaffs.

Mr. Edward Sherwood proposed "The Judges and Exhibitors," and Mr. Thomas Stevenson replied.

Mr. S. B. Dicks proposed the health of "The Visitors," and Mr. Cuthbertson the health of "The Chairman." Mr. Sydenham, in responding to the latter toast, said that they owed a debt of gratitude to the secretary, Mr. Curtis, who had worked early and late; also to Mrs. Curtis; and Mr. and Mrs. Horace Wright.

NATIONAL ROSE.

July 9.—The summer show of the National Rose Society was held at the Royal Botanic Gardens, Regent's Park, on the above date. The weather was almost ideal, and there was a very large attendance of visitors. Queen Alexandra and Princess Victoria paid an early visit to the show, and, under the guidance of the president (the Rev. J. H. Pemberton) and the hon. secretary (Mr. E. Mawley), made a complete inspection of the exhibits, displaying a keen interest in the new varieties and a knowledge of many of the old favourites. The entries were rather more numerous than last year, and there were more new Roses, many of which received recognition, and one of the varieties—the handsome Mrs. Andrew Carnegie—was decidedly the "Rose of the show." The varieties Queen Mary and Old Gold were also greatly admired. The representative groups of Roses were fewer than usual. In one of the large tents sufficient floor space might well be allocated for collections of pot and cut Roses, to be arranged in the form of a Rose garden.

The tents became very hot and uncomfortable, and, notwithstanding this, in many cases the ventilating hoppers in the roofs remained closed during the whole of the day.

Nurserymen's Classes.

The championship class, which requires 72 blooms, distinct varieties, brought together many magnificent flowers, and attracted a great amount of attention from the visitors. The Trophy and Gold Medal were awarded to Messrs. Alex. Dickson & Sons, Ltd., Newtownards, Co. Down, who staged the following varieties in exceedingly good condition. The names of the finest blooms are printed in italics. Conway Jones, Wm. Shean, David McKee, Marquis of Londonderry, Duchess of Sutherland, Dean Hole, Berthe Gaulis, *Caroline Testout,* Mrs. W. J. Grant, *Mrs. David McKee,* Hugh Dickson, Mrs. Ed. Mawley, His Majesty, Frau Karl Druschki, George Dickson, Florence Pemberton, *J. B. Clark,* Alex. Hill Gray, Charles Darwin, *Mabel Drew,* Charles Lefebvre, Mrs. Norman Thompson, *Duchess of Westminster,* Lady Greenhall, *Horace Vernet,* Her Majesty, Alfred Colomb, Mrs. Theodore Roosevelt, Gustave Piganeau, Gloire de Chédane Guinoisseau, *Lady Barham,* Geo. C. Waud, *Bessie Brown,* La Galissiérée, *Ellen Drew,* Countess of Oxford, Robert Scott, Oberhofgärtner Terks, Earl of Warwick, Mrs. Bateman, Lady Helen Vincent, H. V. Machin, Queen of Spain, *Gustave Grünerwald,* Lyon Rose, Comte de Salis, *Mme. Leon Constantin, Leslie Holland,* Mildred Grant, S. M. Rodocanachi, Mrs. Cornwallis West, *Duchesse de Morny, Marchioness of Dufferin,* Dr. O'Donel Browne, Papa Lambert, Marquise Litta, Countess Annesley, Ulrich Brünner, Mrs. Foley Hobbs, A. K. Williams, Juliet, Gladys Harkness, Ferdinand de Lesseps, Lady Ashtown, Marquise Jeanne de la Chataigneraye, Mrs. John Laing, *Mrs. G. F. Kershaw,* Brilliant, White Maman Cochet, Charles Grahame, and Duchess of Portland. 2nd, Messrs. R. Harkness & Co., Hitchin, Herts., whose finest blooms were Countess of Ludre, Beauty of Waltham, Mme. J. Bonnaire, Mildred Grant, Claudius, Mme. Jules Gravereaux, Gustave Piganeau, and Fisher Holmes. 3rd, Messrs. D. Prior & Son, Colchester, who showed Mrs. E. Mawley, Oberhofgärtner Terks, Duc d'Orléans, and Mrs. John Laing in splendid style.

The 1st prize for 40 distinct varieties, three blooms of each, was awarded to Messrs. Ben. R. Cant & Sons, The Old Rose Gardens, Colchester, for an exceptionally good collection, which included Ulrich Brünner, Her Majesty, W. E. Lippiatt, Lieutenant Chaure, Avoca, Dean Hole, and Mrs. John Laing. 2nd, Messrs. Alex. Dickson & Sons, who exhibited splendid blooms of such varieties as Mrs. Foley Hobbs, Mrs. Cornwallis West, Helen Keller, S. M. Rodocanachi, and Lyon. 3rd, Messrs. D. Prior & Son, Colchester.

The China Trophy exhibit of 48 distinct varieties contained some weather-stained blooms, but under the influence of the heat in the tents these developed, and the damaged outer petals were nearly hidden. Of the four collections, that of Mr. Geo. Prince, Longworth, was decidedly the best, and his blooms of Ulrich Brünner, Mrs. Amy Hammond, Bessie Brown, Mr. S. Crawford, and J. B. Clark were excellent. 2nd, Messrs. G. & W. H. Burch, Peterborough, whose stands were uniformally good; 3rd, Mr. F. Woolward.

The smaller class, requiring 24 blooms, was not so strongly contested, but many of the blooms were exceedingly fine. 1st, Messrs. Chapman & Collin, Thurmaston Road, Leicester; whose outstanding varieties were Marie Baumann, Countess of Rosebery, and Dean Hole. 2nd, Mr. John Mattock; 3rd, Messrs. W. Crisp & Sons.

The premier award in Class 5, for 16 varieties, three blooms of each, was won by Messrs. G. & W. H. Burch, who staged Mildred Grant, Maman Cochet, White Maman Cochet, Oberhofgartner Terks, and J. B. Clark in good condition. 2nd, Mr. John Pigg; 3rd, Messrs. J. Burrell & Co.

The best stand of 24 Tea and Noisette Roses was that shown by Mr. Geo. Prince, in whose collection the varieties Mme. Vermorel, Maréchal Niel, and Mrs. Ed. Mawley were very beautiful. 2nd, Messrs. D. Prior & Son. 3rd, Mr. John Pigg.

Messrs. J. Burrell & Co., Cambridge, exhibited the best 12 Tea Roses, and from this fine exhibition we select Mrs. Dudley Cross, White Maman Cochet and Bridesmaid as being the best. 2nd, Mr. John Mattock, Oxford, whose large blooms were just past their prime. 3rd, Mr. W. R. Chaplin.

Mr. Geo. Prince showed many fine sets in the class for three blooms of 16 varieties: Maréchal Niel, Mrs. Foley Hobbs and Mrs. E. Mawley were the best. 2nd, Mr. Henry Drew, Faringdon, Berks.

The vases of exhibition Roses were disappointing: this, however, was due to the great heat, which caused the blooms to wilt. 1st, Messrs. Alex. Dickson & Sons, who arranged A. K. Williams, Duchess of Westminster and Duchesse de Morny. 2nd, Messrs. D. Prior & Son. 3rd, The King's Acre Nursery Co.

Mr. Geo. Prince exhibited Tea and Noisette blooms of White Maman Cochet and W. R. Smith in a dainty fashion. 2nd, Mr. Henry Drew, who had a good vase of Mme. Constance Soupert. 3rd, Mr. John Mattock.

The President's prize for nine baskets of cut Roses was awarded to Mr. W. Easlea, Eastwood, Essex, who showed Geo. C. Waud, Duchess of Wellington, and Mrs. Alfred Tate amongst his collections. 2nd, Messrs. Hugh Dickson, Ltd, whose best baskets contained Richmond and Mme. M. Soupert. 3rd, Mr. John Mattock.

The class for five baskets of Roses was keenly contested. Mr. W. R. Chaplin won the 1st prize, employing the Lyon Rose, Harry Kirk and Pharisaer. 2nd, Messrs. W. Spooner & Son, whose basket of Mme. Ravary was splendid. 3rd, Mr. E. J. Hicks.

The 18 vases of Roses made a splendid display and attracted much admiration. 1st, Mr. John Pigg, Royston, Herts, whose outstanding varieties were General McArthur, Mme. Abel Chatenay and Richmond. 2nd, Mr. John Mattock. In this exhibit the varieties Lady Waterlow and Gottfried Keller were very beautiful. 3rd, Messrs. W. Spooner & Son.

Mr. E. J. Hicks, who showed Ecarlate, Lady Hillingdon, &c., exhibited vases of distinct Roses in an attractive manner. 2nd, Mr. W. Tayler, Hampton, Middlesex, in whose exhibits the supporting wires were too conspicuous. Mme. Pernet Ducher and Augustine Guinoisseau were exceptionally good.

The boxes of exhibition blooms, with the varieties arranged in lines, contained good blooms. The 1st prize was won by Mr. W. R. Chaplin, Waltham Cross, who showed Richmond, Lady Hillingdon, and Mme. Alfred Tate in very good condition. 2nd, Mr. E. J. Hicks. 3rd, Mr. John Mattock.

Decorative Roses.

The nurserymen's exhibits of decorative Roses made a beautiful feature of the show, and many of the exhibits remained fresh throughout the day. The competition was exceedingly keen.

The best 36 distinct varieties were shown by Messrs. Frank Cant & Co. From this superb collection we can only name Lady Hillingdon, Rayon d'Or and Simplicity. 2nd, Mr. John Mattock, Oxford, whose outstanding vases were Gottfried Keller, Irish Glory and Hebe's Lip. 3rd, Messrs. W. Spooner & Son.

Mr. Chas. Turner, Slough, was the only exhibitor in Class 17, and was awarded the 1st prize for a fine collection, which included Le Progrès and Betty.

Messrs. W. Spooner & Son were awarded the 1st prize in Class 18 for a fine arrangement. The varieties American Pillar and Common Moss were excellent.

The best nine new decorative Roses were shown by Mr. E. J. Hicks, Hurst, Berks, whose vase of Orleans Rose was most charming. 2nd, Mr. Geo. Prince, who staged good vases of Rayon d'Or and Carmine Pillar.

The 12 varieties of Wichuraiana Roses made a beautiful display. Messrs. Frank Cant & Co., who included the varieties Léontine Gervaise, Delight and Minnehaha, won the 1st prize. 2nd, Mr. E. J. Hicks, whose flower Evangeline was beautiful. 3rd, Mr. Charles Turner, Slough.

Groups of Roses.

The 1st prize representative group of Roses, shown by Messrs. Paul & Son, The Old Nurseries, Cheshunt, contained a great amount of bloom, and well deserved the premier award. The groundwork was imposing and well arranged, but the effect was marred by the stems of the tall Wichuraiana standards, which were ungainly. The 2nd prize group of Messrs. Hobbies, Ltd., Dereham, was better balanced, but the standards were too crowded.

The cut Roses arranged on stagings were very attractive, although these exhibits, of necessity, owe their value to colour-mass. The 1st prize was awarded to Messrs. W. & J. Brown, on whose stand the bright colours predominated. 2nd, Mr. F. M. Bradley, Peterborough, whose blooms of Simplicity and General Jacqueminot were charming. 3rd, Messrs. Stuart Low & Co., Bush Hill Park, Middlesex.

Messrs. H. Harkness & Co., Hitchin, who showed good vases of Edu Meyer, Irish Elegance, Lyon, Hugh Dickson, General McArthur, and Rayon d'Or, were awarded 1st prize in Class 23. 2nd, Messrs. G. Jackman & Son, Woking. In this exhibit the stands of Duchess of Wellington, Liberty and Le Progrès were beautiful.

Of the six exhibits in the class for 24 Roses in two varieties, 12 white and 12 red blooms, that of Mr. Walter Bentley, Rose Nurseries, Leicester, was the best. He showed Mrs. Foley Hobbs as the white variety, and the red was J. B. Clark. 2nd, Messrs. D. Prior & Son, Colchester.

The Roses in baskets, although numerous, were not of outstanding merit. In the class for 18 blooms of any H.P. the 1st prize was awarded to Messrs. Hugh Dickson, Ltd. 2nd, Mr. Walter Stevens, Fair Oak, Radlett, for a basket of Frau Karl Druschki. 3rd, Mr. Geo. Prince, Longworth. The best basket of any other type of Rose was also shown by Messrs. Hugh Dickson. 2nd, Mr. W. Bentley. 3rd, Mr. W. R. Chaplin, Waltham Cross.

Mr. Geo. Prince exhibited the best basket of Tea Roses. 2nd, Messrs. Frank Cant & Co.

The baskets of Rayon d'Or were almost dazzling in the richness of their colouring. 1st, Messrs. Bide & Sons; 2nd, Mr. E. J. Hicks; 3rd, Mr. G. Prince.

The variety Leslie Holland was the best in the open class for nine blooms of any new variety, and was shown by Messrs. Hugh Dickson, Ltd. 2nd, Ethel Malcolm, shown by Messrs. S. McGredy & Son. 3rd, Mrs. Cornwallis West, shown by Messrs. Alex. Dickson & Sons.

The 1st prize collection of 12 blooms of new Roses was shown by Messrs. Hugh Dickson, Ltd. The varieties Charles de Lapine, Duchess of Shaftesbury, Marquise de Ganay, Mabel Drew and Leslie Holland were exceptionally meritorious. 2nd, Messrs. Alex. Dickson & Sons, Ltd., who also showed Leslie Holland in excellent form and condition. 3rd, Messrs. S. McGredy & Son.

Amateurs' Classes.

The many classes for amateur rosarians and classified according to the number of plants they individually grow, were exceedingly well contested. In many cases the blooms of the small growers were quite equal in point of size and quality to those of the great trade exhibitors. The champion trophy was won by Mr. E. M. Eversfield, Horsham, His exhibit of 36 blooms was exceedingly fine. The best flowers were Mrs. Theo. Roosevelt, Lady Alice Stanley, Souvenir de Pierre Notting and Juliet. The 2nd prize stand of Mr. E. B. Lindsell included splendid blooms of Helen Keller, Hugh Dickson and Duchess of Bedford. 3rd, Mr. F. Dennison.

The best collection of 24 blooms was shown by Mr. E. B. Lindsell. The varieties S. M. Rodocanachi and Mrs. J. Laing were superb. 2nd, Mr. F. Dennison.

In the class for growers of fewer than 3,000 plants, the best exhibit was that of Mr. W. Boyes. Mr. E. M. Eversfield was placed 1st in the division for growers of fewer than 2,000 plants.

Artistic Classes.

The dinner-table decorations, the vases of Roses, sprays, and buttonholes, filled one tent and made a charming display. In the open class the 1st prize dinner-table decoration of Roses was won by Mrs. A. Bide, who used the variety Sunburst with purple Rose foliage. In the 2nd prize arrangement the variety Irish Elegance was tastefully employed by Miss M. Foden. Mrs. Bide also arranged the 1st prize bowl of Roses with the variety Mrs. Arthur R. Waddell and Dr. F. H. Cooke.

Mr. Conway Jones attractively arranged the exhibition Roses Mrs. R. G. Sharman Crawford, C. J. Grahame, &c., in vases. The decorative varieties Gottfried Keller and Phyllis were beautiful in the vases exhibited by Rev. J. H. Pemberton. The collection shown by Mr. H. R. Darlington was delightfully arranged. The varieties Mrs. F. G. Hill and La Tosca were splendid.

New Seedling Roses.

All the space in the tent set aside for Classes 31 and 32 was fully occupied, and, of the large number of varieties presented, 13 received awards. The great majority were H.T. Roses.

Gold Medals.

Mrs. Andrew Carnegie.—A most lovely Rose, a cross between Frau Karl Druschki and Niphetos, in which the influence of both parents could be traced. The very large blooms are of a delicate lemon colour, with just a suspicion of yellow at the base of the petals, and are borne on very long, stout shoots, which have plenty of rich green leaves. The raisers say that this variety is an even better bedding Rose than Frau Karl Druschki, and in addition to this merit it has—what should be a necessary qualification in all Roses—a delightful fragrance. Shown by Messrs. James Cocker & Sons, Aberdeen.

Old Gold.—The upper surface of the petals of this beautiful H.T. Rose is of the colour of Hemerocallis flava, whilst the under-sides are of a deep pink—a delightful combination. The beautiful buds of this variety will make it a popular "buttonhole" Rose. Shown by Messrs. S. McGredy & Son, Royal Nurseries, Portadown.

Silver-gilt Medals.

Queen Mary.—An exceedingly beautiful H.T. Rose. It is much after the style of the popular variety Juliet, but is of better form and habit. It is paler in colour than Juliet and not quite so fragrant, but nevertheless is a valuable decorative variety. Shown by Messrs. Alex. Dickson & Sons.

Mrs. Frederick W. Vanderbilt.—This H.T. Rose has many shades of colour, but it may best be described as being deep salmon, suffused with pink. The buds are also of a charming colour.

Mrs. Ethel Part.—A free-flowering H.T. Rose, said to be as good for garden decoration as for exhibition; described by the raisers as deep coppery pink.

Lady Mary Ward.—The centre of the flowers of this variety are of a deep orange colour, which fades to a pale yellow. These three varieties were shown by Messrs. S. McGredy & Son.

Mrs. Charles S. Hunting.—An uncommon shade of rose-apricot, varying to pale salmon. This H.T. Rose was shown by Messrs. Hugh Dickson.

Sunburst.—The colour of this pretty variety is apricot yellow. Shown by Messrs. G. Beckwith & Son.

Mrs. E. Alford.—A pink-coloured variety intermediate in appearance between Mme. Abel Chatenay and La France. Shown by Messrs. Lowe & Shawyer.

Mrs. C. Reed.—An H.T. Rose; the colour is light pink with a salmon-pink centre. Shown by Messrs. Lowe & Shawyer.

William Cooper.—A very bright red H.T. Rose, with long stalks and good foliage, which will probably rival Richmond and Liberty. Shown by Messrs. Hugh Dickson.

Silver Medal.

Moonlight.—A beautiful single white H.T. Rose; a valuable decorative variety. Shown by the Rev. J. H. Pemberton.

Cards of Commendation.

Dinah.—A hybrid Moschata variety, with numerous small rose-magenta edged flowers. Shown by the Rev. J. H. Pemberton.

Mrs. R. D. McClure.—A very beautiful pink Rose, with globular buds. The young foliage is ornamental, but this variety seems liable to mildew. Other good new Roses shown were Mrs. G. Norwood, Mrs. S. T. Wright, Chas. K. Douglas, Mrs. Archibald Gray, Colleen, and Chas. E. Ingram.

Premier Blooms.

Six of the Society's silver medals were awarded to the best blooms in the various sections:—

Nurserymen.—H.P., A. K. Williams, shown by Messrs. H. Lane & Son, Berkhamsted; H.T., George Dickson, shown by Messrs. Alex. Dickson & Sons, Ireland; T., White Maman Cochet, shown by Messrs. Ben. R. Cant & Sons, Colchester.

Amateurs.—H.P., Horace Vernet, shown by Mr. Gulliver Speight, Market Harborough; H.T., Avoca, shown by Dr. T. E. Pallett, Earl's Colne; T., White Maman Cochet, shown by Mr. A. Hill-Grey, Beaulieu, New Bridge, Bath.

Non-Competitive Exhibits.

Sweet Peas were displayed by Messrs. Dobbie & Co., Edinburgh, and by Miss Hemus, Upton-on-Severn. Messrs. R. H. Bath, Ltd., Wisbech, staged cut blooms of border flowers, Sweet Peas and Carnations. Mr. H. H. Crane, Highgate, showed many pans of Violas. Messrs. Stuart Low & Co., Bush Hill Park, Middlesex, exhibited Carnations.

In the small flower-garden, the "New Lawn Sprinkler" attracted a deal of attention and it appears to be a useful article. This is a cheap and strong appliance; by a simple and ingenious arrangement, the force of the water regulates its area of distribution.

Messrs. Jeyes' exhibited horticultural washes and disinfectants. Messrs. T. J. Syer & Co., Wilson Street, London, exhibited garden seats and tents. The Higginson Spraying Appliances were also on view. Messrs. E. A. White, Ltd., demonstrated the handiness of the Abol spraying syringe, and displayed their insecticides. Mr. D. Dowel & Son, Hammersmith, showed various samples of garden pottery and tying materials. Messrs. Wm. Cooper & Nephews displayed their insecticides ard weed killers.

GENERAL BULB GROWERS' SOCIETY OF HAARLEM (HOLLAND).

The following Awards have been made at recent meetings of the Narcissus, Tulip and other Floral Committees of this Society:—

First-class Certificates.

Narcissus Mrs. Breck.—A seedling variety with white perianth and trumpet. *N. Masterpiece.*—This variety has a white perianth, and a red, flattish cup. *Tulip Queen Alexandra.*—An early single variety; the rose-carmine petals are spotted with green at the base. *T. Progression.*—The brilliant dark-red flowers of this single variety are unusually large. *T. Madame Gevers.*—A clear-yellow, early, single variety. *T. Electra.*—A double variety, with dark carmine-red petals. *T. Feu Brilliant (Darwin).*—This variety has scarlet flowers. *T. Frans Hals (Darwin).*—The flowers are of a violet-blue shade. *T. Giant (Darwin).*—A large-flowered variety with violet-coloured blooms. *T. Zwanenburg (Darwin).*—A white variety. *T. Carmen (Darwin).*—The clear rose-carmine petals are shaded with salmon, and have light-blue spots at the base. *T. Polyhymnia (Rembrandt).*—A large-flowered white variety with fiery-carmine petals striped with white and brown. *Eremurus robustus Elwesianus albus.*—A white variety. *Iris regelio cyclus Apollo.*—The flowers are white veined with violet, lip white veined with brown. *I. r. c. Castor.*—Light violet-rose, dark brown lip. *I. r. c. Laos.*—The white petals are veined with violet. *I. r. c. Saturnus.*—Pale violet; the pure white lip is veined with purple.

Awards of Merit.

Tulip White Beauty.—An early-flowered, single variety; the interior of the petals is pure white with yellow centres; the exterior bluish-grey. *T. Max Havelaad.*—The orange petals are shaded with blue; an early single variety. *T. Orange Beauty.*—Another early single variety; the yellow petals are bordered with orange. *T. Grand Maitre.*—A clear violet double-flowered variety. *T. Yellow Perfection.*—An early double variety which has pure-yellow flowers. *T. Crépuscule* (Darwin).—The flowers of this variety are rose-lilac in colour. *T. Duchess of Westminster* (Darwin).—A salmon-red variety. *T. Jubilee* (Darwin).—A dark violet-blue-coloured variety. *T. Mauve Clair* (Darwin).—The flowers of this variety are of a lilac shade. *T. Othello* (Darwin).—This well-known Tulip is one of the best dark varieties. *T. Anne Marie* (Rembrandt).—The dark carmine flowers are flamed with white. *T. Cosette* (Rembrandt), *T. Romeo* (Rembrandt), *T. Suzon* (Rembrandt).—All these varieties have flowers of various rose shades, and are flamed with white. *T. Grisdelin Superba.*—A large, early-flowered single variety; the flowers are dark-rose in colour. *T. Imperator Luteolum.*—A double-flowered variety with yellow petals. *T. Penserosa.*—A dark-brown late-flowering variety. *T. Luna* (Darwin).—A clear-yellow variety, with black spots on the petals. *T. Carrara* (Darwin).—Pure-white with yellow stamens. *T. Herrogin von Hohenberg* (Darwin).—The flowers have shades of blue and lilac. *T. King George V.* (Darwin).—The flowers have scarlet petals shaded with salmon. *T. Prins der Nederlandin* (Darwin).—A fiery-red variety, flushed with cherry-red. *T. Marvel.*—A late-flowering single

Tulip, with orange-yellow petals, edged with a deeper shade of the same colour. *T. Sulferina.*—A dark-yellow, late-flowering single variety. *T. Carnation.*—A late-flowering, pure-white, single variety. *T. Rasonia* (Breeder).—A dark-violet-coloured flower. *Caltha polypetala.*—A much-improved Caltha palustris. *Freesia Amethyst.*—A seedling Freesia with lilac-mauve flowers. *F. Chapmanii.*—A yellow-flowered variety. *Ixiolirion montanum.*—The flowers of this variety are of a clear blue shade. *Iris regelio cyclus Saga.*—This Iris has violet petals, with a sulphur-yellow lip and purple veining. *I. r. c. Osiris.*—A unicoloured variety; violet on satin white base.

GLOUCESTERSHIRE ROSE AND SWEET PEA.

July 5.—The annual show of the Gloucestershire Rose and Sweet Pea Society was held in the grounds of the Spa, Gloucester, on this date, in beautiful weather. There was a record entry in Roses, which numbered 199, or 50 more than last year, and the show generally was the largest and best held in Gloucester since the visit of the National Rose Society some 9 or 10 years ago.

Rose Classes.

In the nurserymen's classes, Messrs. **Alexander Dickson & Sons**, Newtownards, won the first prize for 48 blooms, distinct, and four other premier awards; while Mr. H. **Drew**, Faringdon, Mr. **George Prince**, and Mr. J. **Mattock**, were also first-prize winners. In Messrs. **Alex. Dickson's** collection their new Rose, George Dickson, a superb velvety-red Rose, of great substance, was shown to perfection, and other Roses that attracted general attention in the show were Juliet and Lyon Rose. For ideal dark velvety Roses, however, Horace Vernet and Victor Hugo appeared to hold their own in competition with all the new varieties, and were shown to perfection in most of the stands.

In the open amateur classes, Mr. **Conway Jones**, Hucclecote, Gloucester, succeeded in retaining for the second year, against very keen competition, the silver challenge bowl, valued at 30 guineas, offered by the society for the best 36 varieties of Roses. Miss F. J. **Gwilliam**, of Dymark, won the piece of plate offered by the Mayor and Corporation of Gloucester for the best table decoration.

In the classes open to amateur growers of not fewer than 3,000 plants, silver cups were won by Mr. **Gulliver Spates**, Market Harborough, and Mr. G. R. **Bonner**, Barnwood, Gloucester.

The cottagers' classes were better filled than usual, the the quality of the blooms was excellent. The piece of plate offered by the City Member (Mr. Henry Terrell) for four vases of Roses was awarded to Mr. C. L. **Walker**, Gloucester.

The National Rose Society's silver medals were awarded to Mr. F. **Dennison**, Leamington, for a splendid bloom of the variety, Horace Vernet; Mr. **Joshua Dodwell**, Hereford, for a fine flower of G. C. Waud; Mr. C. **Holbrook**, Hucclecote, for Melanie Soupert; and Mr. F. W. R. **Price**, Gloucester. for Mildred Grant.

Sweet Peas.—The entries for Sweet Peas numbered 192, and although there was a slight falling off as compared with the number last year, the display was a grand one, and the quality well up to the average of the best shows held anywhere in the country. Sir **Randolf Baker**, Bart., Blandford, Dorest (gr. Mr. Usher), won most of the principal prizes, including the silver challenge cup offered by Mrs. Jarrett Thorpe, of Hucclecote, for 24 distinct varieties, and the National Sweet Pea Society's silver medal for a vase of the variety, R. F. Felton, a delicate lavender-coloured Sweet Pea. Lieut.-Col. G. D. **Timmis**, of Matson, Gloucester, won the Winfield challenge cup offered for six distinct varieties.

A SAILORS' ROSARY.

The subject of fig. 19 is a portion of the Rose garden the sailors attached to the Naval Gunnery School at Whale Island have made in their leisure time. During a recent visit of inspection, the King and Queen admired this evidence of the handyman's versatility, and to commemorate the visit His Majesty planted a tree there. As the illustration shows, the sailors are very successful gardeners.

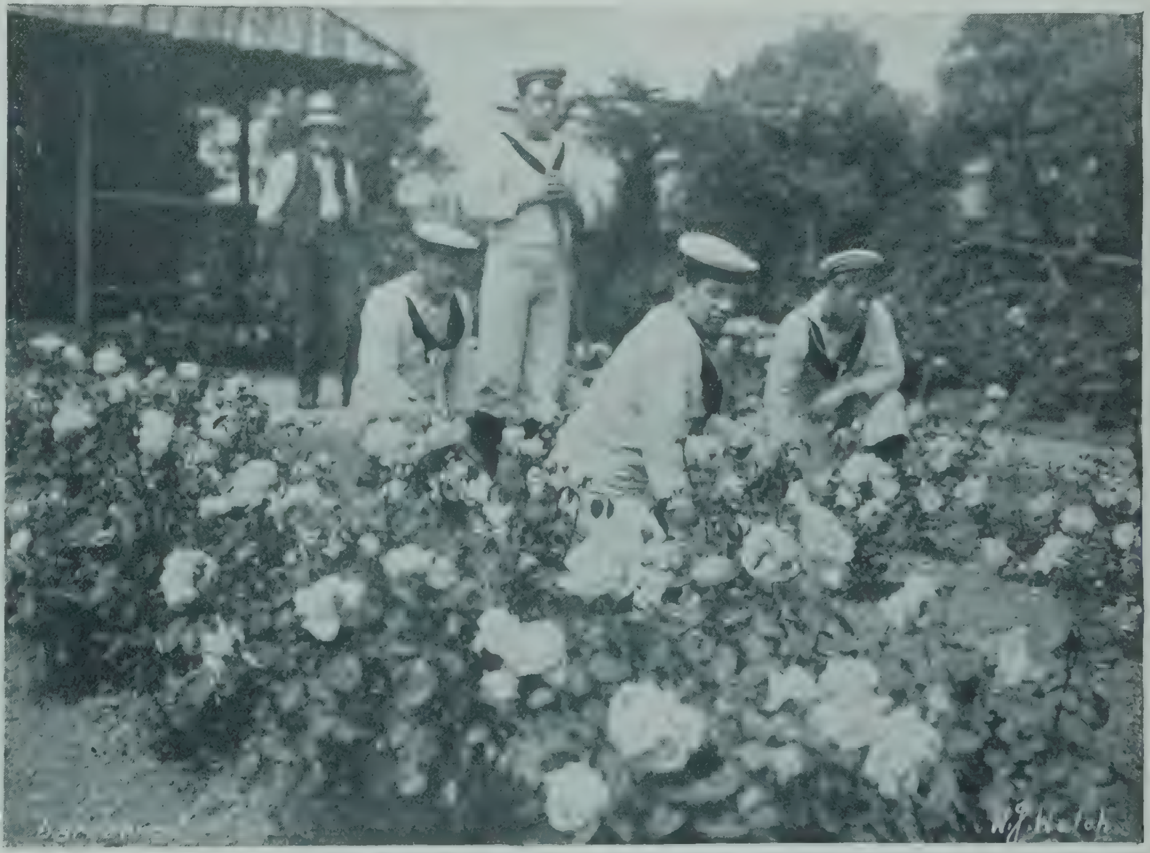

Fig. 19.—Rose garden at the School of Gunnery, Whale Island.

Answers to Correspondents

Abnormal Cattleya and Peaches: *G. S.* The abnormality is not an uncommon occurrence. You will find much valuable information concerning the sowing of Orchid seeds and the subsequent treatment of the seedlings in *Orchids* (Present Day Gardening Series), obtainable from our publishing department, price 1s. 9d. post free. We suspect that the soil in your Peach border requires the addition of lime.

Apple Leaves: *W. L.* The leaves are attacked by the Apple leaf-spot (Sphæropsis Malorum). Clear away all the dead leaves during the winter. Spray the trees with the Bordeaux mixture next spring when the leaves are unfolding.

Black Alicante Vine Dying: *C. S., Wrotham.* Eel-worm is present at the root. This is a very difficult pest to eradicate, and insecticides are of little avail. Your best plan is to burn the plants, and remove the soil in which they have been grown, either sterilising it by baking, or burying it in some out-of-the-way part of the garden (see also p. 30).

Book: *J. S. R.H.S. Code of Rules for Judging.* This work may be obtained from our publishing department, price 1s. 6d., post free.

"**Cinnamon Vine**": *W. J. M.* We do not recognise the plant from the description you enclose, but if you will send a spray we will endeavour to assist you.

Coleus thyrsoideus: *E. S.* This winter-flowering greenhouse plant does not require a stove temperature. It is a very quick-growing subject, and there is no need to start propagation until May, when cuttings may be rooted readily in a warm propagating case. The cuttings should be inserted singly in thumb pots, and, when rooted, they should be potted in 4-inch pots. When established, the plants should be grown in an ordinary greenhouse, and kept shaded during the hottest part of the day, as the leaves are liable to become scorched, especially if they are syringed when exposed to the sun when the ventilators are open, a common mistake in the cultivation of plants. When syringing during the afternoon, the house should be closed. This Coleus is a fast, gross-growing plant, and should have plenty of root room; if large specimens are required, 8-inch pots should be employed. Small plants intended for house or table decoration should be rooted later in the season, say, June or July; in fact, shoots in bud may be rooted in small 60-size pots with success. When well established and with plenty of roots, the plant requires liberal feeding, liquid manure or soot water being suitable. At no time should the night temperature in which the plant is grown exceed 50°. During winter few plants remain in flower for such a long period.

Cucumbers Unhealthy: *W. H., Earlswood.* There is no disease present. The dressing applied has probably been too strong, as the root development is poor, and accounts for the flagging. Water the plants with a solution of nitrate of soda.

Fern: *W. G.* The Ferns are attacked by a subterranean mealy bug (Ripersia terrestris). Growing plants which are infested by this pest should be removed from the pots, and the roots and soil sprayed with carbon-bisulphide, with the use of a glass spraying apparatus. The pots should be scalded, but the first scalding will not destroy all the eggs; therefore, repeat the process. The plants should be shaded from the sun for a week after the treatment.

Flowers for Market: *A. H. P.* Either variety of Stock you mention should prove remunerative, provided it is well-grown and sent to the market in good condition. The Gypsophila elegans may well follow the Ten-week Stocks, but we question if this would pay you. We should be inclined to try the pink variety (G. elegans rosea). On the open border, seeds of either of the annual Gypsophilas may be sown in the autumn or in the spring from the second week in February onwards. You should ventilate the cool house freely whenever the weather permits.

Grapes: *Y. Z.* The brown rust on your Grapes is due to scalding, caused by insufficient ventilation. Open the ventilators sufficiently early in the morning to allow the fruit and leaves to become dry before the sun becomes powerful.

Internode: *Lancastrian.* The space or portion of stem between two nodes. The node is known in gardens as a joint, being that part of the stem from which the leaves develop.

MELON AND CUCUMBER LEAVES: *C. C.* The plants are attacked by a form of spot disease. All diseased leaves should be burnt as soon as the disease is detected, and if the attack is very severe the plants should be burnt The Bordeaux Mixture has not been found of much use against this disease; if applied at an early stage it might do some good. A mixture of carbolic acid and water in saucers placed in the houses has been stated to check the spread of the disease.

MELONS DYING: *W. G.* Eelworm is present in the roots. See reply to *C. S., Wrotham,* on page 39.

NAMES OF PLANTS: *H. F. Z.* 1, Amelanchier canadensis; 2, Spiræa discolor (syn. S. ariæfolia); 3, Cassinia fulvida (syn. Diplopappus chrysophyllus); 4, Teucrium fruticans; 5, Veronica Traversii; 6, Cryptomeria japonica; 7, Spiræa Menziesii; 8, Leycesteria formosa; 9, Deutzia crenata; on the former occasion your numbers must have been confused.—*Journeyman.* 1, Bocconia cordata; 2, Chelidonium majus; 3, Davidia involucrata; 4, Veronica salicifolia; 5, Prunus cerasifera atropurpurea; 6, Cupressus pisifera squarrosa; 7, C. macrocarpa; 8, insufficient for purposes of identification.—*J. Brown.* 1, Periploca græca; 2, Robinia hispida var. inermis; 3, Cistus monspeliensis.—*H. V.* 1, Sedum reflexum; 2, Antennaria dioica; 3, Geum coccineum fl. pl.; 4, Calycanthus floridus; 5, Rhus cotinus; 6, Codonopsis ovata; 7, Lycium Grevilleanum; 8, Ribes alpina var. aurea; 9, Mentha sp.; 10, Linaria repens; 11, Lonicera japonica aureo-reticulata.—*J. B.* 1, The Conifer is Cupressus Lawsoniana. We cannot undertake to name florists' var. of Fuchsias and Pelargoniums.—*A. W. H.* 1, Vitis Thunbergii; 2, Santolina chamæcyparissus (Lavender Cotton); 3, Iris Monspur; 4, Vitis sp., cannot name without fruit or information of origin, &c.; 5, Jasminum humile; 6, Eryngium Oliverianum; 7, Philadelphus Lemoinei erectus; 8, Syringa japonica.—*R. W. V.* Common Hornbeam, Carpinus betulus.—*N. L.* Spartium junceum.—*E. F.* 1, Hordeum maritimum; 2, Nephrodium Felix-mas; 3, Aspidium angulare var.—*F. E. G.* 1, Scolopendrium vulgare var. crispum; 2, Aspidium angulare var. proliferum; 3, the sporelings are probably the Royal Fern, Osmunda regalis. *G. W. R.* 1, Cotyledon sp.: send when in flower; 2, Senecio (Kleinia) articulatus; 3, Stapelia variegata; 4, Dendrobium undulatum; 5 and 7, in the absence of flowers both appear to be the variegated form of Glyceria aquatica; 6, Crassula lycopodioides.—*G. S.* We cannot identify such an incomplete specimen.—*J. W.* We do not recognise the variety of Carnation. Send to some grower who makes a speciality of these flowers.—*Orch.* 1, Oncidium candidum; 2, O. pulvinatum; 3, Cochlioda vulcanica; 4, Aërides quinquevulnera.—*H. G., Bray.* 1, Begonia foliosa; 2, Pilea muscosa; 3, Pellionia Daveauana; 4, Festuca ovina glauca.—*J. W., Liverpool.* Cypripedium bellatulum.—*S. M.* It is quite impossible to reply in the next issue unless the specimens are received early in the week. Rules for correspondents are found under the Editorial notices. Next time send more material and pack the flowers better. In the circumstances, we have done our best, and believe the names given to be correct. 1, Fisher Holmes; 2, Mrs. John Laing; 3, Souvenir de Catherine Guillot; 4, see No. 6; 5, apparently Maman Cochet; 6, Dupuy Jamain; 7, probably General Jacqueminot.

PAINT-DESTROYING FUNGUS: *W. J. M.* The fungus to which you allude is Phoma pigmentivora. By the addition of carbolic acid (2 per cent.) to paint, the spores are prevented from germinating, and the work of painting the house is not rendered useless by the pest.

PEAR LEAVES AND FRUIT ATTACKED: *A. R. A.* The Pear leaves and fruit are attacked by the Pear-leaf blister mite. The best thing to be done now is to pick off as many of the diseased fruit and leaves as possible and burn them. In the winter spray the trees before the buds open with caustic-soda solution, and later, in spring, with paraffin emulsion.

PEAS UNHEALTHY: *Eddiford, Bath,* and *Peas, Lancashire.* There is no disease present: the failure is due to excess of moisture following a dry period.

PINKS UNHEALTHY: *W. L.* There is no disease present in the plants you send: the failure is due to some wrong cultural treatment.

RASPBERRY CANES UNHEALTHY: *A. B., Bedford.* There is no disease present. The unfavourable condition of the plants is due to the drought of the spring.

ROSE SHOOTS: *H. B.* Your soil being so shallow, and resting upon clay, is doubtless exhausted after having been planted with Roses for 30 years continuously. A liberal quantity of the poor subsoil should be removed, and replaced with some of the top layer of soil from the adjoining field. It will be better to allow the turf to rot first, and employ some of the soil for dressing the border in the meantime. Incorporate a quantity of rich farmyard manure and crushed bones with the lower portion of the border when turning over the soil next autumn. It will not be necessary to cart away more than the worst of the subsoil, if you improve the other in the manner we have indicated. The whole border should be well dug to a depth of at least 2 feet. Guard against the presence of wire-worm in the old turf; if the latter is clear of this pest, you could scarcely do better than use it freely.

ROSE STOCKS. *Miss M. G.* We fear you will find the Rosa Polyantha too rampant a grower for culture in pots. It is not used for this purpose by experienced growers. Seedling or rooted Briar Stocks would be more suitable, and these can be obtained from any large Rose grower, either in small pots or suitable for potting up, according to the season. Any of the Rose nurserymen who advertise in these pages would supply the stocks, or you may root your own. Full instructions will appear in our cultural notes in due course.

SCOTS PINES: *Pinus Sylvestris.* From your description, we suspect that the "Pine-shoot tortrix moth" (Retinia buoliana) is causing the trouble. These moths are frequently seen during the present month. The female lays her eggs between the terminal buds of the Pine trees. The caterpillars hatch late in the summer, and gnaw the buds so as to cause a flow of turpentine, which gives them a slight protective coating, and here they hibernate. In the following spring, when the trees begin their growth, the grubs attack the nearest shoot. The caterpillars are at first dark brown in colour, and later become paler in colour, and on ceasing to feed they change to chrysalids, and are to be seen during June on the young shoots: about four weeks later the moths appear. Unfortunately, it seems that there is no cure beyond removing the affected growths.

SEEDLING CAMELLIAS: *A. F. G.* In the warmer parts of the country Camellia bushes frequently bear fruits which resemble small rosy-cheeked Apples. A fair proportion of these fruits contain fertile seeds, which germinate freely. The seedling plants usually bear single or semi-double flowers; if double flowers are required, it is necessary to graft them.

SEED POTATOS FAILING: *Weekly Reader.* The tubers are badly diseased with "winter rot."

STRAWBERRIES: *Cheloodgate.* A leading Covent Garden salesman informs us that the first forced Strawberries to reach the market came from Kent, and the earliest out-door fruits were grown in the Southampton (Hampshire) district. Your other question does not admit of a conclusive reply.

TENNIS COURT: *S. H.* A double tennis court for three or four players should be 78 feet long and 36 feet wide; for the single game the court should be 78 feet long and 27 feet wide. In addition, you should allow from 15 to 20 feet at each end for the convenience of the players. The court should, whenever possible, run from north to south. You will find diagrams of this and other games in the *Calendar of Garden Operations,* obtainable from our publishing department.

THE TREATMENT OF CUCUMBER PLANTS FOR SEEDLING PURPOSES: *H. S.* When the plants have extended up three-parts the height of the trellis pinch out the points of the individual plants in order to promote strong lateral growths, which should be trained to the trellis. Remove all flowers (male and female) from the first lateral growths; the object being to secure an equal distribution of strong, well-developed female flowers over the individual plants for fertilising about mid-day when the pollen is dry. This is done by removing the petals from a male (small) flower and then inserting the stamen well into the fully-expanded female flower and letting it remain therein. When the fruits begin to develop "club" ends, select five or six of the most promising fruits, distributed equally over the individual plants, removing all others, as well as the blossoms, so as to concentrate the full strength of the plants into the development of large fruits. Any fruit that does not develop a club shape should be removed at once. The above treatment is recommended on the assumption that the plants are grown specially for seeding purposes. But should you only want to grow seed sufficient for raising your own stock of plants all you need do is to fertilise the flowers on one or more plants in the manner indicated. As the seeding fruits become fairly developed suspend them in a horizontal position from the trellis with bands of raffia in order to relieve the plants of their weight. All lateral growths should be kept well thinned out and shortened. When the fruits become yellow they may be cut and allowed to perfect the ripening process of the seed in the pulp, that is, if a light crop of saleable fruit is desired after the seeding fruit is cut and the plants are still healthy and vigorous. The plants must be kept well supplied with water at the roots and a moist atmosphere should be maintained during the whole period of growth.

TOMATOS: *J. E. G. F.* The Tomatos are affected with the sleepy disease (Fusarium lycopersici). Water the plants with a solution of sulphate of potash. Dress the land with lime before another crop is planted.

TURNIPS DISEASED: *F. P. L.* The Turnips are affected with the club-root disease (Plasmodiophora brassicæ), which attacks all sorts of Brassicas, and many other species of cruciferous plants as Radishes, Wallflowers, Shepherd's Purse and Charlock. The disease arises from spores present in the soil. Plants are most susceptible to the disease during the first three weeks after germination, and it is therefore essential to form the seed-bed in soil that is free from contagion. After an attack of club-root, quicklime has been found to be a good preventive against further outbreaks. Thirty-five bushels of lime per acre will arrest the disease, and in America it has been found that Cabbages may be grown successfully at intervals upon the same soil if an application of 75 bushels of lime per acre is made every year. When planting out from the seed-bed, reject all plants whose roots are not in a natural condition, burning the rejected ones. Before planting the Turnips into their permanent positions, it is a good practice to dip the roots of the plants in a puddle of thick mud, soot, and a little sulphur.

VEGETABLES FOR EXHIBITION PURPOSES: *Anxious.* The value of each of the vegetables you name for exhibition purposes are, according to the *Code of Rules for Judging* issued by the Royal Horticultural Society, as follow: Potatos, 8 points; Peas, 8 points; Cauliflowers, 8 points; Broad Beans, 6 points; Scarlet Runners, 8 points; Vegetable Marrows, 6 points; Cabbages, 6 points; Carrots, 6 points; Turnips, 6 points; Globe Beets, 6 points; Onions, 8 points; and Tomatos, 8 points. Exhibitors usually select from the kinds in season those which are capable of winning the maximum number of points.

Communications Received.—T. B. G.—T. J. Cooper—G. G.—I. B. B.—A. H.—W. P. K.—W. P., Twickenham—W. W., Nantwich—E. W., Kingswood—J. N. R.—S. K.—F. W. J., Renfrewshire—J. W. P. M.—A. E. P. G., India—H. H.—W. E.—J. W. H.—E. H., Australia—H. & Son—E. A. B.—F. W. C.—A. P. R.—C. R.—E. H. W.—W. A. M.—J. B.—A. P.—F. B.—E. J. Q.—J. W. B.—W. K.—F. S.—C. T. D.—A. R. H.—H. N. K.—A. B., Java—T. J. C.—R. J.—W. W.—S. A.—W. A. B.—Anxious—Teacher—T. S.—T. P. A.—Journeyman—E. C.—P. G. M. Bros.—W. R. H.—T. P.—G. T. B.—G. N. S.—W. S. K.—F. E. H.—Disease, Hendon—W. E., Llanishen—Dr. K.—H. B.—T. H.—J. L. S. (Japan)—H. S. (New Zealand)—K. W.—L. T.—Ex Y.—R. T. L.—J. S.

THE
Gardeners' Chronicle

No. 1,335.—SATURDAY, July 27, 1912.

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ROSE SHOWS.

NOW that the summer Rose shows are practically over it may be a convenient time to consider how far they fulfil the object of their existence, and what improvement may be possible in respect to their nature and management.

It may fairly be claimed that the chief object of a show is to display the Roses to the public in as perfect a condition as the flowers can be staged. The competition for, and the awarding of, prizes is only a means for attaining the end already mentioned, and ought not to be considered as anything more than a valuable method of encouraging each exhibitor to display his flowers to the best advantage. Competition is, therefore, merely a means to an end, and not an end in itself. Of the 6,000 members of the National Rose Society it was recently computed that the total number of exhibitors was fewer than 200, and in most of the local societies the proportion of exhibitors to members is but little higher. The other members are, perhaps, not less interested in the flowers, but what they subscribe for is not the right to exhibit, but to support the show and to enable them to see and criticise the flowers when staged.

That competition among the exhibitors is a most efficient means for attaining the end in view few will deny. The public have long ago discovered it; not only do they give their money for this purpose, but it is common to find the most beautiful and elaborate exhibits bearing the legend "not for competition" entirely neglected by visitors in favour of far less pretentious, and sometimes less beautiful, competitive exhibits. In these classes it is possible that the visitors may, in some cases, find a pleasure in criticising the decisions of the judges; in others they may find a satisfactory sense of the soundness of their own judgment, when they feel able to appreciate the stand marked with the red strip appropriate to the first prize; whilst others, again, may have come with an honest desire of informing themselves as to what really are the best Roses, and it is in the first-prize stands they will naturally seek for this information.

Various, no doubt, are the interests of visitors at the Rose shows, but one and all desire to see the Roses at their best, and it ought to be our ideal of a Rose show to satisfy this legitimate desire. Do we really approach this ideal? I fear it must be confessed that in many cases the question cannot be answered in the affirmative.

The normal course of a Rose show, whether in London or in the provinces, is very much after the same pattern. Early in the morning the exhibitors assemble, most of them having necessarily cut their flowers the day before. If the atmosphere of the exhibition hall or tent is hot the flowers that are obviously full blown are replaced from the spares, but any that have a chance of standing will be left tied till the last moment. The exhibition will be cleared for judging at about 10.30 or 11 o'clock and the task of judging will usually occupy about an hour. If the exhibition flowers will stand for this hour of criticism, that is all that is required of them. Later, when the prizes have been awarded, the flowers may "fly" or fade as they please, the exhibitor being indifferent.

Towards 12 o'clock, when judging is finished, the exhibition will generally be thrown open to the public. In the country a few enthusiasts will come at that hour, and in London a somewhat larger body will survey the show in tolerable peace and contentment. Not so the bulk of the visitors. They will not be there for three hours or more, but from 3 to 5 o'clock the tents will usually be full of visitors. In a normal year the 12 o'clock enthusiasts will probably have little to complain of; the Roses, for the most part, will still be holding well, but in many cases they will be rapidly getting worse. It often happens that by the time the greater part of the public arrive the medal blooms have greatly deteriorated, as many of them did this year at Regent's Park, and then only a vivid imagination can depict them in the state of growth that looked so well at judging time.

The drooping and faded condition of the flowers when so many of the visitors inspect the shows in the late afternoon is alike to be admitted and deplored. In the case of the thinner blooms, which must be shown young if they are to stand even till the judging is completed, the opening of the flowers accompanied by the loss of form and apparent reversion to the pristine condition of the single Rose has become a common matter of remark, and is much to be regretted, leading, as it often does, to the visitors forming a totally wrong idea of what the flowers ought to be when seen at their best. Is there no remedy? I do not despair of one. I believe that difficult as the task may be it might certainly be overcome if exhibitors would determine that better things should be achieved.

I often think I should like to see a class or classes judged at a late hour—shall we say, 4 o'clock in the afternoon?—the exhibitors not being allowed to alter their exhibits after the tents are cleared in the morning. There would, no doubt, be some difficulty about such a class, and it could only be used as an experimental matter, just as one has seen classes for table decorations adjudged by ballot of the visitors attending the show. It would not be practicable to postpone the general awards in this way, because such a course would neither be convenient to the officials nor satisfactory to the visitors who like to notice who have had the prizes awarded to them.

The best chance of improvement seems to be with the exhibitors themselves. If they could be induced to study their flowers in the afternoon, and, feeling a dislike to show flowers which are certain to fade before the day is past, would look some hours ahead when selecting their flowers for staging, a great step would be gained. Something in this direction might also be done by the judges; in fact, their co-operation is essential. If they were willing always to prefer small, well-shaped and fresh flowers to coarse, loose blooms and those just on the point of expanding, exhibitors would soon appreciate the value of young flowers, and follow the lead thus given. At present, unfortunately, too great a value is set by many judges on mere size. Blooms on the point of expanding are necessarily larger than those which are young and fresh, but it is legitimate to hope for an improvement of taste in this respect.

Again something might be done by the officials and those responsible for the arrangements at the show, if they would take timely means to keep the tent or building in which the exhibition is held at a reasonable temperature. The best course in the case of a tent is to take the matter in hand early in the morning before the atmosphere gets hot, and loop the sides up to a greater or less extent nearly to the level of the staging. By this means the wind and sun do not obtain direct access to the flowers, and yet the tent is kept fairly cool. What usually happens is that the tent is left tightly closed till its occupants can bear it no longer, and then portions of the sides are ruthlessly torn down and the flowers exposed to the elements; wind and sun then complete the discomfiture of the unfortunate Roses placed near the opened sides, and the tent, having got thoroughly hot, does not cool again.

While the evil is obvious to everyone, we must look for its correction in no heroic measure, but in the combined efforts of exhibitors, judges, and officials, together with a general improvement in taste, all being directed to one end, namely, the preservation of the flowers in first-class condition down to the close of the show. If this conclusion is correct another will follow, and that is that improvement must only be looked for gradually. Yet, when we consider how much has been done of recent years in improved methods of staging and arrangement, and how much more graceful and pleasing many of the decorative exhibits now appear than the crowded bunches of a few years ago, when the beauty of the individual flowers was lost in a mere mass of colour, we have, I think, some ground for hope that the reforms we look for will not be long delayed. *White Rose.*

THE FLORA OF KWANGTUNG AND HONGKONG.*

This book is a valuable supplement to the somewhat copious recent literature on Chinese botany, inasmuch as it is of a descriptive character. Since the publication of Bentham's *Flora Hongkongensis* in 1861, no work has appeared on the general flora of any part of China that could be used in the identification of the plants. The plan of the book assumes some previous knowledge of the subject. It is essentially a supplement to Bentham's *Flora*, but covering a much wider area. Hongkong itself is only about one-fifth the size of the Isle of Wight, while the province of Kwangtung is nearly as large as Great Britain. Apart from the new territory, comprising about 300 square miles of the mainland north of Kowloon, besides a number of islands, the province of Kwangtung has only been partially botanised along the main river-courses and over a few outlying mountain peaks. The principal fact established by this partial exploration of the mainland is the existence of plants previously only known from Hongkong, and of others which are common to Central and Western China. Some of the gazetteers describe Hongkong as barren and desolate, and it has that appearance, from some aspects, at least; but it is probable that it formerly had a much richer vegetation. The great variety of many of the species still existing points to such a conclusion. Messrs. Dunn and Tutcher have not summarised their work in relation to the additions; but Bentham gives some interesting statistics, and institutes floral comparisons with other areas, as known fifty years ago. We have roughly tabulated the new flora, including a few introduced plants, and we are thus able to indicate with some approach to accuracy the numerical composition of the vegetation as to families (Orders), genera, and species, and in relation to Bentham's figures. The totals are:—

	Families.	Genera.	Species.
Bentham	125	550	1003
Dunn & Tutcher	136	737	1518

A rigid comparison and the elimination of a few colonised plants would not materially affect deductions from a phytogeographical standpoint. Numerically the flora is very rich, considering the small area, comprising representatives of more than three-fourths of the families of vascular plants—flowering plants, Ferns, and their allies, usually recognised in the flora of the world. Of course these figures give no idea of the vegetation, for, as already mentioned, many of the species are very rare, and of some only solitary individuals have been observed. As a specimen of the constitution of the remnants of primeval forest on low ground in Hongkong, we extract the following paragraph from Dunn and Tutcher's "Introduction": "On an acre were found 31 trees of Aporosa leptostachya; the same number of Poupartia Fordii; 10 Antidesma Bunius; 8 Nephelium Longana; 4 Eugenia Milletiana; 3 Garcinia multiflora; 2 each of Bischofia javanica, Cinnamomum Burmannii and Ardisia quinquegona, and single trees of Litsea Sebifera, Helicia erratica, and Ficus chlorocarpa. The ground in such woods is covered with Scitamineae, Liliaceæ, Piperaceæ, and various Grasses and Ferns, while huge Lianes climb over the trees and hang in weird festoons into the semi-darkness of the underwood. These Lianes comprise various species of Derris and Dalbergia, besides numerous species of Apocynaceæ and Asclepiadeae. On the higher ground the woods are formed of Oak, Holly, Pine, Symplocos, Cordia, Ficus, and various Araliaceæ, Hamamelidaceæ, and Lauraceæ."

Pinus Massoniana (syn. Pinus sinensis) is by far the commonest tree in the islands, both wild and planted. Further interesting particulars of the composition of the vegetation by Mr. Tutcher, who has resided in the island for upwards of twenty years will be found in the *Journal* of the Linnean Society, vol. xxxvii., 1904. At that date about 100 species were regarded as peculiar to the island, though some of these may yet be discovered on the mainland. Bentham enumerates 159 species not then (1861) known to occur outside of the island. The descriptive part of Dunn and Tutcher's volume is limited to keys to the families, genera and species; but with the full descriptions of Bentham's *Flora* as a foundation, there should be little difficulty in identifying the additions. *W. Botting Hemsley.*

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* *Flora of Kwangtung and Hongkong*, by S. T. Dunn and W. J. Tutcher. Kew *Bulletin*, additional Series X, pp. 370. Price 4s. 6d. 1912.

ROSE BENNETT'S SEEDLING.

The value of this beautiful, old-fashioned Rose is well shown in fig. 30, which illustrates a splendid example covering the front of Mr. Edward Mawley's residence. The well-known secretary of the National Rose Society was good enough to give us a few particulars of this charming example, which he found on the house on entering into occupation nearly 30 years ago. During this long period Mr. Mawley says he has never known the plant to fail to produce an abundant display of its very fragrant, white flowers. Although it is classed as a summer-flowering Rose, this variety has a very long flowering season. Bennett's Seedling belongs to the Ayrshire class, and was raised by the grower whose name it bears in 1840; it is also known as "Thoresbyana." Its hardy constitution, vigorous habit, and free-flowering nature makes this variety a valuable subject for use in many different ways besides that shown, such as covering arches, pergolas, as a weeping standard, or for making a hedge. The plant has also the good quality of being almost evergreen. There is a danger that with the raising of so many Wichuraiana hybrids—beautiful as so many of them are—these charming old-fashioned Roses may suffer neglect. The raiser of Bennett's Seedling will be well known to rosarians as having given us such lovely Roses as Her Majesty, Cleopatra, and Viscountess Folkestone.

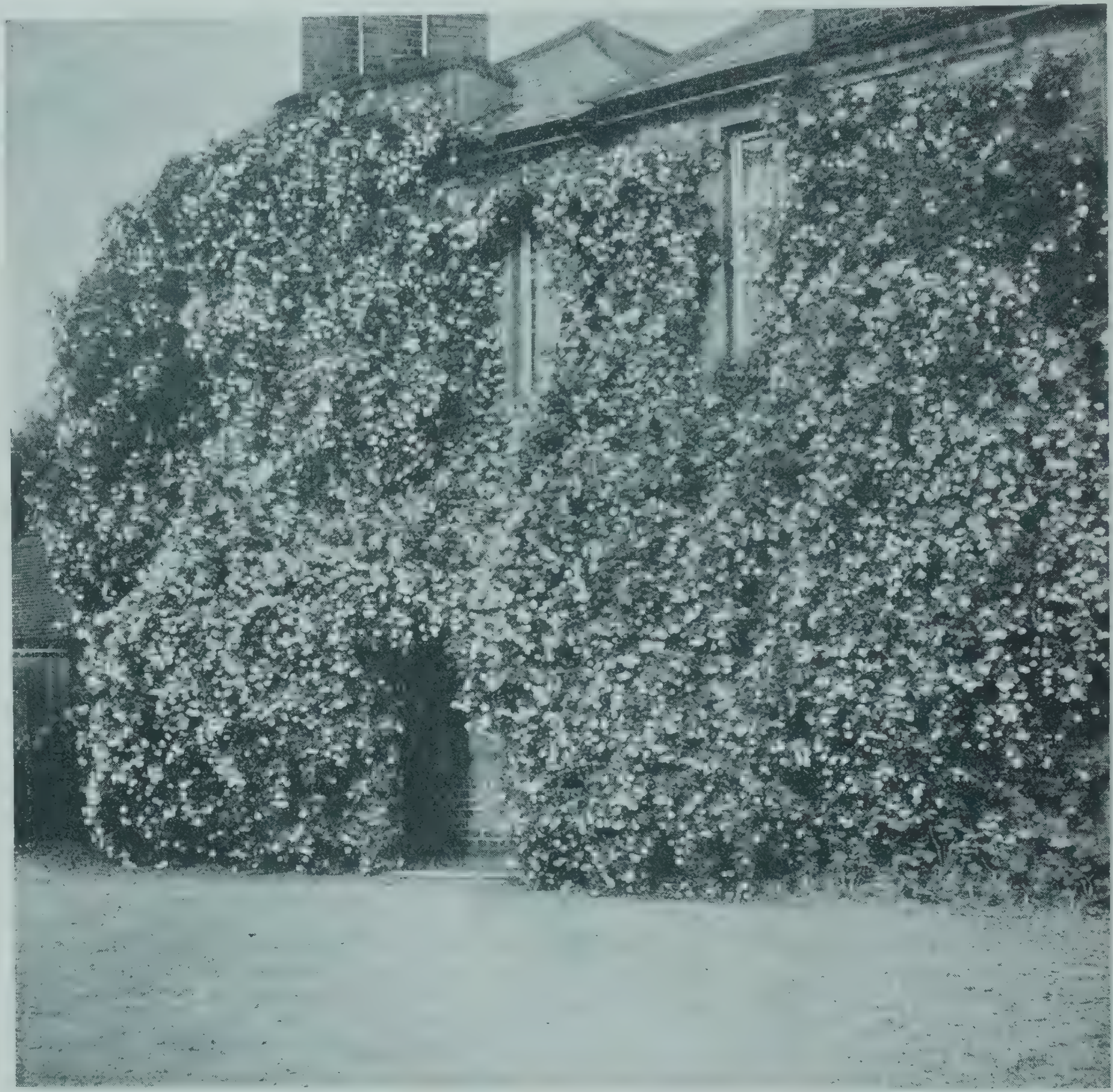

Fig. 30.—Rose Bennett's Seedling at Rosebank, Berkhamsted, the residence of Mr. Edward Mawley, V.M.H.

A Nurseryman's Success.—On the occasion of the recent Tunbridge Wells cricket week, the local tradesmen's association offered prizes for the best window display. The premier prize, a silver cup, was won by Mr. J. Charlton, florist, who arranged his window as an old English garden.

NOTICES OF BOOKS.

The Flora of Bristol.*

British botanists and others interested in the rich flora of the Bristol district will not be disappointed in the handsome volume which Mr. J. W. White has recently issued to the public.

Its superficies may be computed, roughly, at 720 square miles, an area about equal to that of an average-sized English county. . . About one-third of this area lies in the Watsonian rice country of West Gloucester; the remainder in that of North Somerset.

This beautiful and closely-printed work of 00 pages, with map and three plates, is very uch more than a second edition of the author's odest *Flora of the Bristol Coalfield*, which as published by the Bristol Naturalists' Society 1886. The book before us is a completely new e, and for the extent and thoroughness of its ntents it compares favourably with the very st of the county or other local Floras. It is eap at 12s. 6d., or 10s. to subscribers, and t the subscription list of some 128 names hardly does credit to British botanists, even if it does to residents in the Bristol district. There is a sad falling off in the number of subscribers when compared with such a work as Mr. Bagnall's *Flora of Warwickshire* published nearly a generation ago.

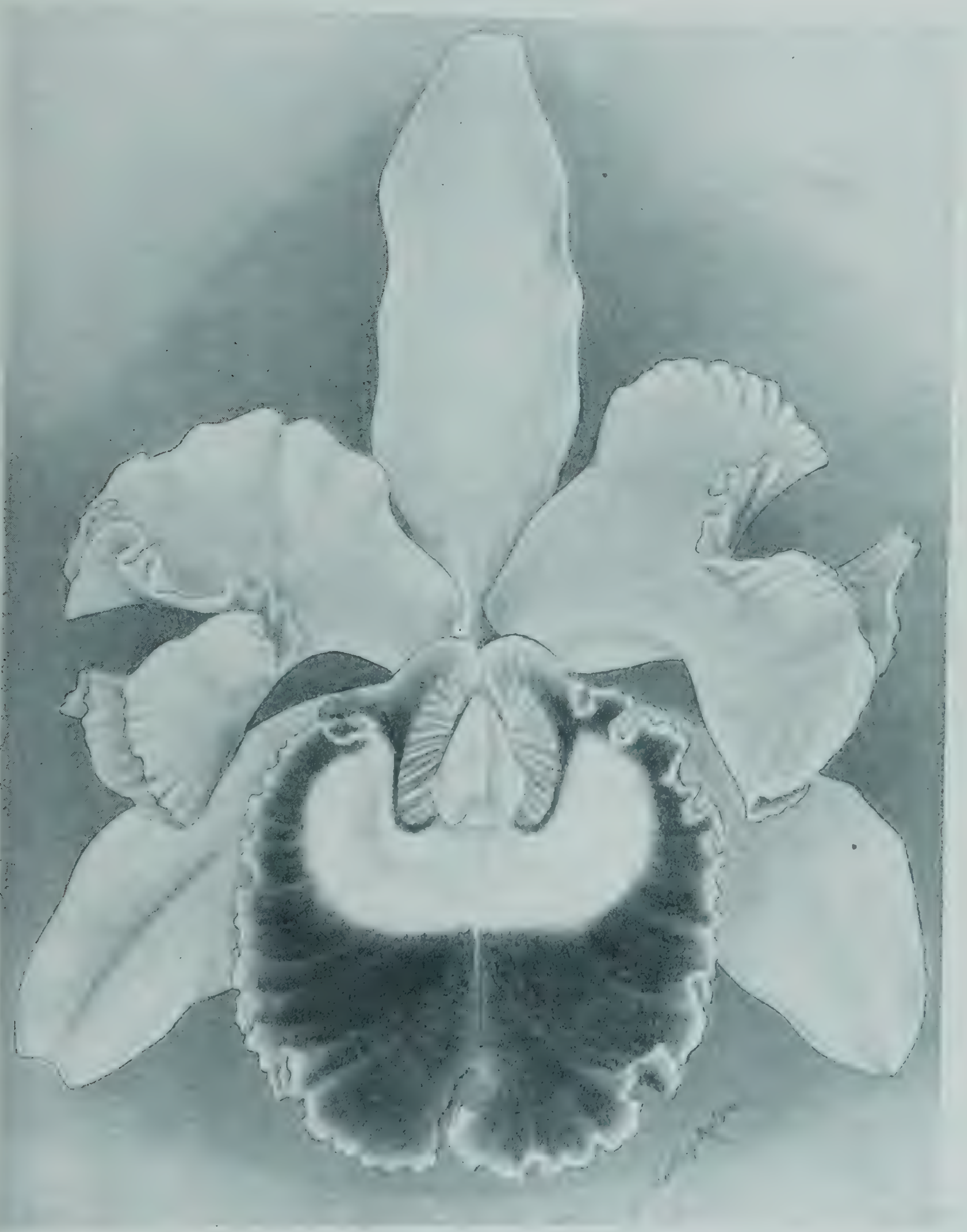

Fig. 31.—Cattleya Artemis (C. iris × C. gaskelliana.)

Nor is this book a mere catalogue of the flowering plants and Ferns, with lists of localities for the less common or more interesting species. That type of local flora has well-nigh gone: the student of to-day requires something more—he wants notes upon the ecological features of a district, upon plant associations and their relation to the climate, geology, the physical features, and kindred matters.

In addition to some interesting notes of this character in the body of the book, and to detailed descriptions of some of the rarer and more obscure forms found within the chosen area, the Introduction, divided into 14 sections, gives a valuable account of the topography of the district, geology, elevation and surface, coast, woodland, common lands, bog and peat, river drainage, climate, &c. Not the least interesting of these sections is that on the "Origin of the Flora and its Modern Modifications," in which Mr. White gives evidence of his extensive knowledge of the European flora, gained by numerous visits to the Continent. The distribution of the more noteworthy species, according to geological formations, is also well done.

The 60 pages devoted to the history of Bristol botany is not only interesting reading, but a valuable contribution to botanical biography. The concise biographies start with Turner, Lyte, and Gerard, and finish with the names of R. P. Murray and four local botanists.

The late Prof. Babington is described as "the greatest systematic botanist of his generation, and it is feared the last systematist to occupy so high a position in university education." The author, who is special lecturer on systematic botany in the University of Bristol, goes on to say that "in planning a course of botany, a mean must be sought between the older methods, which gave too small an insight into the principles of plant life and the problems of living matter, and that newer nature study which, seeing little save through a microscope, has no breadth of view."

The work is particularly free from typographical errors, and the type is good and clear. *H. S. Thompson.*

PLANT NOTE.

SOLANUM WENDLANDII.

Solanum Wendlandii, a native of Costa Rica, is one of the most attractive of all greenhouse climbers, producing large, bold trusses of lilac-blue flowers. It requires a moderately warm temperature and a humid atmosphere during its season of active growth; but after the flowering stage it should have a period of rest. The most successful method of propagation is from the dormant eyes of the previous year's growth. Cuttings with two or three buds root readily in sandy soil if inserted during early spring and grown in a warm, moist house. Growth is very rapid, and the shoots being of a spiny, tenacious character, become entangled if neglected. The plants may be potted on as required in a mixture of loam, leaf-mould, sand, and a little artificial manure, and grown in a temperature of about 60°. The flowering season is from July onwards. After the growth is well ripened, the plant may be dried off gradually, and allowed to rest during the winter in a cool, dry house. Before being started into growth again, the side shoots should be cut back to one or two buds. The plant is a gross feeder when in full growth. Red spider is a very troublesome pest, and must be kept in check by the frequent use of the syringe. Attractive specimens may be obtained in pots by cutting the plants back to one or two "eyes." The shoots, if allowed to grow unchecked, will produce large terminal trusses of bloom the same summer; they have a tendency to grow to a great length; but they bend readily and may be made to form circular loops or knots. The plant is figured in the *Botanical Magazine*, tab. 6914, from specimens sent to the Royal Garden, Kew, in 1882, by Dr. Wendland, Director of the Royal Gardens at Herrenhausen, Hanover. *R. O. Williams.*

CATTLEYA ARTEMIS.

A First-class Certificate was awarded this fine hybrid (see fig. 31) when shown by Lieut.-Col. Sir Geo. L. Holford, K.C.V.O. (gr. Mr. H. G. Alexander), at the Holland House exhibition. The use of C. Iris (C. bicolor × C. Dowiana aurea) has imparted a fine substance to the flower, the segments being well displayed. The sepals and petals are pearly-pink, with a slight rose veining. The broad labellum is ruby-crimson, with a distinct yellow disc on white ground.

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* "*The Flora of Bristol*," being an account of all the owering plants, Ferns, and their allies that have been found the district of the Bristol coalfields, by James Walter hite, Bristol and London, 1912; 12s. 6d. net.

REPORT ON THE CONDITION OF THE OUT-DOOR FRUIT CROPS.

[FROM OUR OWN CORRESPONDENTS.]

THE WORDS "AVERAGE," "OVER," OR "UNDER," AS THE CASE MAY BE, INDICATE THE AMOUNT OF THE CROP; AND "GOOD," "VERY GOOD," OR "BAD," DENOTE THE QUALITY.

FULLER COMMENTS WILL BE GIVEN IN THE FOLLOWING NUMBERS. SEE ALSO LEADING ARTICLE ON PAGE 72.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
SCOTLAND										
0, Scotland, N.										
CAITHNESS	Average; good	Average; good	......	Average	......	......	Over; good	Average; good	......	W. F. Mackenzie, The Gardens, Thurso Castle, Thurso.
ELGIN	Under; good	Average; good	Under; good	Average	Under	Under	Average; good	Average; good	......	Wm. Ogg, The Gardens, Duffus House, Elgin.
	Under; good	Average; good	Under; good	Average; good	Under; good	Average; good	Average; good	Under; good	......	John Macpherson, Mayne Gardens, Elgin.
ORKNEYS	Average	Average	......	Average; good	Under; very good	......	Over; good	Average; good	......	William Liddell, The Gardens, Balfour Castle.
ROSS-SHIRE	Under; good	Under; bad	Over; very good	Under; good	......	......	Average; very good	Average; very good	......	William L. Minty, The Gardens, Ardross Castle, Alness.
SUTHERLAND-SHIRE	Under	Under	Average	Average	... ..	......	Average	Under	Average	D. Melville, Dunrobin Castle Gardens, Sutherland.
	Under	Under	Under	Average	......	......	Average; very good	Average	......	John McIvor, The Gardens, Skibo Castle, Dornoch.
1. Scotland, E.										
ABERDEENSHIRE	Under; bad	Under; bad	Average; good	Average; good	......	......	Average; good	Average; good	......	James Grant, Rothienorman Gardens.
	Under	Under	Under; bad	Under	......	......	Average; good	Average; good	.. ...	Simon Campbell, Fyvie Castle Gardens.
	Under	Average	Average	Under	......	......	Under	Average	......	Wm. Henderson, The Gardens, Meldrum House.
	Average; good	Average; good	Over; good	Over; very good	Average; good	......	Average; good	Average; good	......	John McKinnon, The Gardens, Haddo House.
BANFFSHIRE	Under	Under	Average	Average; good	......	......	Average; good	Average; good	......	George Edwards, Ballindalloch Castle Gardens.
	Under; good	Average	Under; good	Under	Over; good	Under	Average	Under	......	Chas. Webster, Gordon Castle, Fochabers.
	Under	Average	Over	Average	Over	Over	Average	Under	......	Alex. Morton, The Gardens, Cullen House, Cullen.
BERWICKSHIRE	Under; good	Over; good	Average; good	Average; good	......	Over; very good	Average; good	Average; good	......	Peter Smith, Duns Castle Gardens, Duns.
	Under	Under	Average	Average; very good	......	......	Average	Under; bad	......	Robert Stuart, Thirlestane Castle Gardens, Lauder.
	Average; good	Average; very good	Under; good	Under; good	Under; good	Under; bad	Average; very good	Average; good	......	Thomas Nelson, Milne Graden Gardens, Coldstream.
	Under; good	Average; very good	Under	Under; bad	... ..	Over; good	Under	Under	......	R. Henderson, Ayton Castle Gardens.
CLACKMANNAN-SHIRE	Under	Average	Average	Average	Under	Under	Average; good	Under	... ..	Alexander Kirk, Alloa.
	Under; bad	Under	Under	Average	......	......	Over; good	Average; good	......	James Small, The Gardens, Norwood, Alloa.
HADDINGTON-SHIRE (EAST LOTHIAN.)	Average; good	Average; good	Under; good	Average	Under; good	Over; very good	Average; good	Under; bad	......	R. P. Brotherston, Tyninghame Gardens, Prestonkirk.
FIFESHIRE	Average	Under	Under	Average	......	Average	Over	Under	......	Chas. Simpson, Wemyss Castle Gardens, East Wemyss.
	Average; good	Average; good	Under; good	Average; good	Average	Over; very good	Over; very good	Under; good	......	D. McLean, Raith Gardens, Kirkcaldy.
	Average	Over	Under	Average	......	Under	Over	Under	......	William Henderson, Balbirnie Gardens, Markinch.
FORFARSHIRE	Average	Under	Under	Average	......	......	Average	Under	......	William Alison, Seaview Gardens, Monifieth.
	Under	Average	Average	Over; very good	......	Under	Over; very good	Under	......	Robert Bell, The Gardens, Kinnaird Castle.
KINCARDINESHIRE	Under	Average	Average	Average; good	Under	......	Average; good	Under	......	John M. Brown, The Gardens, Blackhall Castle, Banchory.
	Under	Over	Average	Average	......	......	Average	Average	......	William Knight, The Gardens, Fasque, Laurencekirk.
	Under	Average	Under	Average	......	......	Average	Under	......	John Scott, Banchory Lodge, Banchory.
KINROSS-SHIRE	Average	Under	Average	Under	......	......	Average	Under	......	R. Fraser, Kinross House Gardens, Kinross.
MIDLOTHIAN	Average; very good	Over; good	Average; very good	Over; very good	......	Average; very good	Average; good	Under; bad	......	Benjamin Ness, The Gardens, Oxenfoord Castle, Dalkeith.
	Under	Under	Average	Average	......	Average	Over	Under; bad	......	D. Kidd, The Gardens, Carberry Tower, Musselburgh.
	Average	Average	Average	Average	......	Under	Average	Under	.. ...	Wm. G. Pirie, Dalhousie Castle Gardens, Bonnyrigg.
	Under; good	Average; good	Under; bad	Average; good	Under; bad	Average; good	Average; good	Under; bad	Under	James Whytock, Dalkeith Gardens, Dalkeith.
PEEBLESSHIRE	Average	Average	Average	Under	.. ...	......	Average	Under; bad	......	Wm. McDonald, Cardrona, Innerleithen.
	Under; good	Average; good	Over; very good	Average; good	......	......	Average: good	Under; bad	......	George Haig, Garvald Gardens, Dolphinton.
PERTHSHIRE	Under; bad	Under; bad	Over; very good	Over; very good	......	Average; good	Over; very good	Under; good	......	Thomas Lunt, Keir Gardens, Dunblane.
	Average	Average	Under	Over; good	......	......	Average; good	Average	......	John Robb, Milnab Terrace, Crieff.
	Under	Average	Average	Under	......	......	Average	Under	......	Andrew McAudie, Ruthven House, Meigle.
6, Scotland, W.										
ARGYLLSHIRE	Under; bad	Average	Average; good	Average; good	Under	Under	Average; good	Over; very good	Under	D. S. Melville, Poltalloch Gardens, Lochgilphead.
	Under	Under	Average	Under	......	......	Average	Average	Average	Henry Scott, Torloisk, Aros, Isle of Mull.
AYRSHIRE	Average	Average	Over; good	Average	......	......	Average; good	Under; bad	......	William Priest, Eglinton Gardens, Kilwinning.
	Average; good	Average; good	Over; good	Over; very good	Average; very good	Under; good	Over; very good	Under; good	Under	D. Buchanan, Bargany Gardens, Dailly.
	Average; good	Average; very good	Average; good	Average; good	......	......	Over; very good	Average; good	......	John McInnes, Kirkmichael, Maybole.
BUTESHIRE	Average	Average	Under	Under; bad	......	......	Over	Under; very bad	......	M. Heron, Mount Stuart Gardens, Rothesay.
DUMBARTON-SHIRE	Under	Under	Under	Average	......	......	Over; very good	Over; good	......	D. Stewart, The Gardens, Knockderry Castle, Cove.
DUMFRIESSHIRE	Under; good	------	Under	Under	......	Under	Over; good	Average; good	......	John Urquhart, Hoddom Castle Gardens, Ecclefechan.
	Under	Under	Average	Average	......	......	Average	Under	......	James McDonald, Dryfeholm, Lockerbie.
KIRKCUDBRIGHT-SHIRE	Over; good	Average; very good	Average; good	Over; good	......	......	Over; very good	Under; good	......	James Deuchars, The Gardens, Kenmure Castle, N

CONDITION OF THE FRUIT CROPS—*(continued)*.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
6. Scotland, W.										
LANARKSHIRE	Average; good	Average	Over	Average	Under	......	Over	Under	Average	James Culton, Dildawn Gardens, Castle Douglas.
	Under	Under; bad	Under	Average	......	-	Average	Under	......	John Shiells, Carstairs Gardens, Carstairs Junction.
STIRLINGSHIRE ...	Under; good	Average; good	Over; very good	Average; good	Average; good	Average; good	Over; good	Under; bad	......	John Middleton, Callender House Gardens, Falkirk.
WIGTOWNSHIRE ...	Under; good	Over; very good	Over; very good	Average; good	......	-- ---	Over; very good	Average; good	......	John Bryden, Dunragit Gardens, Dunragit.
ENGLAND:										
2. England, N.E.										
DURHAM	Under; good	Over; good	Over; good	Over; good	......	......	Over; good	Over; very good	Under; good	John Smith, The Shire Hall.
NORTHUMBERLAND	Average; good	Under; good	Under; good	Average; very good	-- ---	......	Over; very good	Under; good	......	J. S. Chisholm, Morpeth.
	Average; good	Under; good	Under; good	Average; very good	......	......	Over; very good	Under; good	......	D. A. G., Armstrong College, Newcastle-upon-Tyne.
YORKSHIRE............	Under	Average; good	Under	Average	Average; good	Average	Average; very good	Under; bad	Average	W. Jackson, Dalton Hall Gardens, Beverley.
	Average	Average	Under	Average	......	......	Over	Average; bad	......	A. S. Galt, "Rutherglen," Lidgett Park Road, Roundhay, Leeds.
	Under; good	Over; very good	Average; good	Average; good	......	Average; good	Over; very good	Average; good	Under	Jas. E. Hathaway, Baldersby Park Gardens, Thirsk.
	Under; good	Over; good	Under; good	Under; bad	Average; good	Average; good	Over; very good	Over; very good	Average	F. Jordan, Warter Priory Gardens, York.
	Under; good	Over; good	Under; good	Average; good	Average; good	Average; good	Average	Under; bad	......	Alfred Gaut, The University, Leeds.
	Under	Over	Average; good	Average	Average	Average	Over; good	Under; bad	Average	A. E. Sutton, Castle Howard Gardens, Welburn.
	Under; good	Over; good	Under	Average; bad	......	Under; good	Over; very good	Under; bad	......	J. G. Wilson, Chevet Park Gardens, Wakefield.
	Under	Average	Under	Under (Morellos average)	......	......	Over	Under; bad	......	Frank Redington, Bramley, Leeds.
3. England, E.										
CAMBRIDGESHIRE	Under; good	Average; good	Under; good	Average; good	Over; very good	Under; good	Average; good	Under; good	Average; good	R. Alderman, Babraham Gardens, Cambridge.
	Under; good	Over; very good	Under; bad	Average; good	.. ...	.. ...	Average; good	Under; good	......	Thomas Spooner, Meldreth Court Gardens, Royston.
	Average	Under	Under	......	......	......	Average	Average; good	Average; good	Stephen Castle, Walpole St. Andrews, Wisbech.
	Over; very good	Average; good	Under; good	Under; good	Under; very good	Average; good	Average; good	Under; good	......	Arthur Pewell, The Palace Gardens, Ely.
ESSEX......................	Average; good	Over; good	Under; good	Under; good	Under; good	Under; good	Over; good	Over; good	Over	Arthur Bullock, Copped Hall Gardens, Epping.
	Under; good	Over; very good	Under; good	Over; very good	Under; good	Under; good	Over; very good	Under; good	Over; very good	C. Wakely, County Gardens, Chelmsford.
	Average; good	Over; good	Under; good	Average; good	Average; good	Under; good	Average; very good	Under; bad	Average	H. Lister, Easton Lodge, Dunmow.
	Under; good	Under; good	Under	......	......	......	Average	Under; bad	... ..	H. W. Ward, Lime House, Rayleigh.
	Under; bad	Average; good	Average; good	Under; very good	Average; good	Under; good	Over; very good	Average; good	Over; good	John Arthurton, Debden Hall Gardens, Saffron Walden
	Under; bad	Over; very good	Under; good	Average; good	Average; good	Under; bad	Over; very good	Under; good	Over; very good	W. Johnson, Stansted Hall Gardens, Stansted.
LINCOLNSHIRE......	Under	Average	Under	Average	Average	Under	Average	Under	......	H. Vinden, Harlaxton Manor Gardens, Grantham.
	Average; good	Over; very good	Average	Average	Average; good	Under; bad	Over; good	Average	Average	Fredk. Barton, Hainton Hall Gardens, Lincoln.
	Under	Average; good	Under	Average	Under	Average	Under	Under	Average	H. Louth, Boothby Hall Gardens, Grantham.
NORFOLK................	Average; good	Average; good	Average	Average	Average	Under	Average; good	Under	Under	J. Wynn, Sedgeford Hall Gardens, near King's Lynn.
	Average; good	Over; good	Under; good	Average; bad	Average; good	Under; bad	Average; good	Under; good	Average; good	H. Goude, Myosotis, East Dereham.
	Under	Average	Under	Over	Under	Under	Average	Under	Average	J. W. Bradbrook, The Gardens, Ketteringham Park, Wymondham.
	Under; good	Over; good	Under; good	Average	Average	Under	Over; good	Under	Average (Walnuts under; Filberts over)	William Orr, Stow Hall Gardens, Downham Market.
	Over; good	Over; very good	Average	Over; good	Average; good	Average	Average	Average; good	Over	Wm. Allan, Gunton Park Gardens, Norwich.
	Under	Average	Under	Average	Average	Under	Average	Under	......	W. Shingler, Melton Constable Gardens, Norfolk.
	Under	Over	Under	Over; very good	......	......	Over	Average	Under	G. D. Davison, Westwick Gardens, Norwich.
	Average; good	Over; very good	Under; good	Under; very good	Over; good	Under; good	Average; good	Under; bad	Over; very good	Lewis Smith, Shotesham Park Gardens, Norwich.
SUFFOLK................	Average; good	Over; good	Average; good	Over; very good	Average; good	Average; good	Over; very good	Under; good	Over; good	Thos. Simpson, Henham Gardens, Wangford.
	Average	Average; good	Under	Average; good	Average; good	Average	Average	Average	Average; good	Alfred Andrews, High House Gardens, Campsea Ashe, Wickham Market.
	Average; good	Over; very good	Under	Over; good	......	......	Over; very good	Under; good	......	E. G. Creek, East Suffolk County Education Office, Ipswich.
	Under; bad	Over; good	Under	Average; good	Under	Under	Over; good	Under; bad	Average	W. Messenger, Woolverstone Gardens, Ipswich.
	Under; very good	Over; good	Over; good	Average; good	Under; bad	Under; good	Average; good	Under; very good	......	Herbert Coster, Ickworth Park Gardens, Bury St. Edmunds.
	Under; good	Over; very good	Over; good	Average; good	Under; good	Under; good	Over; very good	Under; good	Average; good	B. Goodacre, The Gardens, Moulton Paddocks, Newmarket.
	Under; good	Over; very good	Under; good	Under; good	Average; good	Average; good	Over; very good	Under; good	Average; good	James Hilson, Flixton Hall Gardens, Bungay.
	Average; good	Average; good	Average	Under	Average	Under	Under	Under; bad	Over; very good	R. Evans, Gt. Barton, Bury St. Edmunds.
	Under	Average; good	Under; bad	Over; very good	Over; good	Average	Average; good	Under; good	Over	A. K. Turner, Orwell Park Gardens, Ipswich.
	Under; good	Over; good	Under	Over; good	......	Under	Average; good	Under; good	Over	C. Taylor, Shrubland Park Gardens, Coddenham, Ipswich.
	Under	Over; very good	Under; bad	Average; very good	Average	......	Average; very good	Average	Over	James A. Best, Easton Park Gardens, Wickham Market.
4. Midland Counties.										
BEDFORDSHIRE.....	Under; very good	Over; good	Under; good	Over; good	----	......	Average; good	Under good	Over; very good	W. H. Neild, Woburn Experimental Fruit Farm, Ridgmont.
	Average; good	Over	Under; good	—	Under	Under	Over; very good	Under	......	F. J. Foster, Cranfield Court Gardens, Woburn Sands.

CONDITION OF THE FRUIT CROPS—*(continued)*.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
4, Midland Counties. BEDFORDSHIRE (continued)	Under	Average; good	Under	Average; good	Under	Under	Average; good	Average; good	......	C. J. Ellett, Chicksands Priory Gardens, Shefford.
	Under	Under	Under	Average	Under	Under	Over; very good	Average	Average	H. W. Nutt, Ampthill Road, Flitwick.
	Under; good	Average; good	Average; good	Average	Average	Under	Average; good	Under; good	Average	George Mackinlay, The Gardens, Wrest Park, Ampthill.
	Under	Average; good	Under	Average	Average	Under	Over; good	Under	Average; good	Wm. F. Palmer, Froxfield Gardens, Woburn.
	Under	Over	Under	Average	Average	Average	Under (Raspberries over)	Average	Average	Laxton Bros., Nurserymen, Bedford.
BUCKINGHAMSHIRE	Under; good	Average; good	Under; bad	Average; good	Under; good	Under; bad	Over; very good	Under; good	Over; good	James Wood, Hedsor Park Gardens, Bourne End.
	Under	Over	Under	Under	Under	Under	Average; good	Under	Average	Philip Mann, Education Sub Office, Aylesbury.
	Under; good	Average; good	Under; good	Under; bad	......	Under; bad	Average; good	Under; bad	Average; good	James MacGregor, Mentmore Gardens, Leighton Buzzard.
	Under; good	Under; bad	Under; good	Under; bad	Under; bad	Under; bad	Average; good	Under; good	Average; good	W. Hedley Warren, Aston Clinton Gardens, Tring.
	Under; good	Over; good	Under	Under	Average	Under	Average	Under; good	Over	Chas. Page, Dropmore Gardens, Maidenhead.
	Under; very bad	Average; good	Under; good	Average; very good	Under	Under	Average; very good	Under; bad	Over; very good	G. Barton, Butler's Court Gardens, Beaconsfield.
CHESHIRE...............	Average	Over	Under	Under	......	......	Over	Under	......	Peter Wilkinson, The Gardens, Walton Lea, near Warrington.
	Average	Over	Average	Over	......	......	Over; good	Under; bad	Over	W. E. Wright, Alderley Park Gardens, Chelford.
	Under; good	Over; very good	Average; very good	Average	Under; bad	Average; good	Average; good	Under; good	Average; good	Alfred N. Jones, Marbury Gardens, Northwich.
DERBYSHIRE..........	Under; good	Over; good	Under; good	Average	......	......	Over; very good	Under; good	......	Bailey Wadds, 181, Uttoxeter New Road, Derby.
	Over	Over	Over; good	Average; good	......	Average	Over; very good	Under; bad	......	John Maxfield, Darley Abbey Gardens, Derby.
	Under	Under	Under	Under	......	......	Under; good	Under; bad	......	F. Jennings, Chatsworth, Chesterfield.
	Average; good	Over; good	Average; good	Over; very good	......	Under; bad	Over; good	Under	......	J. Tully, Osmaston Manor Gardens, Derby.
	Over; good	Over; very good	Over; very good	Average; good	Average; good	Under	Over; very good	Average; good	Under; good	Frederick G. Hall, The Gardens, Cressbrook Hall, near Buxton.
HERTFORDSHIRE..	Under	Over; good	Under	Average	Under; bad	Under	Over; good	Under	Over; good	Thomas Nutting, Childwickbury, St. Albans.
	Under; good	Average; very good	Average; good	......	......	......	Average; very good	......	Over; very good	Thos. Rivers & Son, Sawbridgeworth.
	Average; good	Over; very good	Average	Over; good	Average; good	......	Average; good	Under; good	Average	H. Prime, Hatfield House Gardens, Hatfield.
	Average; good	Over; very good	Average	Average	Under	Average; good	Average	Under; bad	Over	George Kelf, Danesbury Gardens, Welwyn.
	Average; very good	Over; good	Under; good	Average; good	Under	Under; bad	Average; good	Average	Average; good	Edwin Beckett, Aldenham House Gardens, Elstree.
	Over; good	Over; good	Average	Average: good	Under; good	Average	Over; very good	Under; bad	Average	J. G. Walker, Oak Hill Park Gardens, East Barnet.
	Average; good	Over; good	Under; good	Under; good	Under; good	Under	Over; very good	Under; good	Under; good	E. F. Hazelton, North Mymms Gardens, Hatfield.
	Under; good	Average	Under	Over; good	Under	Under	Over; very good	Under; bad	Over; very good	C. E. Martin, The Hoo Gardens, Welwyn.
LEICESTERSHIRE..	Under; bad	Under; good	Under; good	Average; good	Average; very good	Under; bad	Over (Currants under)	Average; bad	......	Daniel Roberts, Prestwold Gardens, Loughborough.
	Under; very good	Over; very good	Average; very good	Over; very good	Average; good	Average; good	Over; good	Under; good	Over	W. H. Divers, Belvoir Castle Gardens, Grantham.
	Under; good	Over; good	Under; good	Average	Average; good	Under; good	Over; good	Average; good	Average; good	F. Ibbotson, Rolleston Hall Gardens, Leicester.
	Average; good	Average; good	Under; good	Average; good	Under	Under	Over; very good	Under; bad	Average; good	F. Lazenby, "Overdale," Aylestone, Leicester.
	Under; good	Over; good	Under	Under	Average	Under	Average; very good	Average; good	Average; good	A. E. T. Rogers, Middlemeade Gardens, Leicester.
NORTHAMPTONSHIRE	Under; good	Average; good	Under; good	Average; good	Average; good	Average; good	Under; goo	Under; bad	Average	Robt. Johnston, Wakefield Lodge Gardens, Stony Stratford
	Average	Average	Under	Average	Under	Under	Over; very good	Over; very good	Average	Thos. Masters, Estate Office, Shuckburgh, Daventry.
NOTTINGHAMSHIRE	Average; very good	Over; very good	Under; bad	Average; good	Under	Under	Over; very good	Average; good	......	James B. Allan, Osberton Gardens, Worksop.
	Under	Average	Under	......	Average	Under	Average; good	Under; bad	Over; good	J. R. Pearson & Sons, Lowdham.
	Average	Average	Average	Average	......	......	Average	Average	......	A. W. Culloch, Newstead Abbey Gardens, Nottingham.
	Average; good	Over; good	Under; bad	Under; bad	......	Average; good	Average; good	Under; bad	Under	James Gibson, Welbeck Gardens, Worksop.
OXFORDSHIRE......	Under	Average; good	Under; good	Over; good	Under	......	Over; good	Average; very good	Over; good	John A. Hall, Shiplake Court Gardens, Henley-on-Thames.
	Under	Average; good	Average; good	Average	.. ...	Under	Over	Average; good	Under	A. J. Long, Wyfold Court Gardens, Reading.
	Average; very good	Under; good	Under; good	Average; good	Average; good	Average; good	Average; very good	Under; bad	Under; bad	F. W. Pearce, Eynsham Hall Gardens, Witney.
	Under; good	Over; good	Under; good	Average; good	Over; very good	Average; good	Average: good	Under; good	......	A. W. Perry, Middleton Park Gardens, Bicester.
	Under; good	Under; good	Under; good	Over; good	Average; good	Under; good	Average; good	Under; good	Average; good	C. E. Munday, Nuneham Park Gardens, Oxford.
	Under; very good	Over; good	Under; very good	Under; bad	Average; good	Under	Average; very good	Average; good	Over; good	T. W. Whiting, The Gardens, Shotover Park, Wheatley.
SHROPSHIRE..........	Under; good	Over; good	Under; good	Average; good	Average; good	Under; good	Average; very good	Under; very good	Over; very good	Alex. Haggart, Moor Park, Ludlow.
	Under	Over	Average	Under	------	------	Over	Under	Average	G. Roberts, Stanway Lodge, Rushbury, Church Stretton.
	Under; good	Over; very good	Under; good	Average; good	Average; good	Under; good	Over; good	Over; bad	Over; very good	J. Taylor, The Gardens, Hardwicke Grange, near Shrewsbury.
	Under; good	Over; good	Under; very good	Under	......	Under; very good	Average; bad	Under; bad	Over	G. T. Malthouse, Harper-Adams Agricultural College, Newport.
	Under	Average; good	Under	Average; good	Average	Under	Average	Average; good	Average; good	S. Taylor, The Quinta Gardens, Weston Rhyn, Oswestry.
STAFFORDSHIRE....	Under	Under	Average	Average; good	Under; bad	Under; bad	Average; good	Under	Average; good	George Risebrow, Hatton Grange Gardens, Shifnal.
	Under	Under	Under	Average; good	Under	Under	Average	Average; good	Average; good	Edwin Gilman, Ingestre Gardens, Stafford.
	Average	Average	Under	Average	Under	Under	Average	Under	......	A. Cheney, Shenstone Court Gardens, Lichfield.
	Average; good	Average; good	Under; good	Average; good	......	Under; bad	Over; very good	Under; good	Average; good	T. Bannerman, Blithfield Gardens, Rugeley.
	Average; good	Over; good	Under; good	Average; good	-- ---	......	Average; very good	Under; good	Average	H. Collier, Rolleston Hall Gardens, Burton-on-Trent.
	Average	Average; good	Average; good	Under; bad	Under; bad	Under	Average	Under; bad	Over; good	W. Halliday, Patshull Gardens Wolverhampton.

CONDITION OF THE FRUIT CROPS—*(continued)*.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
4. Midland Counties.										
WARWICKSHIRE....	Under; bad	Under; bad	Under; good	Average; good	Under; bad	Under; bad	Average; very good	Average; bad	Average; good	Chas. Harding, Ragley Hall Gardens, Alcester.
	Under; good	Average; good	Under; very good	Average; good	Under; good	Under; good	Over; very good	Under; bad	Average; good	H. Dunkin, Mount Pleasant Gardens, Warwick.
	Under; good	Average; good	Under; good	Average; good	Average; good	Under; good	Average; good	Under; good	......	Jno. Masterson, Weston House Gardens, Shipston-on-Stour.
	Average; good	Over; very good	Under; bad	Average; good	Average; good	Under; good	Over; very good	Under; good	Average; good	H. F. Smale, The Gardens, Warwick Castle.
5. Southern Counties.										
BERKSHIRE............	Under	Over; very good	Under	Average; good	Over; very good	......	Over; very good	Average	......	F. Capp, The Gardens, Charters, Ascot.
	Under; good	Over; very good	Under; good	Average; good	Over; very good	Average; good	Over; very good	Average; very good	Average; good	A. MacKellar, Royal Gardens, Windsor.
	Under	Average	Average	Average	Average	Average	Average	Under	Under	J. Howard, Benham Park Gardens, Newbury.
	Average	Average	Under	Under	... ..	......	Average	Under	Over	F. Freed, East Hendred Gardens, Steventon.
	Under; good	Average; good	Under; good	Under	Under; good	Under	Average; very good	Under; good	Average; good	A. B. Wadds, Englefield Gardens, Reading.
DORSETSHIRE........	Average	Average	Average	Average	Under	Under	Over	Under	Over	T. Turton, Castle Gardens, Sherborne.
	Average; very good	Average; very good	Average; good	Over; very good	Under; good	Under; good	Over; good	Under; good	Average	Thos. Denny, Down House Gardens, Blandford.
	Under; good	Average; good	Average; good	Under; bad	Under; good	Under; fair	Over; very good	Average; very good	......	J. Jaques, Bryanston Gardens, Blandford.
	Under; very good	Under; very good	Average; good	Under	......	Good	Average; very good	Under	Under	H. Kempshall, Abbotsbury Castle Gardens.
	Average; good	Average; good	Under	Average	......	Average; good	Average	Under; good	Average	A. Shakelton, Forde Abbey Gardens, Chard.
	Under; good	Average; good	Over; very good	Over; very good	Average; good	......	Over; good	Average; good	......	F. Olver, Minterne, Cerne Abbas.
	Under; good	Average; good	Over; good	Average; good	Under; good	......	Over; very good	Under; good	Over	E. C. Parslow, County Offices, Dorchester.
HAMPSHIRE...........	Average; good	Average; good	Average; good	Average; good	......	Under	Average; good	Under; bad	Average (Filberts over; Walnuts under)	H. G. Nichols, Strathfieldsaye Gardens, Mortimer R.S.O.
	Under; good	Over; good	Over; good	Average. good	Average; good	Under; bad	Over; good	Under; bad	Over; good	R. Learmonth, Sherfield Manor, Basingstoke.
	Average: good	Over; very good	Average; good	Average; good	Over; very good	Under; good	Over; very good	Average good	......	A. Legge, Dogmersfield Park Gardens, Winchfield.
	Under; good	Over; very good	Average; good	Average; good	Under; bad	Under; bad	Average; very good	Average; good	Over; good	Henry Martin, Bartley Lodge Gardens, Cadnam, Southampton.
	Under; good	Over; very good	Over; very good	Over; very good	Under; good	......	Average; good	Under; good	Over; good	A. W. Blake, The Castle Gardens, Highclere, near Newbury.
	Under; good	Average; good	Average; good	......	......	......	Average; good	Under; bad	Average	H. C. Dredge, The Gardens, Chilworth Manor, Romsey.
	Average: good	Average; good	Average; good	Over; good	Average; very good	Under; good	Average; very good	Average. good	Over	Henry Tullett, Ashe Park Gardens, Overton.
	Average. good	Average; good	Over; good	Over; good	Average; good	......	Over; very good	Under; good	Over	E. Molyneux, Swanmore Park, Bishop's Waltham.
KENT.......................	Average	Average	Under	Average	Average	......	Over	Under	Average	George Woodward, Barham Court Estate Gardens, Maidstone.
	Under; good	Over; good	Under	Over	......	......	Over; good	Under; bad	Over	Geo. Bunyard, Royal Nurseries, Maidstone.
	Average: good	Over; good	Under	Average; good	Under; good	......	Average; good	Under; bad	Average	William Lewis, East Sutton Park, Maidstone.
	Average. good	Over; good	Under	Over; good	Average; good	......	Over; good	Under; bad	Over; good	Geo. Fennell, Bowden, Tonbridge.
	Under	Average	Under	Average	......	......	Average	Under	Over; good	Geo. Lockyer, Mereworth Gardens, Maidstone.
	Average; good	Average; good	Average; good	Over; very good	Over; very good	Under	Over; very good	Over; very good	......	John Thomas Shann, The Gardens, Bettshanger Park, Eastry, Dover.
	Average	Average	Under	......	......	......	Over; good	Under; good	......	Charles E. Shea, The Elms, Foots Cray.
	Average; good	Over; very good	Average; bad	Average; good	Under	Under; bad	Over; very good	Under; bad	Over; very good	W. E. Humphreys, Blendon Hall Gardens, Bexley.
	Average	Over	Average	Over	Average	Average	Over	Under	Over	H. Cannell and Sons, Eynsford.
	Average; good	Over; good	Average; good	Over; very good	Average; good	Under	Over; very good	Under; good	Over; good	J. G. Weston, Eastwell Park Gardens, Ashford.
MIDDLESEX...........	Average	Over; good	Average	Average; good	Over; good	Under	Average; good	Average	Average	H. Markham, Wrotham Park Gardens, Barnet.
	Over; good	Under; good	Under	Average; good	Under	......	Average	Average	......	W. Poupart, Marsh Farm, Twickenham.
	Over; good	Under; good	Under; good	Over; very good	Under; good	Under; good	Under; good	Under; good	Average; good	John Weathers, Talbot Road, Isleworth.
	Average	Average; good	Under	......	Under	......	Average	Under; bad	Average	James Hawkes, Osterley Park Gardens, Isleworth.
	Average	Under	Under	Average	Under; bad	......	Under	Under; bad	.. ...	W. Bates, Cross Deep Gardens, Twickenham.
SURREY..................	Average; good	Over; very good	Under; bad	Under	Under; bad	Under	Over; good	Average; bad	Average	S. T. Wright, R.H.S. Gardens, Wisley, Ripley.
	Under	Under	Under	Average	Under	Under	Average	Under	Over	Geo. Kent, The Gardens, Norbury Park, Dorking.
	Under; bad	Average; good	Average; good	......	......	.. ...	Over; very good	Under; good	Average; good	Geo. Halsey, Riddings Court Gardens, Caterham Valley.
	Under	Average	Average	Under	Average	Under	Average; good	Under	Average; over	W. H. Honess, Hopedene Gardens, Holmbury St. Mary, Dorking.
	Average, good	Under	Under	Average; good	Under	.. ...	Average; good	Average	Average; good	James Watt, The Gardens, Mynthurst, Reigate.
	Average	Under	Under; very bad	Under	Under; bad	Under; bad	Average	Under	Average	James Lock, Oatlands Lodge Gardens, Weybridge.
	Average; very good	Under; very good	Under; bad	Under; good	Under; good	......	Over; very good	Average; bad	......	Thos. Smith, Coombe Court Gardens, Kingston Hill.
SUSSEX....................	Under; good	Average; very good	Under; good	Average; very good	Under; good	Under; bad	Over; very good	Under; very good	Over; good	Thos. Tyson, Wykehurst Park Gardens, Haywards Heath.
	Under; good	Over; very good	Under; good	Over; very good	Under; bad	......	Over; very good	Under; good	Over; very good	J. Muddell, Sedgwick Park Gardens, Horsham.
	Average	Average; good	Average	Under; bad	Average	Under; bad	Over; good	Under; bad	Average; good	A. Wilson, The Gardens, Eridge Castle, Tunbridge Wells.
	Under	Over; good	Under; good	Over; good	Under; good	......	Over; good	Under; good	Over; good	William E. Bear, Hailsham.
	Under; bad	Over; good	Average; good	Average; good	Average; good	Under; good	Over; good	Under; bad	......	W. H. Smith, West Dean Park Gardens, Chichester.
	Average; good	Average; very good	Under; good	Under; good	Average; good	... ..	Average; good	Under; very good	Average; good	W. A. Cook, The Gardens, Leonardslee, Horsham.
	Average; very good	Over; very good	Average; very good	Over; very good	Average; good	......	Over; very good	Under; good	Over; good	W. J. Langridge, Ote Hall Gardens, Burgess Hill.

CONDITION OF THE FRUIT CROPS—*(continued)*.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
5. Southern Counties. SUSSEX (continued)...	Under	Over	Under	......	......	......	Average	Average	Average	W. Goaring, Agricultural and Horticultural College, Uckfield.
WILTSHIRE............	Under; good	Under; good	Average; good	Average; good	Under	......	Average; good	Under	......	George Brown, Bowood Gardens, Calne.
	Under; good	Average; good	Average; good	Average; very good	Average; good	Under; good	Over; good	Average; good	Over; good	Thomas Challis, The Gardens, Wilton House, near Salisbury.
	Under	Over; very good	Under	Average	......	Under	Average	Under	Over	A. J. Morris, Compton Bassett Gardens, Calne.
	Average; good	Over; good	Under; good	......	Under	Under	Average	Under	Average	Thomas Sharp, Westbury.
	Under; bad	Over; good	Average; good	Average; very good	Under; good	......	Over; good	Under; bad	Average; good	Henry Gandy, Longleat Gardens, Warminster.
7. England, N.W. CUMBERLAND	Under; good	Over; very good	Over; good	Under; good	......	......	Over; very good	Under; good	......	W. B. Little, 40, Petteril Street, Carlisle.
LANCASHIRE..........	Average; very good	Over; very good	Under; good	Under; bad	Under	Under	Over; very good	Under; good	......	R. F. Howarth, County Offices, Preston.
WESTMORELAND...	Under; good	Average; good	Over; good	Average; good	......	......	Over; good	Under; bad	......	W. A. Miller, Underley Hall Gardens, Kirkby Lonsdale.
	Under; bad	Average; good	Average; good	Under; good	......	Under; bad	Average; good	Average; good	......	F. Clarke, Lowther Castle Gardens, Penrith.
	Under	Average	Over	Average	......	Under	Average	Under	Average	J. Moorhouse, Dalton Hall Gardens, Burton.
	Average	Average	Average	......	......	......	Over	Average	... ..	Walter Caton, The Lodge, Helme Lodge, Kendal.
8. England, S.W. CORNWALL............	Under	Average; good	Under	Under	Under	... ..	Over; very good	Under; bad	......	W. Andrews, Tregothnan Gardens, Truro.
	Average; good	Average	Under	Under	Average; good	......	Average; good	Average; very good	......	Geo. H. Maddern, Trewidden Gardens, Buryas Bridge.
DEVONSHIRE..........	Under; good	Over; very good	Average; bad	Over; very good	Average; good	......	Over; very good	Average; bad	Over; very good	E. E. Bristow, Castle Hill Gardens, South Molton.
	Under	Over; very good	Under	Under	Under	... ..	Over	Average	......	Geo. Baker, Membland, Newton Ferrers, near Plymouth.
	Average	Average	Average; good	Under	Average	Average	Over; good	Under	Average	James Mayne, Bicton Gardens, Budleigh Salterton.
GLOUCESTERSHIRE	Average	Average	Average	Average	Under	Under	Over; very good	Under	Average	William Keen, The Gardens, Bowden Hall, near Gloucester.
	Under	Over; good	Average	Average	Under	Under	Average; good	Under; good	Average	John Banting, Tortworth Gardens, Falfield.
	Under	Average; good	Over; good	Average	Under	Under	Average; good	Under	Average	William Nash, Badminton Gardens, Gloucester.
	Under	Over	Under	Under	Under	Under	Average	Under	Average	Wm. J. Jefferies, Cirencester.
	Average; good	Over; very good	Under; good	Average; good	Under; good	Average; good	Over; very good	Under; bad	Over; very good	G. H. Hollingworth, County Education Office, Gloucester.
	Average; good	Over; very good	Average good	Over; very good	Average; very good	Under	Over; very good	Average; good	Over	F. C. Walton, Stanley Park Gardens, Stroud.
	Under	Over; very good	Over; very good	Average	Average; good	Under; bad	Average	Under; bad	Average	Arthur Chapman, Westonbirt Gardens, Tetbury.
	Average	Over; good	Average	Average	Under	Under	Over; good	Average; bad	Over	H. Berry, Higham Court Gardens, Gloucester.
HEREFORDSHIRE.	Under; good	Under; very good	Over; good	Average; good	......	Under; very good	Over; good	Under; very good	Average; good	A. Buckingham, Stanage Park Gardens, Brampton Brian.
	Under	Over; good	Under	Under; bad	......	......	Over; good	Under	Over	Thomas Spencer, Goodrich Court Gardens, Ross.
	Under; good	Over; very good	Average; good	Average; good	Under; good	Under	Average; good	Under; bad	Average; good	George Mullins, Eastnor Castle Gardens, Ledbury.
	Average; good	Over; good	Average; good	Under; good	Under; good	Average; good	Over; good	Average; good	Average	Thos. Coomber, The Hendre Gardens, Monmouth.
MONMOUTHSHIRE..	Under; bad	Average; very good	Under; very good	Under; good	Under; good	Under; good	Average; very good	Average; very good	Average; very good	W. J. Grant, Director of Agricultural Education, County Council Offices, Newport.
SOMERSETSHIRE....	Under; very good	Under; good	Under; good	Average; good	Under; very good	Under; very good	Average; good	Average; good	Average; good	George Shawley, Halswell Park Gardens, Bridgwater.
	Average	Under	Under	Average	Under	Under	Average	Average	......	J. T. Rushton, The Gardens, Barons Down, Dulverton.
	Average; good	Over; very good	Average; good	Under	Under	Over; good	Average; good	Under; bad	Over	F. J. Little, Knowle Gardens, Dunster.
	Over; good	Average; good	Under; good	......	Over; very good	Average; good	Average; good	Under; good	......	John Ettle, Stanley Grove, Weston-super-Mare.
	Over	Over	Under	Under	Average	Under	Under	Under	......	Samuel Kidley, North Greendenham, Wellington, Somerset.
	Average; good	Over; good	Average; good	Under; bad	Average; good	Under	Over; very good	Average bad	Over; very good	E. A. Hussey, Leigh House Gardens, near Chard.
WORCESTERSHIRE	Under; good	Average; good	Over; good	Average	Average; good	Under	Over good	Average	Over	A. Young, Witley Court Gardens, Worcester.
	Average; good	Average; good	Average; good	Average; bad	------	Under	Average; good	Average; bad	Average	C. A. Bayford, Davenham Gardens, Malvern.
	Under; good	Over; very good	Under; good	Under; bad	Average; very good	Under; good	Average; very good	Under; bad	Average; good	W. Crump, Madresfield Court Gardens, Malvern.
	Average; good	Average; good	Under; good	Average; good	Under; good	Under; good	Average; good	Under; bad	Average; good	Thos. Watkins, The Grange Gardens, Claines.
	Over; good	Over; good	Under; good	Under; very good	Under	Under; good	Average good	Under	Average	James Udale, County Experimental Garden, Droitwich.
WALES:										
CARNARVONSHIRE..	Under; good	Over; good	Average; good	Average	Under	Under	Over; very good	Average; good	......	J. S. Higgins, Glynllivon Park Gardens.
DENBIGHSHIRE......	Under	Over	Average	Average	Average	Average	Over	Over	......	J. A. Jones, The Gardens, Chirk Castle.
	Average	Over	Over	Average; good	Under	Under	Over; good	Over; good	Average	J. Martin, Bryn Estyn Gardens, Wrexham.
FLINTSHIRE............	Under	Over; very good	Under	Average; good	Under	Under; bad	Over; very good	Average; good	Under	John Forsyth, The Gardens, Hawarden Castle, Chester.
	Average; good	Over; very good	Average; good	Under; bad	Under; good	Average; very good	Over: good	Average; good	......	James Barnard, Mostyn Hall Gardens, Mostyn.
GLAMORGANSHIRE	Average; good	Average; good	Under	Under	Over; very good	--- -	Over; good	Over	Over	R. Milner, The Gardens, Margam Park, Port Talbot
	Under	Under	Under	Average	Under	......	Average	Average	Under	C. T. Warmington, Penllergaer Gardens, Swansea.
MERIONETHSHIRE	Under; bad	Average; good	Under; bad	Average; good	------	......	Average; very good	Under; bad	......	A. Holder, Rûg Gardens, Corwen.

CONDITION OF THE FRUIT CROPS—*(continued)*.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
WALES:										
PEMBROKESHIRE...	Average	Average; good	Over	Average; good	Under	......	Under; bad	Average	Under	Geo. Griffin, Slebeck **Park** Gardens, Haverfordwest.
	Average; good	Over; very good	Over; very good	Average; good	Over; good	......	Over; very good	Average; very good	Average	W. A. Baldwin, The Gardens, Clynfiew, Boncath.
RADNORSHIRE......	Average; good	Over; good	Under	Average	Under; good	Under; good	Average	Average	Over	J. MacCormack, Maesllwch Gardens, Glasbury.
	Under	Average; good	Under	Average	......	......	Average; good	Under	Average	Wilson Palliser, Norton Manor Gardens, Norton, R.S.O.
IRELAND:										
9, Ireland, N.										
MEATH....................	Average	Over	Over; good	Average	Average; good	Average	Average	Under; bad	......	Michael McKeown, Julianstown, Drogheda.
	Average	Average	Average	Average	Average	Average	Over; good	Average	Average; good	J. B. Pow, Dunsany Castle Gardens.
TYRONE....................	Over; good	Over; very good	Over; good	Average	... ..	......	Over; very good	Average	......	Fred. W. Walker, Sion House Gardens, Sion Mills.
WESTMEATH..........	Under	Average	Average	Average	......	Under	Under	Under	Average	Geo. Bogie, Pakenham Hall Gardens, Castlepollard.
10, Ireland, S.										
CORK........................	Average; good	Over	Average	Under	......	......	Over; very good	Average; good	......	M. Colbert, Aghern, Conna.
	Average; good	Over; good	Over; good	......	......	......	Over; very good	Average; bad	......	Isaac Dearnaby, St. Patrick's Terrace, Magazine Road, Cork.
	Average	Over	Over	......	Under	......	Average; (Gooseberries and Raspberries over; Currants under)	Average	......	J. G. Pearce, Corkbeg Garden, Whitegate.
KILDARE..................	Average; good	Over; good	Over; good	Average; good	Under	Average; good	Over	Average	......	Frederick Bedford.
	Over	Average	Under	Average	Average	Over	Average	Average	Average	Alexr. Black, Carton, Maynooth.
ROSCOMMON..........	Average	Over; good	Over; good	Average	Average	......	Over; good	Average	......	Terence Rogers, Frenchpark House Gardens, Frenchpark.
WATERFORD............	Over; very good	Over; very good	Over; very good	Under; good	Average; very good	......	Over; very good	Under; good	......	Thomas Dunn, Strancally Castle Gardens, Tallow.
	Over; good	Over; good	Over; good	Under; good	Average	Under; bad	Average	Under; good	Under	David Crombie, Curraghmore Gardens, Portlaw.
CHANNEL ISLANDS:										
GUERNSEY............	Over; very good	Average; very good	Average; good	Average; good	......	......	Over; very good	Under; good	......	C. Smith & Son, Caledonia Nursery, Guernsey.
JERSEY.....................	Average; good	Average; good	Under; bad	Average; good	Under; bad	Under; bad	Over; very good	Average; good	......	Thomas Sharman, Imperial Nursery, St. Mark's Road, St. Heliers.
ISLE-OF-MAN:										
DOUGLAS...........	Under	Under	Under	Under	......	......	Over; good	Under	......	James Inglis, Brunswick Road Nursery, Douglas.

SUMMARIES.

SCOTLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(53)	(52)	(51)	(53)	(16)	(22)	(53)	(53)	(6)
Average	19	30	21	34	4	7	33	19	3
Over	1	5	10	7	2	5	18	2	—
Under	33	17	20	12	10	10	2	32	3

ENGLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(194)	(194)	(194)	(181)	(146)	(137)	(194)	(193)	(145)
Average	74	73	58	101	63	30	92	53	78
Over	10	96	17	33	10	1	94	6	56
Under	110	25	119	47	73	106	8	134	11

WALES.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(12)	(12)	(12)	(12)	(10)	(6)	(12)	(12)	(8)
Average	6	4	3	10	1	2	4	7	3
Over	—	7	3	—	2	—	7	3	2
Under	6	1	6	2	7	4	1	2	3

IRELAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(12)	(12)	(12)	(10)	(8)	(6)	(12)	(12)	(2)
Average	7	3	3	7	6	3	4	8	1
Over	4	9	8	—	—	1	7	—	—
Under	1	—	1	3	2	2	1	4	1

CHANNEL ISLANDS.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(2)	(2)	(2)	(2)	(1)	(1)	(2)	(2)	—
Average	1	2	1	2	—	—	—	1	—
Over	1	—	—	—	—	—	2	—	—
Under	—	—	1	—	1	1	—	1	—

ISLE OF MAN.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(1)	(1)	(1)	(1)	—	—	(1)	(1)	—
Average	—	—	—	—	—	—	—	—	—
Over	—	—	—	—	—	—	1	—	—
Under	1	1	1	1	—	—	—	1	—

GRAND SUMMARY, 1912.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(274)	(273)	(272)	(259)	(181)	(172)	(274)	(273)	(161)
Average	107	112	86	154	74	42	133	88	85
Over	16	117	38	40	14	7	129	11	58
Under	151	44	148	65	93	123	12	174	18

SUMMARY OF 1911 FOR COMPARISON.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(264)	(257)	(259)	(244)	(179)	(165)	(264)	(264)	(136)
Average	139	60	102	122	59	42	134	130	78
Over	88	5	29	34	9	1	117	99	13
Under	37	192	128	88	111	122	13	35	[illegible]

CONDITION OF THE FRUIT CROPS—*(continued).*

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
6, Southern Counties.										
SUSSEX (continued)...	Under	Over	Under	......	......	......	Average	Average	Average	W. Goaring, Agricultural and Horticultural College, Uckfield.
WILTSHIRE.............	Under; good	Under; good	Average; good	Average; good	Under	......	Average; good	Under	......	George Brown, Bowood Gardens, Calne.
	Under; good	Average; good	Average; good	Average; very good	Average; good	Under; good	Over; good	Average; good	Over; good	Thomas Challis, The Gardens, Wilton House, near Salisbury.
	Under	Over; very good	Under	Average	......	Under	Average	Under	Over	A. J. Morris, Compton Bassett Gardens, Calne.
	Average; good	Over; good	Under; good	......	Under	Under	Average	Under	Average	Thomas Sharp, Westbury.
	Under; bad	Over; good	Average; good	Average; very good	Under; good	......	Over; good	Under; bad	Average; good	Henry Gandy, Longleat Gardens, Warminster.
7, England, N.W.										
CUMBERLAND	Under; good	Over; very good	Over; good	Under; good	......	......	Over; very good	Under; good	......	W. B. Little, 40, Petteril Street, Carlisle.
LANCASHIRE..........	Average; very good	Over; very good	Under; good	Under; bad	Under	Under	Over; very good	Under; good	......	R. F. Howarth, County Offices, Preston.
WESTMORELAND...	Under; good	Average; good	Over; good	Average; good	......	......	Over; good	Under; bad	......	W. A. Miller, Underley Hall Gardens, Kirkby Lonsdale.
	Under; bad	Average; good	Average; good	Under; good	......	Under; bad	Average; good	Average; good	......	F. Clarke, Lowther Castle Gardens, Penrith.
	Under	Average	Over	Average	......	Under	Average	Under	Average	J. Moorhouse, Dalton Hall Gardens, Burton.
	Average	Average	Average	......	......	......	Over	Average	... ..	Walter Caton, The Lodge, Helme Lodge, Kendal.
8, England, S.W.										
CORNWALL............	Under	Average; good	Under	Under	Under	--- --	Over; very good	Under; bad	......	W. Andrews, Tregothnan Gardens, Truro.
	Average; good	Average	Under	Under	Average; good	......	Average; good	Average; very good	......	Geo. H. Maddern, Trewidden Gardens, Buryas Bridge.
DEVONSHIRE..........	Under; good	Over; very good	Average; bad	Over; very good	Average; good	......	Over; very good	Average; bad	Over; very good	E. E. Bristow, Castle Hill Gardens, South Molton.
	Under	Over; very good	Under	Under	Under	--- --	Over	Average	......	Geo. Baker, Membland, Newton Ferrers, near Plymouth.
	Average	Average	Average; good	Under	Average	Average	Over; good	Under	Average	James Mayne, Bicton Gardens, Budleigh Salterton.
GLOUCESTERSHIRE	Average	Average	Average	Average	Under	Under	Over; very good	Under	Average	William Keen, The Gardens, Bowden Hall, near Gloucester.
	Under	Over; good	Average	Average	Under	Under	Average; good	Under; good	Average	John Banting, Tortworth Gardens, Falfield.
	Under	Average; good	Over; good	Average	Under	Under	Average; good	Under	Average	William Nash, Badminton Gardens, Gloucester.
	Under	Over	Under	Under	Under	Under	Average	Under	Average	Wm. J. Jefferies, Cirencester.
	Average; good	Over; very good	Under; good	Average; good	Under; good	Average; good	Over; very good	Under; bad	Over; very good	G. H. Hollingworth, County Education Office, Gloucester.
	Average; good	Over; very good	Average good	Over; very good	Average; very good	Under	Over; very good	Average; good	Over	F. C. Walton, Stanley Park Gardens, Stroud.
	Under	Over; very good	Over; very good	Average	Average; good	Under; bad	Average	Under; bad	Average	Arthur Chapman, Westonbirt Gardens, Tetbury.
	Average	Over; good	Average	Average	Under	Under	Over; good	Average; bad	Over	H. Berry, Higham Court Gardens, Gloucester.
HEREFORDSHIRE.	Under; good	Under; very good	Over; good	Average; good	......	Under; very good	Over; good	Under; very good	Average; good	A. Buckingham, Stanage Park Gardens, Brampton Brian.
	Under	Over; good	Under	Under; bad	......	......	Over; good	Under	Over	Thomas Spencer, Goodrich Court Gardens, Ross.
	Under; good	Over; very good	Average; good	Average; good	Under; good	Under	Average; good	Under; bad	Average; good	George Mullins, Eastnor Castle Gardens, Ledbury.
	Average; good	Over; good	Average; good	Under; good	Under; good	Average; good	Over; good	Average; good	Average	Thos. Coomber, The Hendre Gardens, Monmouth.
MONMOUTHSHIRE..	Under; bad	Average; very good	Under; very good	Under; good	Under; good	Under; good	Average; very good	Average; very good	Average; very good	W. J. Grant, Director of Agricultural Education, County Council Offices, Newport.
SOMERSETSHIRE....	Under; very good	Under; good	Under; good	Average; good	Under; very good	Under; very good	Average; good	Average; good	Average; good	George Shawley, Halswell Park Gardens, Bridgwater.
	Average	Under	Under	Average	Under	Under	Average	Average	......	J. T. Rushton, The Gardens, Barons Down, Dulverton.
	Average; good	Over; very good	Average; good	Under	Under	Over; good	Average; good	Under; bad	Over	F. J. Little, Knowle Gardens, Dunster.
	Over; good	Average; good	Under; good	......	Over; very good	Average; good	Average; good	Under; good	......	John Ettle, Stanley Grove, Weston-super-Mare.
	Over	Over	Under	Under	Average	Under	Under	Under	......	Samuel Kidley, North Greendenham, Wellington, Somerset.
	Average; good	Over; good	Average; good	Under; bad	Average; good	Under	Over; very good	Average bad	Over; very good	E. A. Hussey, Leigh House Gardens, near Chard.
WORCESTERSHIRE	Under; good	Average; good	Over; good	Average	Average; good	Under	Over good	Average	Over	A. Young, Witley Court Gardens, Worcester.
	Average; good	Average; good	Average; good	Average; bad	......	Under	Average; good	Average; bad	Average	C. A. Bayford, Davenham Gardens, Malvern.
	Under; good	Over; very good	Under; good	Under; bad	Average; very good	Under; good	Average; very good	Under; bad	Average; good	W. Crump, Madresfield Court Gardens, Malvern.
	Average; good	Average; good	Under; good	Average; good	Under; good	Under; good	Average; good	Under; bad	Average; good	Thos. Watkins, The Grange Gardens, Claines.
	Over; good	Over; good	Under; good	Under; very good	Under	Under; good	Average good	Under	Average	James Udale, County Experimental Garden, Droitwich.
WALES:										
CARNARVONSHIRE..	Under; good	Over; good	Average; good	Average	Under	Under	Over; very good	Average; good	......	J. S. Higgins, Glynllivon Park Gardens.
DENBIGHSHIRE......	Under	Over	Average	Average	Average	Average	Over	Over	......	J. A. Jones, The Gardens, Chirk Castle.
	Average	Over	Over	Average; good	Under	Under	Over; good	Over; good	Average	J. Martin, Bryn Estyn Gardens, Wrexham.
FLINTSHIRE............	Under	Over; very good	Under	Average; good	Under	Under; bad	Over; very good	Average; good	Under	John Forsyth, The Gardens, Hawarden Castle, Chester.
	Average; good	Over; very good	Average; good	Under; bad	Under; good	Average; very good	Over: good	Average; good	......	James Barnard, Mostyn Hall Gardens, Mostyn.
GLAMORGANSHIRE	Average; good	Average; good	Under	Under	Over; very good	----	Over; good	Over	Over	R. Milner, The Gardens, Margam Park, Port Talbot
	Under	Under	Under	Average	Under	......	Average	Average	Under	C. T. Warmington, Penllergaer Gardens, Swansea.
MERIONETHSHIRE	Under; bad	Average; good	Under; bad	Average; good	......	......	Average; very good	Under; bad	......	A. Holder, Rûg Gardens, Corwen.

CONDITION OF THE FRUIT CROPS—(*continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
WALES:										
PEMBROKESHIRE...	Average	Average; good	Over	Average; good	Under	......	Under; bad	Average	Under	Geo. Griffin, Slebeck Park Gardens, Haverfordwest.
	Average; good	Over; very good	Over; very good	Average; good	Over; good	......	Over; very good	Average; very good	Average	W. A. Baldwin, The Gardens, Clynfiew, Boncath.
RADNORSHIRE......	Average; good	Over; good	Under	Average	Under; good	Under; good	Average	Average	Over	J. MacCormack, Maesllwch Gardens, Glasbury.
	Under	Average; good	Under	Average	......	......	Average; good	Under	Average	Wilson Palliser, Norton Manor Gardens, Norton, R.S.O.
IRELAND:										
9, Ireland, N.										
MEATH..................	Average	Over	Over; good	Average	Average; good	Average	Average	Under; bad	——	Michael McKeown, Julianstown, Drogheda.
	Average	Average	Average	Average	Average	Average	Over; good	Average	Average; good	J. B. Pow, Dunsany Castle Gardens.
TYRONE..................	Over; good	Over; very good	Over; good	Average	... ..	......	Over; very good	Average	......	Fred. W. Walker, Sion House Gardens, Sion Mills.
WESTMEATH..........	Under	Average	Average	Average	......	Under	Under	Under	Average	Geo. Bogie, Pakenham Hall Gardens, Castlepollard.
10, Ireland, S.										
CORK........................	Average; good	Over	Average	Under	......	......	Over; very good	Average; good	——	M. Colbert, Aghern, Conna.
	Average; good	Over; good	Over; good	......	......	......	Over; very good	Average; bad	......	Isaac Dearnaby, St. Patrick's Terrace, Magazine Road, Cork.
	Average	Over	Over	......	Under	......	Average; (Gooseberries and Raspberries over; Currants under)	Average	......	J. G. Pearce, Corkbeg Garden, Whitegate.
KILDARE.................	Average; good	Over; good	Over; good	Average; good	Under	Average; good	Over	Average	......	Frederick Bedford.
	Over	Average	Under	Average	Average	Over	Average	Average	Average	Alexr. Black, Carton, Maynooth.
ROSCOMMON..........	Average	Over; good	Over; good	Average	Average	......	Over; good	Average	......	Terence Rogers, Frenchpark House Gardens, Frenchpark.
WATERFORD...........	Over; very good	Over; very good	Over; very good	Under; good	Average; very good	——	Over; very good	Under; good	——	Thomas Dunn, Strancally Castle Gardens, Tallow.
	Over; good	Over; good	Over; good	Under; good	Average	Under; bad	Average	Under; good	Under	David Crombie, Curraghmore Gardens, Portlaw.
CHANNEL ISLANDS:										
GUERNSEY............	Over; very good	Average; very good	Average; good	Average; good	......	......	Over; very good	Under; good	......	C. Smith & Son, Caledonia Nursery, Guernsey.
JERSEY.....................	Average; good	Average; good	Under; bad	Average; good	Under; bad	Under; bad	Over; very good	Average; good	......	Thomas Sharman, Imperial Nursery, St. Mark's Road, St. Heliers.
ISLE-OF-MAN:										
DOUGLAS...............	Under	Under	Under	Under	......	......	Over; good	Under	......	James Inglis, Brunswick Road Nursery, Douglas.

SUMMARIES.

SCOTLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(53)	(52)	(51)	(53)	(16)	(22)	(53)	(53)	(6)
Average	19	30	21	34	4	7	33	19	3
Over	1	5	10	7	2	5	18	2	—
Under	33	17	20	12	10	10	2	32	3

ENGLAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(194)	(194)	(194)	(181)	(146)	(187)	(194)	(193)	(145)
Average	74	73	58	101	68	80	92	53	78
Over	10	96	17	33	10	1	94	6	56
Under	110	25	119	47	78	106	8	134	11

WALES.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(12)	(12)	(12)	(12)	(10)	(6)	(12)	(12)	(8)
Average	6	4	3	10	1	2	4	7	3
Over	—	7	3	—	2	—	7	3	2
Under	6	1	6	2	7	4	1	2	3

IRELAND.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(12)	(12)	(12)	(10)	(8)	(6)	(12)	(12)	(2)
Average	7	3	3	7	6	3	4	8	1
Over	4	9	8	—	—	1	7	—	—
Under	1	—	1	3	2	2	1	4	1

CHANNEL ISLANDS.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(2)	(2)	(2)	(2)	(1)	(1)	(2)	(2)	—
Average	1	2	1	2	—	—	—	1	—
Over	1	—	—	—	—	—	2	—	—
Under	—	—	1	—	1	1	—	1	—

ISLE OF MAN.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches and Nectarines.	Apricots.	Small Fruits.	Strawberries.	Nuts.
Number of Records	(1)	(1)	(1)	(1)	—	—	(1)	(1)	—
Average	—	—	—	—	—	—	—	—	—
Over	—	—	—	—	—	—	1	—	—
Under	1	1	1	1	—	—	—	1	—

GRAND SUMMARY, 1912.

Number of Records	(274)	(273)	(272)	(259)	(181)	(172)	(274)	(273)	(161)
Average	107	112	86	154	74	42	133	88	85
Over	16	117	38	40	14	7	129	11	58
Under	151	44	148	65	98	123	12	174	18

SUMMARY OF 1911 FOR COMPARISON.

Number of Records	(264)	(257)	(259)	(244)	(179)	(165)	(264)	(264)	(196)
Average	139	60	102	122	59	42	134	130	78
Over	88	5	29	34	9	1	117	99	18
Under	37	192	128	88	111	122	13	35	99

APPOINTMENTS FOR AUGUST.

HURSDAY, AUGUST 1—
Taunton Deane Fl. Sh. Merthyr Fl. Sh. Usk Fl. Sh. Royal Agric. Soc. Sh. at Preston (4 days). Holyport Cottagers' Hort. and Industrial Soc.'s Sh.

RIDAY, AUGUST 2—Perthshire Sweet Pea Sh. (2 days).

ATURDAY, AUGUST 3—
Soc. Française d'Hort. de Londres meet.

ONDAY, AUGUST 5—
Machen Fl. Sh. Bletchley and Fenny Stratford Hort. Soc.'s Sh. Clevedon Hort. Soc.'s Annual Sh. in Herbert Gardens.

UESDAY, AUGUST 6—
Barry Fl. Sh. Artindale's Sweet Pea Sh. at Sheffield. Leicester (Abbey Park) Fl. Sh. (2 days). Scottish Hort. Assoc. meet.

EDNESDAY, AUGUST 7—
Bridgend Fl. Sh. St. Fagan's Fl. Sh.

HURSDAY, AUGUST 8—Harrogate Fl. Sh. (2 days).

ATURDAY, AUGUST 10—
Aberdeen and Northern Counties Sweet Pea Sh.

ONDAY, AUGUST 12 –
United Hort. Benefit and Prov. Soc. Com. meet.

UESDAY, AUGUST 13—
Royal Hort. Soc. Coms. meet. and Exh. of Gladioli. (Lecture at 3 p.m. by Mr. Pulham on "The Construction of the Wisley Rock Garden.")

EDNESDAY, AUGUST 21—
Shropshire Hort. Soc.'s Sh. at Shrewsbury (2 days). Caerphilly Fl. Sh. Weston-super-Mare Fl. Sh. Margam Fl. Sh. Cowbridge Fl. Sh.

HURSDAY, AUGUST 22—
Aberdeen Fl. Sh. (3 days). Peebles Fl. Sh. Preston Hort. and Industrial Soc.'s Sh.

ATURDAY, AUGUST 24—
West Birmingham and District Hort. Soc.'s Sh. Co-partnership Festival in the Brentham Garden Suburb, Ealing.

UESDAY, AUGUST 27—
Royal Hort. Soc. Coms. meet. (Lecture at 3 p.m. by Mr. James Hudson on "Recently Introduced Water Lilies").

HURSDAY, AUGUST 29—Sandy Fl. Sh.

RIDAY, AUGUST 30—
Dunfermline Hort. Soc.'s Autumn Sh. (2 days)

VERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—62·2.

CTUAL TEMPERATURES:—
LONDON.—*Wednesday, July 24* (6 P.M.): Max. 78°; Min. 60°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, July 25* (10 A.M.): Bar. 29·7°; Temp. 74°; *Weather*—Overcast.

PROVINCES.—*Wednesday, July 24*: Max. 74° Yarmouth; Min. 64° Liverpool.

The Fruit Crops. The time has again come round when it is possible to form accurate estimates of the ardy fruit crops, and, following our usual ustom, we publish returns from correspondents in all parts of Great Britain. It ay be pointed out that the reports are urnished by fruit-growers who have conributed returns for many years past, and ave thus become accustomed to make ccurate observations, and to estimate verage crops for their own localities.

Apples constitute the most important of he crops reported upon, and it is disppointing to find that they are almost the worst crop of the year, comparing very unavourably with the yield last season. For nstance, out of 274 returns, as many as 51 compilers declare their crops to be ower than the average, 107 have average rops, and in only 16 instances are they bove the average. If we turn to the ifferent districts, we find that the eficiency is very general. In Scotland, he 53 returns consist of 19 average crops, 3 deficient, and only one over-average ield. In England, out of 194 returns, here are only 10 crops above the average; 74 are average yields, whilst there re 110 described as under the average. n Wales, there are 6 average crops and under average, whilst in no single case in Wales, there are as many as 11 average or above the average crops, and only one is described as "under"; therefore, the Apple crop appears to be more satisfactory in Ireland than in England, Scotland, or Wales.

Pears are more promising; indeed, it would appear as if they will compensate for the loss on the Apple crop. The returns number 273, and these include 112 average crops, 117 above the average, and only 44 returns under average. This is a better result than last year, when, out of 257 returns, 252 were average or below average crops, only 5 cases in Great Britain reporting yields above the average. Reference to the summary will show that the Pear crop is least satisfactory in Scotland, where there are only 5 crops above the average, out of the 52 returns in that country. On the contrary, in England, out of 194 returns, there are 96 described as above the average; in Wales there are 7, and in Ireland 9 abundant crops in a list of 12 returns from each of these two countries.

Turning to Plums, the crop is neither much better nor much worse than last season. In 1911, out of 259 returns, there were only 29 over-average crops, but as many as 128 below the average. This year the total number of returns is 272, composed of 148 under, 86 average, and 38 over-average crops. It will be noted that the Plum crop is much better in Scotland and Ireland than in England or Wales.

Cherries have been more abundant than in 1911. Out of 259 returns, there are 194 crops equal to or above the average, and only 65 returned as deficient. In England, where the Cherry crop is most considerable, out of 181 returns, there are 134 which describe average or above average crops.

Apricots are almost a failure, and Peaches and Nectarines rather below average, although Peaches and Nectarines are better crops than last season.

The returns published in these columns from year to year upon Gooseberries, Currants, Raspberries, and Loganberries, included under the rather comprehensive heading "small fruits," go to show that the risk of deficient crops in these cases is not serious. Last year, out of 264 returns, there were only 13 crops described as below the average; this year, out of a greater number of returns, namely 274, there are only 12 deficient crops. The figures for both these seasons are better than in 1910, when there were 40 crops described as under the average out of a total return of 227.

The Strawberry crop suffered this season from early frosts and from drought. Consequently, the returns compare unfavourably with those for either 1911 or 1910. Out of 273 returns, there are as many as 174 which describe under-average crops, and, whilst there are 88 average crops, there are only 11 cases in which the crop exceeded the average. Therefore, as was stated in the article published last week, the Strawberry season of 1912 was unsatisfactory, particularly so from the point of fruits we have referred to already; at the same time, they constitute important crops in Kent and some other English counties, and a few trees at least are grown in most private gardens. In the yield tables, Walnuts and Filberts are not shown separately, or perhaps the figures for one would indicate a superiority of crop over the other. Out of 161 returns, 143 crops are equal to or above the average, only 18 being described as deficient. These returns are better than those for several years past.

We need not attempt to explain in detail the reasons for the comparative failure of the Apple crop or the moderately good yield of Pears, but, on the contrary, leave our correspondents to relate their experience in succeeding issues. At the same time, it is obvious that in many cases Apple trees were burdened with over-crops last season, and this fact will explain some deficient crops this year, as we have ourselves noticed, in the case of Cox's Orange Pippin, for trees which bore unusually heavy crops in 1911 have very few fruits this season, though they are making more growth than they have for several years. Neither must we forget the great drought of last summer in our efforts to connect cause with effect, for, in many instances, it was so pronounced that the leaves wilted and fell prematurely. Late spring frosts may have injured certain varieties which happened to be at a critical stage when the frosts occurred, and the spring drought may have had its effect upon the trees, for it will be remembered that dry weather continued throughout April, a month commonly characterised by frequent showers. Partly as a result of the drought, aphis attacks have been unusually severe, as *Southern Grower* has pointed out in his excellent articles on the "Market Fruit Garden." The Codlin moth has been as destructive as usual, and Apples are still falling freely owing to the attack of the Codlin moth maggot. On the contrary, American blight has been rather less prevalent than usual, and the ravages of the winter moth are certainly less severe than last season.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will be held on the 30th inst., in the Society's Hall, Vincent Square, Westminster. At the three o'clock meeting of the Fellows a lecture on "The Pollination and Setting of Fruit Blossoms" will be delivered by Mr. CECIL H. HOOPER.

R.H.S. BULB SHOW, 1913.—A special exhibition of forced spring bulbs will be held on Tuesday and Wednesday, March 4 and 5, 1913, the object being to demonstrate the varieties best suited for gentle forcing. Exhibits of small and large collections are invited from amateurs and the trade. Medals will be awarded according to merit. The Council also offers (subject to the general rules of the Society) prizes presented to them by the General Bulb Growers' Society at Haarlem in five classes, four of which are open to amateurs only, the remaining one being for traders.

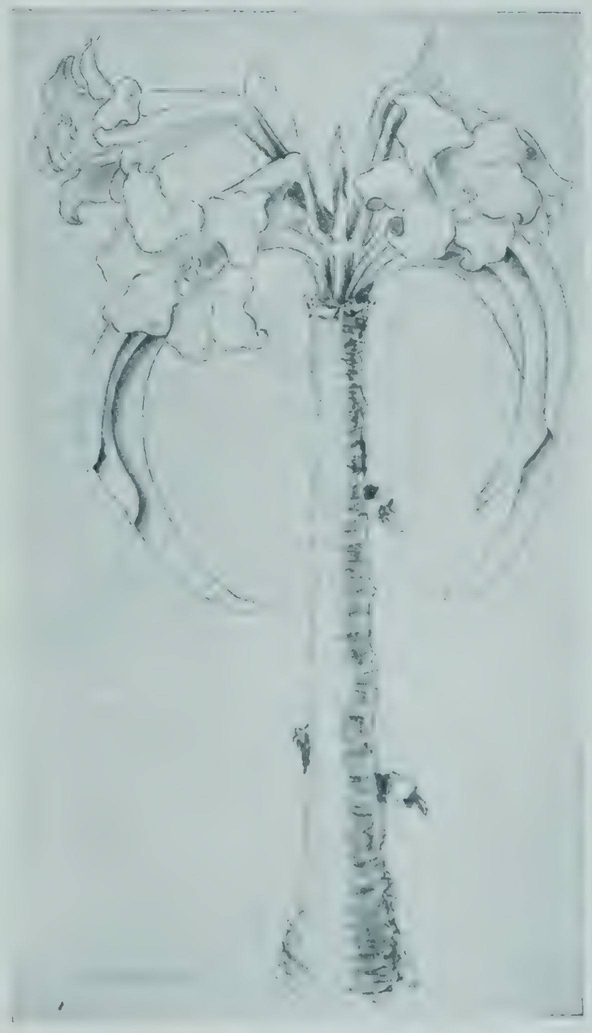
"CLARENCE ELLIOTT" TROPHY FOR ROCK-

silver trophy, presented to them by Mr. Clarence Elliott, at the meeting fixed for Wednesday, May 14, 1913. (The fortnightly show is, on this occasion, to be held on Wednesday, Tuesday being Whitsun Tuesday.) The trophy is offered to amateurs for an exhibit of Alpines and plants suitable for a rock garden, arranged with rock-work as a small rock garden on a space 6 feet by 3 feet. There must be not fewer than 18, nor more than 24 species or varieties. Herbaceous plants ordinarily exceeding 12 inches in height, bulbs, and variegated or double-flowered plants are excluded. The subjects shown need not all be actually in flower. The plants must all have been grown by the exhibitor since March 1, 1913, at least. Beauty of arrangement, the suitability of the plants to rock-work, rarity, culture, and correct naming will be considered most by the judges. It is suggested that the plants should be grown in pots, not lifted from the open ground; but the pots should in all cases be removed before staging. A background of dwarf shrubs and Conifers may be added.

Royal Scottish Arboricultural Society.—It might have been expected that the July number of the *Transactions* of this society would deal with the Report of the Departmental Committee on Forestry in Scotland, but it merely contains the report which was summarised in our issue for April 20 last. This number of the society's *Transactions* includes articles on "Thorn Hedges," "Light in Relation to Tree Growth," and "The Larch Saw-Fly."

Sarracenia purpurea at Home.—As showing how delightful this plant is in its natural habitat, the following letter, sent by a correspondent to Mr. Amos Perry, is of interest:—"In a recent excursion along the Batsto River I ran into a larger patch of Sarracenias than I ever saw before. I thought I appreciated the beauties of this plant, but I really knew nothing of them. There are acres and acres of them, hundreds and thousands, millions, maybe, of bloom, scattered and bunched, here one and there a dozen. Every turn of the river seemed to reveal a larger field. I always thought this was a pretty plant for a ub as a curiosity, but as seen growing wild t is something a landscape man cannot afford to verlook. On ground partially flooded along the iver banks in large estates it would be most deirable. It will stand considerable flooding, enerally growing right in the water, but in laces one finds it on wet, sandy ground wherever phagnum grows, needing only wet soil and some helter. Along the river banks, in association ith it, were several other plants that work in ost admirably in similar places. Two rare ones, ophiola aurea and Narthecium, are quite deirable. Lophiola, with its ash-grey heads that ersist throughout the winter, is quite beautiul *en masse*, though insignificant individually. arthecium, with its yellow spikes of flowers, is aid to be gorgeous in a like situation, but I have ever seen it at its best condition. It, too, has ersistent grey heads after the bloom, but they re not so showy as Lopholia, which will grow in mi-submerged flats, and in the only place I ave seen it the plant ascends the wet, springy anks some distance from the river. I can think nothing prettier than a small spring by the adside 'On Skit,' where about a dozen heads ay be found at any time clustered around a little ol less than a foot across. ('On Skit' is a local ference to 'Skit's Branch.') With it was also owing a quantity of Calopogon. A noteorthy plant growing with these is Nuphar lvena, which fills the deep, slack water all along e stream and is gorgeous and golden at this riting." Sarracenia purpurea may be seen out of doors in the gar-

Flowers in Season.—Messrs. V. N. Gauntlett & Co., Chiddingfold, Surrey, have sent us flowering sprays of many interesting and beautiful shrubs, which included Escallonia "Edinburgh," a very brightly-coloured variety of E. macrantha; Deutzia carminea, with large blush flowers; Azalea occidentalis, with flowers suggestive of a large Honeysuckle; Magnolia glauca; Olearia myrsinoides; Andromeda pulverulenta, with exceptionally white undersides to the leaves; and Carmichaelia australis, an interesting New Zealand shrub with dainty, Pea-shaped flowers. Mr. T. Smith Daisy Hill Nursery, Newry forwarded a shoot of Acer Trautvetteri, a very handsome Sycamore. The seedwings (samara) have brilliant colouring, and the branchlets retain their beauty for a considerable time.



[*From a sketch by Ivy Massee.*

Fig. 32.—AMARYLLIS PROCERA: SHOWING THE LONG-NECKED BULB AND GENERAL HABIT.

(See also Supplementary Illustration.)

Amaryllis "Hathor" (see *Gard. Chron.*, May 4, p. 292, May 11, 1912, p. 322).—Mr. H. H. B. Bradley, of Sydney, Australia, points out that in his first communication on this subject he described his white-flowered variety of Amaryllis Belladonna as an Amaryllis, not Hippeastrum, as printed. In reference to the note by *W. W.* (May 11, p. 322), Mr. Bradley states that he believes "the plants in Messrs. Sanders' nursery came from the garden of the late Sir John Hay; at any rate, a good white Amaryllis is grown there, but admittedly it is inferior to Hathor, and the white Amaryllis known in Sydney as A. Baptistii, raised by Mr. J. Baptist many years ago, is quite common there, but this is inferior, again, to that grown in Sir John Hay's garden, and has more yellow in the lower part of the tube. Self-crossed seedlings from A. Baptistii show a tendency to a yellow longitudinal stripe, while seedlings of A. Baptistii × A. pudica so far are all

THE BLUE AMARYLLIS.

(See fig. 32 and Supplementary Illustration.)

The blue Amaryllis is one of the most interesting plants in the whole Order Amaryllideæ. It grows wild on the Organ Mountains near Rio, and nowhere else in the world, and it differs so much from all the members of the Amaryllis family that one wonders no botanist has thought fit to establish a new genus for it. Amaryllis proper is now confined to a single species, the Belladonna Lily of the Cape. Hippeastrum, as it is now defined, includes Habranthus, Phycella, and the Western plants that were formerly placed in the genus Amaryllis. There is a family likeness in the several species which justifies this. The blue Amaryllis, however, is a widely different plant. It has a bulb with a stout stem-like neck up to 5 feet or more in length; the leaves are strap-shaped, falcate, with parallel nerves, and thin semi-translucent margins, and they are without midrib to the very base. Moreover, they are not deciduous and they are always distichously arranged. The flowers are roughly similar to those of several genera, including Hippeastrum, Crinum and Griffinia, still they have certain peculiarities, the most remarkable being that of colour. I have not seen the seeds, but I am informed by Mr. Worsley, who has seen this plant growing wild in Brazil and has been most enthusiastic in its cultivation in this country, that they differ from those of Hippeastrum in having a thickened corrugated margin. Attempts to cross the blue Amaryllis with true Hippeastrums have been unsuccessful, and the plant is still the same as when it was discovered, about 50 years ago, by the elder Binot on a mountain near Petropolis, at an altitude of about 4,000 feet. Binot used to call it Amaryllis Imperatrice, in honour of the Empress of Brazil, for whom he used to collect plants. Duchartre named it Amaryllis procera when it flowered in a Continental garden in 1863; Hooker figured and described it in the *Botanical Magazine* in 1871, as Amaryllis Rayneri, in honour of Dr. Rayner, of Uxbridge, in whose garden it flowered. It was my intention to rename this plant again, calling it Binotia procera, in honour of the discoverer, but Mr. Rolfe forestalled me by naming a genus of small-flowered Orchids after him. The temptation is strong now to extend the compliment to Mr. Worsley, a most devoted collector and observer of Amaryllids, to whom we are indebted for a full knowledge of the blue Amaryllis. He visited the plant in its mountain home and collected a large number of full-sized specimens, which he grew and flowered with conspicuous success in his garden at Isleworth. The name of the plant would in that case be Worsleya procera.

I am indebted to Mr. Worsley for the following particulars of the blue Amaryllis: "It grows mostly on little ledges of precipitous cliffs of soft granite, in the crevices of which the roots run, becoming somewhat flattened where they cling to the moist rock. The long-necked bulbs project from the cliff almost horizontally, or even hang from it, the leaves curving elegantly from the apex and always arranged in two series. During the summer months heavy rain falls almost daily on these mountains; in some instances from 5 to 10 inches have fallen in a week. The wet season may last for about nine months. The plant is cultivated in gardens in Petropolis, but it never becomes established there. I have known this species in cultivation here for about 30 years, but have never seen a specimen of it that was really established and happy."

It may be, as Mr. Worsley suggests, that plants raised in this country from seeds would behave better, but there is the difficulty of obtaining the seeds. About half-a-dozen strong plants produced good spikes of flowers at Kew last year, but notwithstanding careful pollination, no seeds were developed. How magnificent these plants were when in flower; their silky brown necks supporting elegantly-curved glaucous green leaves and a short-stalked umbel of hyacinthine blue flowers, each as large as a White Trumpet Lily, but much more elegant in outline and in waviness! The plants appeared to be well provided for by the conditions of a sunny greenhouse and with the base of their bulbs set in a sandy, loam soil. During the late M. Binot's life, at least one large consignment of bulbs of the blue Amaryllis arrived annually in this country to be sold privately or in the auction room, and I believe it is the intention of his widow, who resides in Petropolis, to continue to send bulbs of it for sale here. *W. W.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Problems of Propagation (see p. 2).—As an old propagator, I read with much interest the report of Professor Bayley Balfour's lecture on "Problems of Propagation," and especially that part of it dealing with propagation by cuttings, and the many curious features that are brought to the notice of the propagator, not the least interesting being the success attending the internodal cuttings of Clematis. Cultivators in my young days looked upon a joint at the base of a cutting as absolutely necessary in nearly all cases, but experience convinced me that they were not essential, and by using internodal cuttings I was enabled to increase many subjects at a much more rapid rate than was formerly the case. A fact well-known to propagators is that many subjects which are difficult to root may be struck more readily from weak cuttings than from stout ones, or even from those of normal vigour. For this reason a stock plant intended for propagating from is often put into a warmer structure in order to weaken the shoots before they are taken as cuttings, which strike root more readily when so treated than if they had grown in a natural manner. This practice, which is technically termed drawing out, is frequently followed in the case of soft-wooded subjects, but it is also very effective with other plants that are difficult to strike. With many hard-wooded plants the greatest measure of success is attained when the cuttings are covered with a bell glass, and on this point I have often had a strange experience. If the top of a cutting has been accidentally bent down by the glass, it has generally been the first one to root. The reason for this I cannot understand. Cuttings should, if possible, never be taken from plants that have been fed with manures of a stimulating character, as though the shoots may be unusually vigorous they take longer to root, and do not grow with the same freedom afterwards as those obtained from plants less liberally treated. This point is too often overlooked; indeed, I was recently consulted as to the failure of a batch of Pelargonium cuttings, which was no doubt owing to the plants from which they were taken having been fed liberally with stimulants. This has long been recognised by Chrysanthemum specialists, who prefer to propagate from plants that have been grown naturally, but in the case of many other soft-wooded subjects the fact is often overlooked. *W. T.*

The Cardiff Parks.—The Cardiff Parks Committee have further recognised the valuable services of their Parks Superintendent and Curator, Mr. W. W. Pettigrew, by granting him the facility of a motorcar. The constantly-increasing areas of parks and playing grounds under the management of the Committee are difficult of inspection, and it is by his personal contact at every point that Mr. Pettigrew has won the hearts of all classes of the people for whose pleasure and benefit he caters. *Welshman.*

The Leamington Show.—This show opens to-morrow, Wednesday. As I write, the staging is well advanced, and it is fairly certain that the quality and number of the exhibits will not be behind those of previous years. There are six large marquees—one devoted exclusively to table decorations, which are always a special feature at the Leamington exhibitions. Group builders in the various classes are very busy, and in at least one of these classes the competition will be

lends itself to an effective and convenient arrangement of the tents, with ample space for promenading. The fixture is now well established among the popular institutions and functions of the Midlands, and the committee anticipate large numbers of visitors on both days of the show. A heavy thunderstorm prevailed this afternoon, and the rain will probably clear the atmosphere. *Visitor, July 23.*

Longevity of Fern Spores (see p. 7)—Many years ago at the Fisheries Exhibition in London a model of the Pompei excavations was exhibited, and in conjunction therewith a large bell glass containing a fairly vigorous plant of Pteris aquilina, the common bracken, which was definitely asserted to have arisen from a spore dug up during the excavating operations, and therefore dating from the period of the catastrophe. To those acquainted with Ferns, such an assertion was, to say the least of it, amusing. P. aquilina is practically ubiquitous, and produces myriads of spores which are scattered far and wide, and are peculiarly free in germinating when they reach a congenially moist surface. In view of all this I would almost venture to say that the plants mentioned by your correspondent are P. aquilina, and that instead of there being "no Ferns within miles of the place," a little search will reveal the presence of this species well within wafting distance on a windy day. If a plant were sent to me I could settle its parentage at once. *Chas. T. Druery.*

The Education of Gardeners.—We both hear and read a great deal nowadays concerning the education of gardeners, and the best lines to be followed in the matter. It seems to me that in the case of a great many gardeners a very important part of their education would be to teach them how to live on the miserable pittance that so many employers pay them. Small wonder that many leave the profession for other callings, which, though less pleasant than gardening, afford higher wages and regular hours. Some employers, when engaging a gardener, consider they have also a right to the services of the gardener's wife. Furthermore, the term gardener is a most elastic one, and includes the working of electric light plant, the care of poultry, stock, and agricultural matters in general, as well as in some cases singing in the church choir, and playing cricket. That these are some of the multifarious duties expected of a gardener may be seen by reference to the advertisement columns of the horticultural journals. *W. T.*

Rose-budding—I regret I failed to make my meaning plain to *Practice* in regard to budding standard Roses. The object should be to get the inserted bud down in the slit in the bark as close to the upright standard stock as may be, so that when, in a year or two, the inserted bud grows apace, it may callus right over the crown of the stock and make a perfect tree, and so prevent the perishing of the standard stock from weather, as often happens. This could scarcely happen if the bud is gibbeted out on a spur an inch and more away, as recommended, by leaving the shield an inch or ¾ inch long behind the bud. The next time *Practice* gets some good hard buds, let him modify his practice and try leaving them a ¼ inch behind the petiole and, say, ¼ or 5/16 inch above the bud, or a little over ½ inch over all; he will find such a bud will grow just as readily as his 2-inch ones, and be not half the bother to insert; two twists of the raffia below the bud, and two, or at most three, above are amply sufficient for holding the bud and closing the bark. I have not the slightest intention to criticise or carp at *Practice's* admirable paper, only to join him in assisting the novice to understand the charming mystery of budding. *Robt. Peel Sheldon.*

——I also recommend the Rose bud to be placed as close to the standard stock as possible. I welcome criticism, because it often brings fresh thoughts to bear upon the subject; but I fail to see how the bud worked upon standards can "callus right over the crown" of the stock, unless in a few instances with the top bud. Nor can I understand how it can possibly "prevent the perishing of the standard stock from weather." In our establishment we work some 75,000 to 100,000 stocks annually, and

The Moraine.—Mr. Malby's pictures (see pp. 26, 27) are charming, and so are his successes. But what is he so anxious that they should prove? I find it a little difficult to decipher the paragraph which I think is aimed in my direction, but I take it that the two pictures are held to invalidate my experience that cement bottoms are "not only entirely unnecessary, but even harmful." Be at peace, Mr. Malby; my experience has abundantly shown me (and so, in good time, will yours) that both statements are true. But from saying that a cement bottom is unnecessary to all plants and mortal to some, it is a very far jump (which I have never taken) to go on and say that nothing will ever flourish in a cement-bottomed moraine. Mr. Malby's Campanula Allionii is very successful in a cement-bottomed moraine; in an uncemented one close to London I have this year seen a one-year-old clump that even surpassed it in brilliancy and splendour. And as triumph can be attained equally by both roads, the simple and the troublesome—why should we pursue it by the troublesome? I have not, indeed, any intention of being "emphatic as to what plants appreciate," nor do I see what bearing the remark has upon the point at issue. I repeat that cemented bottoms to a moraine are not only entirely unnecessary (in all but most abnormal situations), but even harmful (to many species and in many sites, as I have painfully seen proved). It is evident that in Mr. Malby's case the extra precaution is, at the most, merely unnecessary. He is greatly to be congratulated; but need surely not be quite so militant in tone against those whose wider experience or better fortune has led them to greater profit by a simpler and less expensive way. *Reginald Farrer.*

The Week's Work.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Early Vines.—Vines which are affected with mealy bug should be examined two or three times before they are pruned. The rods should be thoroughly scrubbed with strong, soft-soapy water, using a stiff brush for the purpose, and well working the mixture into every hole and crevice. As much of this work as possible should be done not only on vines, but on all fruit trees from which the fruits have been gathered. If this work is persevered with now it will be found that the pest will not be half as troublesome during the busy months of spring. Continue to give the foliage a good washing by means of the garden engine in the evenings during hot weather. If the borders are well drained, and the vines in a healthy condition, much good may be done by watering with diluted liquid manure from the farmyard. Vines which have given unsatisfactory results should be examined at the roots, and, if it is considered that the borders are in need of renovation the work of reconstructing them may be commenced at once. Should there be both inside and outside borders, the inside borders only should be dealt with this season, then there need not be any fear of losing next season's crop. Before starting make sure that sufficient loam and all necessary materials are at hand, so that the work may be brought to an early finish. If the compost be dry it should be watered and turned several times, afterwards leaving it in a heap for a few days covered with mats. The best loam procurable should be used for making vine-borders, and, if it is considered that the soil is sufficiently rich without using artificial manure, it will be better without it. At Frogmore we used only a moderate quantity of a coarse vine-border compound, which consists chiefly of crushed bones. Artificial manure may be used with more safety as a surface dressing when the vines have commenced to carry fruit. Old mortar rubble and wood ashes may be used liberally in fruit borders of all kinds. In commencing to dig out the roots it is necessary to vines. Preserve intact as many roots as possible, and be particularly careful not to damage any of the main ones. In extreme cases it may be necessary to lift the whole of the roots, but, as a rule, it is not wise to do so. During the time the roots are exposed they should be well covered with mats and kept damped with a syringe. The drainage materials should be renewed entirely, and the drains made quite clear. It is not good for the roots to enter the subsoil; therefore, to prevent this the bottom of the trench should be covered with a few inches of concrete. The drainage materials should consist chiefly of brick-bats placed closely together over the concrete. Place the largest pieces at the bottom, finishing off with the finer particles, so that the drainage materials are about 9 inches deep. Cover the drainage with a layer of turves placed closely together grass-side downwards. Afterwards commence building the border in layers about 1 foot deep, taking pains to make each layer solid. The roots should be laid in towards the surface of the border. Examine them carefully before planting them, and cut away any damaged portions, shortening them to ensure a clean-cut surface. The width of the new soil should not be more than 4 or 5 feet for the present. Additions can be made to the border at intervals of two or three years, when it can be seen that the roots are in need of fresh rooting material. The vines should be heavily shaded for two or three weeks after planting, and the atmosphere of the house must be kept close and moist. Syringe the foliage two or three times daily. When the new border is finished give it a good soaking to settle the soil about the roots. Vines thus treated should not be subjected to hard forcing the next season.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Raspberries.—Autumn-fruiting Raspberries should have the canes secured to wires or whatever support is employed, and all suckers removed as soon as they appear above the ground. On no account must this latter operation be neglected, or the suckers will soon injure the fruiting canes. Summer-fruiting varieties should have all the old canes cut away as soon as the fruit is gathered, at the same time reducing the young canes to six or eight according to the space available. This will allow more light and air to reach the shoots that will furnish next season's crop, and these can be reduced to the required number next spring.

Hardy Vines.—Vines growing in hot, dry positions should receive frequent waterings; those carrying heavy crops of fruits should be afforded liquid manure on alternate waterings. Thin the bunches, if considered necessary, and stop the laterals at one joint beyond the bunch, allowing the leading shoots to extend where there is space to furnish. Secure the shoots, stop the laterals as they appear, remove badly-placed bunches, and expose the others to the light and air that the berries may ripen; syringing will also assist in the ripening process.

Hoeing. — The soil of the fruit quarters should be kept well hoed, as the rains followed by brilliant sunshine have caused the soil to become caked and hard. By using the hoe freely at this season small weeds are kept in check, and the moisture retained in the soil.

Insect Pests. — If the advice given in the calendar for June 22 has been followed much good will have been done in destroying injurious insects, and their numbers should be less next season. Caterpillars have been very destructive this season, and these are amongst the most difficult pests to destroy, especially when the trees are bearing fruit. Barren trees may be sprayed with Paris green or some other poisonous insecticide. American blight, or woolly aphis, requires special attention at this season. It generally attacks the stems and main branches of both old and young trees. Its presence is often overlooked at this busy season, and, when neglected, it increases very rapidly. But it is in winter that American blight can be best destroyed, as then a caustic soda spray may be used; however, do not neglect to combat it in the meantime. Methylated spirits should be applied with a stiff brush over the affected parts, or in the case of badly infested trees an insecticide should be sprayed over the branches.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Oncidium.—Cool-growing Oncidiums, such as O. Forbesii, O. crispum, O. ramosum, O. Gardneri, O. concolor, and O. Marshallianum, should be repotted when the young growths are from 2 to 3 inches long. The flowers of all these species are produced on pendulous racemes, and for that reason it is preferable to grow the plants in shallow pans, ordinary Orchid pans without side holes being the most suitable receptacles. The compost should consist of equal parts A1 fibre or Osmunda fibre (cut into rather short portions) and half-decayed Oak leaves and chopped Sphagnum-moss with a suitable quantity of crushed crocks added. Place a few crocks in the bottom of the pans for drainage purposes. Pot rather firmly and leave space for a surfacing of Sphagnum-moss. Suspend the plants from either the roof of the cool-intermediate or Odontoglossum house. Let water be applied sparingly until the roots have grown freely in the compost, when the amount may be increased slightly, but the compost should never be saturated with moisture. O. lanceanum, O. luridum, O. carthaginense, and O. tetrapetalum should also be afforded fresh rooting material. Employ a compost consisting of Osmunda fibre and Sphagnum-moss cut into short portions and a quantity of crushed crocks. See that the pots are well-drained. Arrange the compost in a conical shape well above the rim of the pot. Stand the plants near to the roof-glass in the warmest house. When the roots are growing actively they should be supplied with plenty of water, and the plants sprayed frequently during bright days. During the resting season water should be applied sparingly, but at no time should the compost be allowed to become quite dry, as the plants do not possess pseudo-bulbs. The cool-growing O. macranthum is developing its flower-spikes, and should be supplied liberally with water at the roots until the flowers are expanded. The inflorescences should be removed soon after the flowers are fully developed, as they exhaust the energies of the plants. O. ampliatum majus may also be attended to at the roots. This plant grows best in a shallow, teakwood basket. Provide plenty of materials suitable for drainage purposes, but only a thin layer of compost. The plant should be suspended from the roof-rafters in a light position in the warmest house.

Brassia (syn. Oncidium) verrucosa.—This is a strong-growing plant that produces long, arching spikes and may be grown in pots on the stage. It should be afforded a light, airy position in the house, and be sprayed frequently overhead until growth is completed.

Oncidium leucochilum.—After this plant has passed out of flower it should be placed at the coolest end of the intermediate house, and be afforded very little water at the roots, although frequent overhead sprayings are beneficial in causing the pseudo-bulbs to become plump, these being usually in a more or less shrivelled condition after the plant has blossomed. Repotting should be done soon after the new growths have started. Employ a compost similar to that recommended for the other species. Place a few crocks at the bottom of the pot and pot the plants as for ordinary greenhouse plants.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Asparagus.—One of the chief points to observe in the cultivation of Asparagus is to keep the beds perfectly free from coarse weeds, and this necessitates hand-weeding periodically. Though somewhat tedious, the work may nevertheless be managed easily when the beds do not exceed 4 feet in width and are provided with wide alleys between them. The Asparagus growths should be kept upright, either by supporting them with feathery Pea-sticks or stakes with string stretched between them. In dry weather thorough soakings of water and such stimulants as liquid manure and artificial fertilisers are invaluable.

Capsicums and Chilies.—Plants grown in pots, as recommended in a former calendar, should now be flowering. The pots are filled with roots, and watering must not be neglected: the plants should also be given plenty of manurial assistance so that they may perfect a good crop of fruits in 5-inch pots, which are comparatively small receptacles. Later, if space in the pots permit, a top-dressing of rich materials may be applied. The plants should be exposed fully to the sunshine and air: on warm days the lights may be removed entirely, replacing them at night. In the early morning and again in the afternoon well syringe the plants and their surroundings, as this will greatly assist in keeping them free from aphis (green-fly). Should the presence of aphis be detected, the plants should be fumigated lightly on one or two occasions. Secure the growths as becomes necessary with neat ties.

Tomatos.—The plants are growing and bearing freely, therefore plenty of water and stimulant must be afforded the roots. Where space permits, such as on vacant parts of walls in fruit-houses, the growth may be allowed to extend. It is surprising what a large quantity of fruit a single Tomato plant will produce when it is watered and fed liberally. The side-growths should be removed constantly and the leader made secure. At this season quantities of good fruits may be grown in cold frames on plants trained to a stake. Make one or two occasional sowings for providing a succession of ripe fruit during the winter months. Sow the seed thinly and pot the seedlings before they become drawn, elevating them well up to the light. Place a small stick to each plant as soon as a support becomes necessary.

Maize or Indian Corn.—Encourage this crop to grow freely by frequently hoeing the soil, and, when the weather is dry, copiously watering the roots. Give manurial assistance so that the cobs may be ready for cutting towards the end of August.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Layering Carnations. — The earlier the plants are layered now the sooner will they be ready for transplanting to the beds, and the advantage of early planting is obvious. Layering pins may be purchased so cheaply that it scarcely pays to use home-made wooden pegs for securing the layers. A light compost consisting of loam, sand and leaf-mould should be placed around the old plants for the layers to root into. If the weather is dry, the stock plants should be watered thoroughly a day or two before commencing the work. After the incision is made in the stem through a joint, the shoot should be pegged firmly into the soil, keeping the cut surfaces apart. Water the plants afterwards, and damp them overhead during dry weather.

Propagating Pinks.—Pinks may be layered in precisely the same manner as Carnations, but the quickest method of increasing them is by cuttings. The shoots used for the purpose are termed pipings, and these should be inserted in a cold frame, or under a handlight. A large number may be inserted in a small space, and they develop roots with very little trouble. Keep the cuttings damp and well shaded, but not too damp, or the condensed moisture will cause them to decay. Whenever the atmosphere of the frame is excessively moist admit a little air at night time: this precaution will prevent damping.

Lavender. — The flower spikes should be cut just before the flowers are fully expanded. They should be tied into small bunches and laid out at once to dry, turning them daily till the stems are quite dry. After the spikes are cut hedges of Lavender may be trimmed: the shoots that develop afterwards will become well ripened before winter.

Hedges.—All kinds of hedges in the ornamental garden should be kept clipped closely. Those of Privet or the Myrobalan Plum should be trimmed several times during the growing season. Box-edging should also be kept neat and tidy, for if the plants are permitted to grow unchecked the hedge will quickly become uneven, and require much trouble and time to be brought to its proper form again. Box-edging is best clipped during dull weather, as strong sunshine is liable to scorch the shoots after they are clipped. Both the Holly and Yew are splendid for the purpose, and well-kept hedges of either of these plants are very ornamental objects in the garden. The Cherry and Portuguese Laurels are extensively employed as hedges or screens, but too often they are allowed to grow out of all proportion to their surroundings. It is a mistake to train a Laurel hedge quite square, for after a time it is almost impossible to keep it in a good condition, the top ultimately growing so strongly as to bulge over. If possible, hedges should be trimmed wedge shape, so that they are broadest at the base. Broad-leaved shrubs such as the Cherry Laurel should never be clipped with garden shears: they should be pruned with a sharp knife and the shoots shortened to just above a good leaf. The present is a suitable time to prune them, as the season's growth is practically completed. If the work is done now, the hedge will require little further attention till this time next year. Any lateral growths that may develop should be removed entirely. Laurels planted as a screen should be pruned to the ground level in front, so that the hedge slopes gently back until a desired height is reached.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

BROWALLIA SPECIOSA.—Young plants of Browallia speciosa raised in the spring and grown on in ordinary greenhouse conditions are on the point of flowering. If the plants are intended to bloom early in the autumn they should have all the points of the shoots removed to below the flower buds, and as soon as they have broken into growth again they should be shifted into 32-size pots.

CELOSIA PLUMOSA.—Early batches of this plant should now be carrying good plumes, and a dry atmosphere should be maintained to keep the inflorescences in a good condition. Plants of later batches intended for autumn flowering should be ready for transferring to their flowering pots; 24's are quite large enough; indeed, plants in 32's are often the most useful.

CANNA.—Continue to feed these plants freely, especially those that are throwing up their flower spikes. The earlier plants that have bloomed may be removed out-of-doors, but if some good specimens are required for the autumn there is still time to pot certain of those that have flowered in 32's. Pots 9 inches in diameter will be large enough and firm potting essential. These plants soon develop flower spikes, as the growths at the base are always fairly forward by the time the first flowers are past.

CHRYSANTHEMUM.—During hot weather guard against the Chrysanthemums becoming dry at the roots. This precaution is especially necessary in the case of dwarf plants growing in small pots, and these may require watering three or four times each day.

HOT-WATER SYSTEM.—There is no season of the year better than the present for overhauling the heating apparatus. In some instances a worn-out boiler may have to be replaced by a new one, or it may be one of the sections in a sectional boiler or a tube in the more old-fashioned tubular boiler has developed a leak. At this time of the year such work can be carried out without fear of the plants suffering injury, which is always the case where new boilers have to be placed in position during the winter or spring months. In cases where the boilers may not need repairing it is as well to have all the flues, shafts and furnace fronts overhauled and cleaned by a thoroughly competent bricklayer.

CAPSICUMS OR PEPPERS.—These plants are often grown for decorative purposes, and, provided suitable varieties are chosen, they are to be commended. Plants raised from seeds sown in April should now be setting their fruits, but if it is found that they are shy in setting they should be stood in the open, where, provided plenty of water is afforded the roots and a spraying overhead once or twice daily, the fruits should set freely. As soon as sufficient fruits are set the points of the shoots may be pinched out. Being quick-growing plants liquid manure may be given them frequently, also a little nitrate of soda or some other concentrated fertiliser once a week during the time the fruits are swelling.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

JULY 16.—*Present:* Mr. E. A. Bowles, M.A., (in the Chair); Sir J. T. D. Llewelyn, Dr. A. B. Rendle, Messrs. W. Hales, W. Fawcett, R. Hooper Pearson, and F. J. Chittenden (hon. sec.).

Delphinium consolida sporting.—Mr. W. HALES showed inflorescences of D. consolida with all the flowers on one side white. They had appeared in a bed of the ordinary D. consolida at Chelsea where no white forms had been seen before.

Virescent Delphinium.—Mr. CHITTENDEN showed inflorescences from a blue garden form of Delphinium, with all the flowers virescent, the foliose character of the parts (the stamens were not affected) varying in degree. In some the carpellary leaves were still folded and closed at their edges, the ovules being represented by the serrate margins of the folded edges: in others they were quite open.

Plants injured by fumes from smelting works.—Sir JOHN LLEWELYN exhibited leaves of a number of different plants from cottage gardens in the Swansea district showing very serious injury, in the form of dead margins and patches. This injury had appeared simultaneously with the introduction of a new method of extracting zinc from its ores in the neighbourhood, and it was thought that probably the greater volume of fumes emitted from the stacks, and possibly a difference in the composition of the fumes were accountable for the unusual damage. The specimens were referred to Dr. VOELCKER.

Variation in Black Currant Boskoop Giant.—Mr. CHAS. PEARSON sent shoots of black Currant Boskoop Giant to illustrate a variation which had suddenly arisen in several localities. In the sport the leaves become much more dentate and the bushes fail to fruit. Sometimes only a portion of the bush is so affected, but frequently the whole, and in one plantation 50 per cent. of the bushes showed the variation. The Committee would welcome any observations that would throw light upon the phenomenon. It has been suggested that possibly hard pruning may have brought about the result, but there is no record so far of recovery to the normal form.

Eria rhyncostyloides.—A botanical certificate was unanimously recommended to this beautiful, though small-flowered Orchid, native of Java, exhibited by Sir TREVOR LAWRENCE, Bart., V.M.H.

Certificate of Appreciation.—A certificate of appreciation was recommended to Messrs. CHARLESWORTH & Co., Haywards Heath, on the suggestion of the Orchid Committee, for work done in raising Odontonia × Edna, exhibited at Holland House Show.

POTTERS BAR AND DISTRICT AMATEUR ROSE.

JULY 16.—The exhibition of this society was held in conjunction with the Village Flower Show on the above date. The nurserymen's challenge cup offered for 36 varieties of Roses attracted five competitors, and was won by Mr. JOHN PIGG, of Royston, who also secured the chief award in the class for 18 Tea Roses. Messrs. W. and J. BROWN won the cup for a group of Roses with a tasteful display, Messrs. HARKNESS & SONS being 2nd in this class. In the open class for amateurs, Mr. W. O. TIMES carried off the challenge cup with a box of 18 Roses, Mr. H. R. DARLINGTON taking the 1st prize for a box of 12 Tea Roses. The members' challenge cup and replica, the principal local event, was won by Mr. STUART HOGG with a box of 12 Roses. In the decorative classes Mrs. WEBER obtained the 1st prize for five vases of Ramblers, Viscountess ENFIELD that for an arrangement of Roses, and Mr. J. HART for a group of Chinas or Dwarf Polyantha Roses. There was a large entry in the ladies' classes for baskets, bowls and vases of Roses, the principal prizes going to Miss WILSON FOX, Miss WIGRAM, and Miss GORDON THOMPSON. The smaller classes, of which there were several, were well filled. Among the growers of fewer than 100 plants Miss VAUGHAN JACKSON had two very creditable boxes.

ROYAL SOUTHAMPTON HORTICULTURAL.

JULY 16, 17.—The summer exhibition of this Society, held on the above dates, was of special importance. It was not only the Jubilee Show of the Southampton Society, but the display took place in conjunction with the show of the southern section of the National Carnation Society in the County Cricket Ground. It is to be regretted that competition was not very keen, but many of the exhibits were of good quality. There was a fine display of Sweet Peas, and the decorated tables were very good, whilst fruit and vegetables were well staged.

CARNATIONS.

There were three entries for twelve vases of Self, Fancy, and Yellow-ground Picotee varieties, arranged in a space measuring 4 feet by 3 feet. Mr. J. DOUGLAS, Great Bookham, Surrey, was successful with choice flowers of John Ruskin, Pasquin and Purity. Mr. A. R. BROWN, King's Norton, Birmingham, was placed 2nd. The winning exhibit for four vases of Carnation "Selfs" was also staged by Mr. DOUGLAS; 2nd, Mr. HAYWARD MATHIAS, Medstead. In the class for Fancy Carnations other than the white ground varieties, those best shown were exhibited by Mr. DOUGLAS, who also won in the class for four vases; 2nd, Mr. BROWN. The last-named competitor showed the best exhibit in the class for White-ground Fancy Carnations. Mr. DOUGLAS staged the winning exhibit of Yellow-ground Picotees. Dressed flowers were of an ordinary type. For six Flake and Bizarre varieties and for Fancy and for Self kinds, Mr. DOUGLAS excelled. Mr. H. MATHIAS was successful in the class for Yellow and White-ground Picotees.

In the amateurs' section, competition was much keener. For six vases of "Selfs" J. A. FORT, Esq., The College, Winchester (gr. Mr. G. Cousens), was placed 1st for very fine flowers. H. PARTON, Esq., Studholme, Moseley, Birmingham (gr. Mr. R. G. Rudd), showed the best four vases of Self Carnations amongst four other entries. Dressed Carnations were best shown by C. A. LINZEE, Esq., Bramdean, Alresford (gr. Mr. R. Ransom). In the class for Tree or American varieties, in which Messrs. Dutton offered prizes, W. H. MYERS, Esq., Swanmore House, Bishop's Waltham (gr. Mr. G. Ellwood) secured the leading award with an effective display of popular varieties.

SWEET PEAS.

Messrs. Toogood & Sons provided the prizes for nine bunches distinct, and the 1st prize was won by Sir R. BAKER, Ranstone, Blandford (gr. Mr. A. E. Usher), with well-staged varieties. 2nd, Mr. F. G. BEALING, Bassett Nurseries, Southampton. Mr. BEALING also won the premier award in the class provided by Robert Sydenham Limited, with grandly developed blooms displayed with taste. Sir R. BAKER won Messrs. Sutton's leading prize for six bunches. The prizes offered by Messrs. Webb & Sons and Messrs. Jas. Carter & Co. also fell to this exhibitor.

ROSES.

In the class for a group of Roses, Mr. JOHN MATTOCK, Headington, Oxford, won the challenge cup offered by the Hon. Mrs. Yorke, Hamble Cliff, with an attractive exhibit. The best twenty-four distinct varieties were shown by Messrs. PERKINS & SON, Coventry; 2nd, Messrs. D. PRIOR & SONS, Colchester. Messrs. PERKINS won the 1st prize for twelve Tea or Noisette varieties, Messrs. D. PRIOR & SONS following.

DECORATIVE PLANTS, FRUIT, &C.

For a group of miscellaneous plants arranged for effect, Mr. E. WILLS, Winchester Road Nurseries, Southampton, excelled with Orchids, Palms, Crotons, and Begonias. 2nd, The Hon. Mrs. ELLIOTT YORKE, Hamble Cliff (gr. Mr. Turner). Captain DALGETTY, Lockerby Hall, Romsey (gr. Mr. W. Baxter), secured the winning award for a collection of six dishes of fruit, with handsome Grapes, Peaches, Melons, &c.

ELLEN Lady SWAYTHLING, South Stoneham House, Southampton (gr. Mr. T. Hall), staged the best collection of four bunches of Grapes, the variety Madresfield Court being especially fine.

The LOCKSHEATH NURSERY CO., Southampton, exhibited the best Peaches and Nectarines, and

W. H. Myers, Esq., showed the best Melons—Emerald Gem variety.

Vegetables were shown well, Mr. W. H. Myers being unapproachable in all the classes for collections in which he competed, winning the leading prizes offered by Messrs. Toogood, Sutton & Sons, Carter & Co., and Webb & Sons.

Honorary Exhibits.

The trade exhibits added much to the attractiveness of the show. Messrs. B. Ladhams & Son, Shirley, Southampton, arranged a large garden of old English design. (Gold Medal.)

Mr. H. B. May, Edmonton, showed Ferns in quantity and much variety. (Gold Medal.)

Mr. Bennett, Guernsey, exhibited Carnations effectively employed. (Gold Medal.)

Messrs. W. H. Rogers & Son, Ltd., Southampton, were represented by shrubs, Roses, and herbaceous plants. (Gold Medal.)

Messrs. Toogood & Sons, Southampton, exhibited vegetables. (Gold Medal.)

Messrs. E. Webb & Sons, Stourbridge, showed Sweet Peas, Melons, and Vegetables, all of desirable quality. (Gold Medal.)

Messrs. S. Bide & Son, Farnham, arranged Sweet Peas in rustic baskets and vases effectively. (Silver-gilt Medal.)

Mr. J. Stevenson, Wimborne, showed Sweet Peas. (Silver-gilt Medal.)

Mr. Breadmore, Winchester, with new Sweet Peas, secured a Silver-gilt Medal.

The Locksheath Nursery Co. arranged fruit trees in pots.

SALTAIRE, SHIPLEY AND DISTRICT ROSE.

July 17.—In conjunction with the North of England Horticultural Society, the Saltaire Society held its 10th show on the above date. The North of England Society made various awards to exhibits. Never has such a magnificent collection of Roses, Sweet Peas, and hardy flowers been staged at Saltaire. The visit of the northern society helped to make the show a decided success, for the exhibits occupied two large tents. There were 111 classes, besides the exhibits of the N.E.H.S. Roses were extremely good, both in the open and the local classes, and many of the best new varieties were to be seen in good condition. Messrs. Alexander Dickson & Sons, Newtownards, again won the 100-guinea Northern Championship Challenge Rose Bowl and Gold Medal in the open class for 60 blooms, distinct, while in the classes for 36, 24, and 16 blooms, distinct, they also beat all comers with remarkable displays of perfectly-formed, fresh, and richly-coloured blooms. Other exhibitors who were frequent prize-winners were Messrs. D. Prior & Sons, Colchester; Messrs. Hugh Dickson, Ltd., Belfast; and Messrs. Harkness & Co., Hitchin. Mr. Tom Park, of Bedale, was the most successful local exhibitor, and, considering the cold and wet June north-country growers have experienced, this exhibitor staged exceedingly good blooms.

In the Sweet Pea classes, Mr. Bolton, of Carnforth, staged one of the best collections of bright-coloured and well-grown flowers we have seen, and the colours were arranged with great taste. The N.E.H.S. was so impressed with Mr. Bolton's exhibit that they awarded it their Gold Medal.

Hardy flowers made a good display. A decided improvement was noticed in the staging of these flowers, but there still remains room for lighter arrangement.

Roses (Open to All).

Sixty blooms, distinct varieties.—1st, Messrs. Alexander Dickson & Sons, Ltd., Newtownards; 2nd, Mr. Hugh Dickson, Belfast; 3rd, Messrs. Harkness & Co., Hitchin. Amongst the blooms in the winning stand we noticed good flowers of such varieties as George Dickson (new, dark crimson), Lady de Bathe, Alice Lindsell, J. R. Davidson, Beauty of Waltham, La Galissiere, George C. Waud, Mabel Drew, Mrs. Foley Hobbs and Lord Powerscourt. Thirty-six blooms, distinct: 1st, Messrs. A. Dickson & Sons; 2nd, Messrs. Chapman & Collins, Leicester; 3rd, Mr. H. Drew, Longworth, Berks. Sixteen blooms, distinct: 1st, Messrs. A. Dickson & Sons; 2nd, Mr. Hugh Dickson; 3rd, Messrs. D. Prior & Sons. Twenty-four blooms, distinct: 1st, Messrs. A. Dickson & Sons; 2nd, Mr. Hugh Dickson; 3rd, Messrs. D. Prior & Sons. Twenty-four blooms of Hybrid Tea varieties: 1st, Mr. W. Bentley, Leicester; 2nd, Messrs. A. Dickson & Sons; 3rd, Mr. Hugh Dickson. Twelve blooms, Teas or Noisettes: 1st, Mr. H. Drew; 2nd, Mr. H. Dickson; 3rd, Mr. A. H. Rigg, Baildon.

Amateurs' Classes.

Thirty-six blooms, distinct: 1st, Mr. Tom Park, Bedale; 2nd, Mr. Conway Jones, Hucclecote; 3rd, Mr. H. V. Machin, Worksop. Eighteen blooms, distinct: 1st, Mr. Tom Park, Bedale; 2nd, Mr. Conway Jones; 3rd, Mr. F. J. Harrison, Ulverston. In the local nurserymen's class for 24 blooms, the winners were, in the order named: Mr. A. H. Rigg, Baildon, Messrs. H. Clark & Son, Radley, and Mr. W. Kershaw, Saltaire.

Some excellent blooms were to be seen in the local amateurs' classes. The Silver Rose Bowl was awarded to the premier exhibit; the Society's Silver Medal and the National Rose Society's Bronze Medal were awarded to the premier bloom, which was a splendid specimen of the variety Mildred Grant.

Local amateurs within a 20-mile radius.—For 24 blooms, in not fewer than 18 varieties: 1st, Mr. L. Law, Hawksworth Hall; 2nd, Mr. J. W. Merrall, East Morton. Ten-mile radius, 24 blooms, 18 varieties: 1st, Mr. J. M. Tankard, Roundwood; 2nd, Mr. G. C. Waud, Baildon, the winner receiving the Silver Rose Bowl and the Society's Silver Medal. Five-mile radius, and growers of not more than 250 trees, 12 blooms, in 9 varieties: 1st, Mr. J. H. Barron, Bingley; 2nd, Mr. S. Woodhall.

Classes for smaller growers, cottage gardeners, and allotment holders were well filled, and some very creditable blooms staged.

Sweet Peas.

Eighteen bunches, distinct, with not fewer than 12 and not more than 20 spikes each, and own foliage only.—1st, Mr. G. H. Garnett-Orme, Slapton; 2nd, Messrs. Castle Bros., Carnforth. The winner is entitled to the Silver Sweet Pea Bowl.

Twelve bunches, distinct.—1st, Mr. J. Smellie, Busby; 2nd, Mr. F. J. Harrison, Ulverston; 3rd, Mr. Cecil E. Taylor, Carnforth.

The prizes in Class 29 were offered by Robert Sydenham Ltd., for 18 varieties of Sweet Peas, in bunches of 15 to 20 stems. The value of the prizes offered was £32. The 1st prize of £10 was won by Mr. C. E. Taylor, Carnforth; 2nd, Mr. E. Keith, Wallington. The 1st prizes in Classes 46 and 47, also offered by Robert Sydenham Ltd., were won by Mr. J. Shackleton, Keighley, who also won the Silver Vase.

Local amateurs (20-mile radius), 12 bunches, distinct.—1, Mr. S. Shackleton, Cross Hills; 2nd, Mr. G. H. Garnett-Orme.

Local nurserymen, 12 bunches, distinct.—1st, Mr. W. Heslington; 2nd, Messrs. H. Clarke & Son.

Decorative Classes.

Some very artistic dining-table decorations were arranged. The table arranged by Mrs. G. Nicholson, with Rose Mme. Abel Chatenay and its own foliage, was very attractive, and this won the 1st prize and Silver Vase. The table arranged with Sweet Peas and own foliage, exhibited by Miss Borwick, Yeadon, in a space 6 feet by 4 feet, was very beautiful.

Mr. J. Smellie won the 1st prizes in all the classes devoted to Pansies and Violas.

North of England Horticultural Society Exhibits and Awards.

The excellence of the collection of Sweet Peas arranged by Mr. Robert Bolton, Carnforth, has already been mentioned. (Gold Medal.)

A striking feature of Messrs. G. Gibson & Co.'s (Bedale) collection of hardy cut flowers was the freshness they exhibited, Delphiniums and Roses being very good, and the arrangement of the whole was excellent. (Large Silver-gilt Medal.)

In another interesting group of hardy flowers, that shown by Messrs. Harkness & Co., Bedale, were noticed many interesting flowers. The Verbascums, Gaillardias, and Oriental Poppy (pink, unnamed) added much to the attraction of this exhibit. (Silver-gilt Medal.)

For a large bowl of Roses, dwarfs and Ramblers, Messrs. W. & J. Brown, Peterborough, were awarded a Silver-gilt Medal.

Another Large Silver Medal was given to Messrs. A. J. Batchelor & Sons, Harrogate, for an exhibit of Ferns. Many choice and rare varieties were seen, the predominant genus being Nephrolepis.

With Roses, Violas, and Sweet Peas, Messrs. Dobbie & Co., Edinburgh, made a valuable display. This exhibit was characterised by the great variety of interesting flowers. (Large Silver Medal.)

For a stand of English Iris, Mrs. W. A. Simpson-Hinchcliffe, Mytholmroyd, was awarded a Silver Medal. It was a pleasure to inspect this harmoniously-arranged exhibit.

Mr. J. W. Unwin, Histon, Cambridgeshire, was awarded a Silver Medal for a good representative collection of Sweet Peas.

Messrs. Mawson Bros., Windermere, who arranged a large stand of hardy flowers, and Mr. Wm. Kershaw, Saltaire, with a similar exhibit, were awarded Large Bronze Medals.

A very large group of hardy flowers was arranged on the floor by Messrs. J. Artindale & Sons, Sheffield. Amongst the many kinds which attracted our attention were Phloxes, Delphiniums, Gaillardias, and Tritomas. A better effect would have been obtained in the arrangement if fewer flowers had been used. (Large Silver Medal.)

Mr. Alva J. Hall, Harrogate, for his collection of choice rock and herbaceous plants, judiciously intermixed with Maples, was given a Silver Medal.

For a small stand of stove and greenhouse plants, including a few Orchids, Messrs. A. J. Keeling & Sons, Bradford, were awarded a Bronze Medal.

Messrs. S. Broadhead & Sons, Huddersfield, received a Large Bronze Medal for hardy flower and rock plants.

Messrs. Conway's, Ltd., Halifax, were awarded a Bronze Medal for a similar exhibit.

For a stand of Violas, Mr. F. J. Bell, Whitley Bay, was awarded a Silver Medal. These flowers were arranged in the form of sprays backed with Ferns, which showed them to advantage.

Another exhibit of Violas was shown by Messrs. Seagrave, Sheffield. (Large Bronze Medal.)

The Cookridge Nursery Co., Leeds, made a huge display of Hydrangea paniculata and Ferns. (Bronze Medal.)

A Large Bronze Medal was awarded to Messrs. J. Backhouse & Co., York, for a collection of hardy flowers.

Mr. John Brooke, Bradford (for a miscellaneous exhibit of flowers and garden sundries), and Messrs. E. W. King & Co., Coggeshall (for Sweet Peas, which had amongst them many charming varieties), were awarded Large Bronze Medals.

First-class Certificates were awarded to Gaillardia "Mrs. MacKellar" and Verbascum "Flossie Clark." Both were shown by Messrs. Harkness & Sons.

RAYLEIGH AND DISTRICT HORTICULTURAL.

July 17.—This society held its annual summer show. The most successful exhibitors were (amateurs) Mr. W. Denyer (six 1st and four 2nd prizes); Mr. E. Boyes (four 1st and four 2nd prizes); and Mr. J. W. Vickers (three 1st and three 2nd prizes). In the ladies' classes Miss Barnard and Miss Curnock were 1st and 2nd respectively for table decorations. Miss Barnard made good use of pink Sweet Sultan (Centaurea) and Gypsophila elegans grandiflora alba; the 2nd prize arrangement consisted of pink Sweet Peas. Mrs. J. W. Vickers and Miss Harris, The Meadows, Thundersley, were successful in the bouquet and buttonhole classes. Mr. E. Boyes was 1st in the class of a group of miscellaneous plants arranged for effect. Mr. S. H. Brett, Hillcrest Nursery, Rayleigh, Mr. S. Taylor, Alpha Nursery, Rayleigh, and Mr. J. C. Jenner, Lynwood Nursery, Eastwood Road, Rayleigh, arranged three good groups not for competition.

CARDIFF AND COUNTY HORTICULTURAL.

July 17.—The 24th annual show of the above society is a great social event as well as being one of the most important of the provincial horticultural exhibitions. The entries were large, the competition generally was very keen, and the fine weather induced a great number of people to attend the show, so that the committee have every reason to congratulate themselves and their secretary (Mr A. Maurice Bailey) on the unqualified success of their most recent exhibition. The principal prize-winners in the open and amateur classes were the Marquess of Bute, the Marquess of Northampton, the Duchess of Somerset, the Earl of Plymouth, Lord Aberdare, Lady Hill, the Mackintosh of Mackintosh, and Sir G. Forestier-Walker. The decorated dinner-tables attracted a deal of admiration, and the cottagers' exhibits reached a high standard of excellence.

Groups of Plants.

The 1st prize group of plants, occupying a space of 150 square feet in the open class, arranged by Messrs. J. Cypher & Son, Cheltenham, was characterised by the light and tasteful grouping which marks Messrs. Cypher's exhibits; 2nd, Lady Hill, Rookwood.

The smaller groups in the class restricted to amateurs were exceedingly well arranged, and the competition was keen. The 1st prize was awarded to Mr. J. L. Morgan, Llandaff; 2nd, Exors. of the late Mr. James Howell, Cardiff; 3rd, Mr. H. Pennell, Merthyr. The Exors. of the late Mr. J. Howell were placed 1st for three stove and greenhouse Ferns; 2nd, Mr. A. Parsons, Cardiff. Mr. H. V. Pitcher, Penarth, was awarded the 1st prize for six tuberous Begonias; 2nd, Dr. J. L. Thomas, Cardiff. The best twelve Zonal Pelargoniums were shown by Mr. W. Mellings, Penylan, and the 2nd best by Mr. J. Oxenham, Cardiff. Mr. W. S. Melhuish, Cardiff, showed the finest six Zonal Pelargoniums; 2nd, Lady Hill. The class for six plants suitable for table decorations was very strongly contested; the 1st prize was awarded to Mr. J. L. Morgan for an exceptionally good set of plants; 2nd, Lady Hill; 3rd, The Duchess of Somerset. The 1st prize for three specimen plants in bloom, other than Orchids, was won by Mr. A. Parsons. Lady Hill showed the best Fuchsias, and the Mackintosh of Mackintosh received the 1st prize for Gloxinias.

Roses.

The few cool days which preceded the show enabled the exhibitors of Roses to stage their blooms in good condition, and the flowers retained their freshness throughout the day. In the open class for 12 distinct varieties, three blooms of each, Mr. J. Basham, Bassaleg, won the 1st prize; 2nd, Messrs. S. Treseder & Son; 3rd, Messrs. Jefferies & Son, Cirencester. The King's Acre Nursery Co. were placed 1st in the similar class for Tea or Noisette Roses; 2nd, Messrs. S. Treseder & Son, who received the 1st prize for 24 blooms, distinct. The King's Acre Nursery Co. were awarded the 1st prize for 18 Tea or Noisette Roses. The best 12 blooms of any variety other than Tea or Noisette were shown by The King's Acre Nursery Co.; whilst Messrs. J. Jefferies & Son were the successful exhibitors with 12 blooms of any other variety. The 1st prize for a collection of Roses occupying a space 9 feet by 4 feet 6 inches was awarded to Messrs. W. Treseder & Son; 2nd, Mr. J. Crossling, Penarth; 3rd, Messrs. J. Jefferies & Son. The R.H.S.'s Silver Medal for the best exhibit in the open classes was awarded to Mr. J. Basham.

In the amateurs' class for 12 Roses of not fewer than six distinct varieties, Mr. G. R. Bonner, Barwood, was the most successful competitor; 2nd, the Duchess of Somerset; and the same exhibitors were similarly placed in the class for 12 Tea or Noisette Roses.

Sweet Peas and Carnations.

The exhibits of Sweet Peas were exceptionally good. The premier prize for 18 vases of Sweet Peas was awarded to Mr. A. E. Usher; 2nd, Mr. R. Edwards. The dinner-table decorations of Sweet Peas were very popular: 1st, Mrs. Gerhold, Penarth; 2nd, Miss Violet Liddiard, Cardiff. The best six vases of Sweet Peas were shown by Mrs. Jenner, who was equally successful in the classes for one vase and for 12 distinct varieties of Sweet Peas

In the open class for 12 border Carnations and Picotees Mr. Chas. Wall, Bath, was awarded the 1st prize, whilst Mr. T. W. Thomas, Whitchurch, was the successful exhibitor in the similar class for amateurs. The best collection of border Carnations and Picotees was that shown by Mr. C. Wall; 2nd, Lord Aberdare. Mr. Wall also showed the finest collection of tree and "Malmaison" Carnations. Mr. R. T. Went received the 1st prize for a collection of hardy flowers, as well as that for six vases of hardy flowers. Messrs. W. Treseder & Son were the most successful exhibitors in the open class for a collection of hardy flowers.

Decorative.

A very keen competition prevailed in the decorated dessert tables, 8 feet by 4 feet. The 1st prize was awarded to Messrs. W. Treseder & Son, Ltd., for an arrangement of pink Carnations and mauve Sweet Peas; 2nd, Messrs. Sidney Case, Ltd., Cardiff, for a table of pink Carnations; 3rd, Mr. C. J. Ellis, Weston Nurseries, Weston-super-Mare, who had a very lightly-arranged table of Gilia coronopifolia. There were three other tables; the flowers used were chiefly pink Carnations, "Malmaisons," and Irish Elegance Roses; Orchids were not permitted.

The 1st prize for a bride's bouquet was won by Mr. P. Thomas, Albany Road, with a bouquet of Odontoglossums; 2nd, Messrs. W. Treseder & Son, Ltd., who showed a very large bouquet of Odontoglossums and white Cattleyas; this bouquet would have been better if it had been more loosely arranged, the choice white Cattleyas were almost hidden.

In the class for two floral baskets arranged for effect (Orchids excluded), Mr. C. J. Ellis, Weston-super-Mare, was awarded 1st prize for a light and artistic arrangement of red and white Carnations; 2nd, Messrs. Case Bros., Cardiff; 3rd, Messrs. Sidney Case, Ltd. For a basket of flowers arranged for effect Messrs. W. Treseder & Son, Ltd., Cardiff, were awarded the 1st prize; their arrangement of Cattleyas, Odontoglossums and Oncidiums was very tasteful. A very effective basket gained for Mr. C. J. Ellis, Weston-super-Mare, the 2nd prize.

The best bouquet of Carnations was shown by Messrs. Case Bros., Cardiff; 2nd, Mr. P. Thomas; 3rd, Messrs. Treseder & Son, Ltd. For a bouquet of Roses Mr. P. Thomas, Albany Road, Cardiff, was awarded the 1st prize; and Messrs. W. Treseder & Son, Ltd., were placed 2nd.

Fruit and Vegetables.

Two bunches of Muscat Grapes: 1st, Mr. E. H. Ebsworth, Llandough Castle; 2nd, Capt. W. B. Thurling, Lydney; 3rd, H. Webb, Esq., M.P. Two bunches of any other white Grapes: 1st, Mr. D. W. Graham, Helston Park; 2nd, Mr. E. H. Ebsworth; 3rd, Mr. R. P. England, Rumney Court. Two bunches of Black Hamburgh Grapes: 1st, Mr. Godfrey L. Clark, Talygarn; 2nd, Mr. E. C. Lysaght, Chepstow.

The best dish of Nectarines was shown by Mr. Frank Bibby, Shrewsbury; the same exhibitor was also 1st with a dish of Peaches.

The Marquess of Northampton, Castle Ashby (gr. Mr. Searle), was awarded the 1st prize for a meritorious collection of vegetables, nine distinct kinds; 2nd, Miss Bernard.

Forestry.

The exhibits of specimen boards of various hardy, broad-leaved and Coniferous trees, and the general exhibits illustrative of forestry, attracted a great deal of attention. The Society's Silver Medals were awarded to the Marquess of Bute and the Earl of Plymouth for their exhibits.

Non-competitive Exhibits.

Messrs. Sutton & Sons, Reading, arranged a large collection of Sweet Peas on an arched trellis.

The King's Acre Nursery Co., Hereford, exhibited many fruit trees and dwarf rambler Roses in pots.

Messrs. W. Treseder & Son, Ltd., Cardiff, arranged Conifers amongst Antirrhinums, and in another part of the grounds showed Pelargoniums and other flowering plants.

Messrs. C. Wall, Melrose Nursery, Bath, exhibited tree and border Carnations.

Messrs. Young & Co., Cheltenham, and Mr. C. F. Walton, Balcombe, Sussex, also exhibited Carnations.

LIVERPOOL HORTICULTURAL.

July 17.—The above Society held its annual Rose and Sweet Pea Show in the Corn Exchange on this date. The favourable weather kept the flowers in fair condition throughout the day. The entries were above the average, but, unfortunately, many of the Roses were undersized.

Roses.

Eighteen hybrid Teas: This class brought only one exhibit, from J. R. Dixon-Nuttall, Esq., Prescot (gr Mr J. W. Parker), who was awarded the 1st prize. This collection included good blooms of the Lyon, Lady Ashdown, and Mrs. W. J. Grant.

Eighteen blooms, distinct: Mr. Parker was again the 1st prize-winner; 2nd, Mrs. Smith (gr. Mr. G H. Kefford), Thelwell; 3rd, W. A. Rocklift, Esq (gr. Mr. J Aindow), Formby.

Twelve blooms, distinct: Mr. Aindow obtained the 1st place with an excellent stand of blooms. In the class for six blooms Mr. W. Foulkes was the most successful exhibitor. In the amateurs' class, which requires 12 blooms in not fewer than six varieties, Mr L. Thomson won the 1st prize with a good set of flowers. Mr. P. Fitzpatrick showed the best six blooms, and Mr. Charles Green, Neston, arranged the best pair of vases. In the local class Mr. Chris Hackney won the 1st prize.

Sweet Peas.

In this section the competition was very keen and the flowers were of excellent quality.

Twenty vases: This class induced a fine competition. Dr. G. H. Phillips (gr. Mr. W. Davies) won the premier award with a splendid collection. The varieties Elsie Herbert, Nubian, and Maud Holmes were especially fine. Mr. R. R. Anderson, Birkenhead, was a good second, and was followed closely by J. P. Heron, Esq. (gr. Mr. W. Bond).

Twelve vases: Mr. Davies won the 1st place with a collection in which the varieties Thos. Stevenson and Mrs. Hardcastle Sykes were especially good; 2nd, Major F. M. Roome (gr. Mr. H. Foulkes), Formby; 3rd, E. Cozens Hardy, Esq. (gr. Mr. E. T Barrett).

Twelve varieties with waved standards: Mr. Foulkes was awarded the 1st prize for a very good set of flowers; 2nd, Col. Cornwallis West (gr. Mr. W. Forder), Ruthin Castle; 3rd, T. Henshaw, Esq. (gr. Mr. J. George), Roby.

Twelve vases, distinct: The prizes were awarded to Messrs. J. George, A. Ratson, Fazackerly, and R. T. Shepherd in the order named.

One vase Sutton's Queen: Messrs. W. Bond and G. Faulkner were placed in the order mentioned for very fine exhibits.

Amateurs' Classes.

Twelve vases, distinct: Mr. J. Roberts, Gresford, won the 1st prize; 2nd, Mr. S. H. Curtis.

Six vases: Mr. R. Aindow won the 1st prize, and, for the six vases of blooms with waved standards, Mr. G. Faulkner was placed 1st.

In the section for members of the corn trade Messrs. E. J. Procter and J. Tapscott each won a 1st prize.

In the class for a dinner table decorated with Sweet Peas Miss Newsham was the successful exhibitor, and in the competition for any other flower Mrs. H. E. Marsh, who employed Roses, was awarded the 1st prize. There were 19 competitors in these two classes.

Twelve bunches of cut herbaceous flowers: 1st, Mr. J. George, who staged a fine collection. Mr. J. W. Parker won the 1st prize in the class for six bunches.

For six bunches of flowers grown in the open Mr. L. Thomson secured the premier honour. Mr. J. Green won the 1st prize in the members' class.

Carnations and Picotees.

Mr. J. Calder showed the best six varieties, three blooms of each; the variety Anne Hathaway was especially noteworthy.

Twelve blooms arranged in vases: H. S. Barrett, Esq. (gr. Mr. Mills), won the 1st prize with fine flowers of such varieties as Lady Willmott and Miss Peggy.

Six blooms: Mr. Calder showed the best flowers in this class, and for six blossoms restricted to amateurs Mr. R. Duke won the 1st prize. In the class for one vase, Mr. E. Sergenson won the 1st prize with the variety Cecilia, and in the members' class Mr. J. Green was the most successful competitor.

Mr. E. Turnbull exhibited the best six Pansies and Violas.

Non-competitive Exhibits.

Mr. R. Manson, Gateacre, made a fine display with brightly-coloured Roses, the Lyon being especially noteworthy. (Gold Medal.)

Messrs. R. P. Ker & Son, Aigburth, arranged a fine bank of miscellaneous plants, including good Crotons. This firm also staged fruit and vegetables. (Gold Medal.)

Messrs. Dicksons, Chester, exhibited an extensive mixed display of cut flowers, Gladiolus being prominent. (Gold Medal.)

The Liverpool Orchid Co. contributed cut Roses and a collection of Orchids. (Gold Medal.)

Messrs. Bees Ltd. arranged Alpines in pots, cut Roses, and herbaceous flowers. (Gold Medal.)

Mr. H. Middlehurst, Liverpool, showed a pleasing stand of Sweet Peas. (Gold Medal.)

Mr. R. Wright also displayed Sweet Peas, and included the variety Mrs. Hettie Roome, a promising seedling. (Gold Medal.)

Messrs. Aldersley and Marsden Jones also had fine contributions of Sweet Peas. (Gold Medal.)

Mr. C. A. Young, West Derby, arranged a choice selection of Carnations. (Silver Medal.)

Messrs. Jones, Liverpool, exhibited various cut flowers. (Silver Medal.)

Messrs. Aitken & Faulkner displayed Sweet Peas, &c. (Silver Medal.)

Mr. W. Rowlands, Childwall Nurseries, contributed cut Roses. (Silver Medal.)

Mr. C. Russell, Blundellsands, had a pleasing display of Carnations. (Silver Medal.)

The Covent Garden Seed Co. showed cut hardy flowers. (Silver Medal.)

Messrs. Fishlock Bros. arranged floral decorations. (Silver Medal.)

HORTICULTURAL CLUB.

July 18.—The annual outing of the members and friends of the Horticultural Club took place on Thursday, the 18th inst. Despite the unseasonable lapse into chilly and gloomy weather, the event proved to be an extremely enjoyable one. Some 50 ladies and gentlemen journeyed in two saloon carriages from Paddington to Slough station, proceeding thence in motor brakes to Stoke Poges, where they visited the old church sacred to reminiscences of the poet Gray, whose tomb is in the churchyard, and also as containing the pew of William Penn, whose name is equally immortalized as the founder of the now great State of Pennsylvania. Leaving the church, the party was driven through Burnham Beeches and the charming woodland of which they form a quota, stopping therein to partake of an excellent lunch at Wingrove's Restaurant. Mr. W. Goldring, having submitted the toast of "The King," Mr. Druery proposed that of "The Visitors," coupling with the toast the names of Prof. Hutt and Mr. Whyte, two Canadian gentlemen at present visiting this country. Both gentlemen replied in appreciative terms as regards the beauty of the places they were privileged to visit in this country. Mr. Hooper Pearson referred to the regretted absence of Sir Harry Veitch through temporary indisposition, but expressed the delight of the members when they saw that he was able to meet the party at Slough station earlier in the day. Mr. Pearson also read a telegram from the President of the Club, Sir Frank Crisp, regretting his inability to be present and wishing the party a pleasant day. The lunch over, the party proceeded to Cliveden, where, by permission of W. W. Astor, Esq., they were conducted by Mr. Camm, the head gardener, through the magnificent grounds and gardens, enjoying during the walk innumerable glimpses of the Thames, which passes the boundary of the estate. The visitors greatly enjoyed the beauty of the many vistas afforded in the woodland. From Cliveden the party drove to Sir Harry Veitch's residence at East Burnham Park, where tea was provided by Lady Veitch. The gardens were inspected, and the party afterwards returned to Slough station, where they took train for London. Unanimous thanks were expressed to both Sir Harry and

BIRMINGHAM BOTANICAL AND HORTICULTURAL.

July 17.—The annual Rose and midsummer flower show, held at the Botanical Gardens, Edgbaston, on the above date, was the biggest and best yet held under the auspices of this society. The Exhibition Hall was filled with Roses, Sweet Peas, hardy flowers and greenhouse plants. The show was visited by a record number of visitors.

The Lapworth Nurseries, Hockley Heath, had a bright group of hardy flowers, shrubs and Roses, together with a capital strain of Cockscombs. Included in the border flowers were good examples of Campanula carpatica, Phloxes, Geum Mrs. Bradshaw, Helenium pumilum magnificum, Bocconia macrocarpa, Liliums, Gaillardias, Galegas, Anthemis tinctoria grandiflora, Verbascums, Pyrethrums, Hemerocallis, Lathyrus and Pinks. Buddleias—variabilis Veitchii and V. magnifica—were represented by handsome bunches. (Silver Medal.)

Messrs. Gunn & Sons, Olton, occupied a large space with Roses in vases, boxes, and tall bamboo stands. A few of the best varieties were Edward Mawley, Mme. Ravary, His Majesty, Lyon (extra good), Harry Kirk, Pharisaër, Mme. Mélanie Soupert, Mildred Grant, Prince de Bulgarie, Frau Karl Druschki, J. B. Clark, Liberté, Hugh Dickson, White Killarney, and Mrs. Theodore Roosevelt. (Silver Medal.)

W. P. Willcox, Esq., Park Hill, Moseley (gr. Mr. A. Hartwell), exhibited a collection of well-grown, double-flowered, tuberous-rooted Begonias. The shapely flowers represented a wide range of colour from white and yellow through shades of pink-rose, salmon and scarlet to crimson. (Silver Medal.)

Messrs. A. R. Brown, Ltd., King's Norton, contributed a collection of Roses. (Bronze Medal.)

Messrs. W. H. Simpson & Sons, Birmingham, exhibited a large group of good quality Sweet Peas, in which the undermentioned varieties were of outstanding merit:—Maud Holmes, Mrs. R. Hallam, Edna Unwin, R. F. Felton, Hercules, Othello, Martha Washington, Thomas Stevenson, Elfrida Pearson, White Queen, Nettie Jenkins, Coronation, Afterglow, Edrom Beauty, and John Ingman. (Silver-gilt Medal.)

Mr. Douglas Leigh, Hampton-in-Arden, had a group of greenhouse foliage and flowering plants and hardy cut flowers.

Mr. Elie Mahy, Chiswick, sent Gasterias, and Mr. G. H. Baldwin, King's Norton, showed Gooseberries.

Competitive Classes.

Competition in the competitive classes was very strong. The 1st prize in a class for six varieties of Roses was won by C. B. Worsey, Esq., Norfolk Road, Edgbaston (gr. Mr. A. Davies), with superb flowers of Avoca, Mme. Mélanie Soupert, Frau Karl Druschki, Mrs. Joseph Hill, Mrs. Stewart Clark and J. B. Clark; 2nd, Mr. T. Horton, Bournville.

In a similar but smaller class to the last named Mrs. C. E. Whitcombe, Bewdley (gr. Mr. W. Thomas), was awarded the 1st prize; 2nd, Mr. G. H. Baldwin, King's Norton.

In a class for nine varieties of Sweet Peas Mr. T. Batchelor, Hampton-in-Arden, gained the 1st prize with shapely flowers of Edna Unwin, Florence Nightingale, Dobbie's Cream, Elfrida Pearson, Nora Unwin, Maud Holmes, Mrs. C. W. Breadmore, John Ingman, and Mrs. Hugh Dickson.

The class provided for six vases of hardy herbaceous flowers, distinct, was very well supported. 1st, Mr. F. Anderson, Moseley, who had clean, well-arranged, fair-sized vases of Centaureas, Œnotheras, Galegas, Lychnis, Chrysanthemum maximum and Salvias; 2nd, Mr. H. Anderson, Shirley; 3rd, Mr. E. Tilt, Erdington.

There were 11 splendid entries in a class for table decorations, cut flowers and foliage only allowed, arranged on round tables about 30 inches diameter. The 1st prize table was daintily arranged with pink Sweet Pea Mrs. Routzahn and bronze-tinted sprays of Selaginella, exhibited by Miss Deakin, Hall Mills; 2nd, Mrs. Fewkes, Gravelly Hill, whose flowers consisted of pink and heliotrope Sweet Peas and Gypsophila relieved with Selaginella.

IRISH ROSE AND FLORAL AND THE NATIONAL ROSE.

July 19.—The second annual show of the Irish Rose and Floral Society was held in conjunction with the National Rose Society on this date in the Botanic Gardens, Belfast. These botanic gardens provide a charming place for the holding of a flower show, and visitors found it difficult to believe that they were in the heart of a great manufacturing city of nearly half a million inhabitants. The city itself lies in the junction of three valleys, and the spot on which the show tents were pitched afforded a glorious panoramic view of the whole country around. The exhibits were of the highest standard of merit, and throughout compared in quality with those at the leading shows in England.

The National Rose Society's tent was over 250 feet in length. It provided a grand exhibition in itself; besides this, there was a special tent for seedlings.

N.R.S. Awards to New Roses.

The N.R.S. Floral Committee was represented by the Rev. J. H. Pemberton, Messrs. E. Mawley, Molyneux, Hammond, Easlea, Brown, Prior, Mattock, and Felton.

The following varieties received awards:—

H. Vesey Machin, H.T.—A large bloom which, although of gigantic size and deep texture, appears to open quite freely; the colour is intense crimson. Shown by Messrs. Alex. Dickson & Sons, Ltd. (Gold Medal.)

Mrs. Muir McKean, H.T.—A variety of intense crimson colour, very pure in colour. A grand Rose for the florist.

Colleen, H.T.—This is an immense "Killarney," but somewhat warmer in colour. The petals possess great substance, and as the leaves are hard and glossy, it will no doubt be proof against mildew. (Silver-gilt Medal.)

Lady Mary Ward, H.T.—This Rose was unanimously awarded a Gold Medal. It is decidedly the strongest shade of all varieties with flaming golden-bronze petals.

British Queen.—An enormous white Rose of perfect form and delicate texture. (Silver-gilt Medal.)

Mrs. Fred. Vanderbilt, H.T.—This Rose did not secure any higher award than was given it at Regent's Park, namely, a Silver-gilt Medal. These varieties were all shown by Messrs. Samuel McGredy & Son, Portadown, who had also *Emerald, H. T.*, a fine florists' Rose, that would light up well, its colour being a brilliant cerise-crimson, and *Mrs. David Watt, H.T.*, which the judges asked to see again.

Mrs. R. D. McClure.—A beautiful, soft, rose-pink variety with a fleshy sheen; a bloom of fine shape and general good quality. (Gold Medal.)

H. E. Richardson, H.T.—A most delightful flower of velvety-crimson shading to brilliant scarlet; not over large, but of good texture and superb quality. (Gold Medal.)

Coronation, H.P.—This Rose is a glorified "Her Majesty," but warmer and softer in colour, and with a better "point" and more reflexed; an easy Rose to open, and, judging from the plant, a very robust grower. (Gold Medal.)

Mrs. James Lynas, H.T.—A well-formed flower of palest rose shading to blush. (Silver-gilt Medal.) These four varieties were shown by Mr. Hugh Dickson, Belfast, who also submitted for award *Mrs. Charles Hunting. H. T.* (the colour is warm apricot on beautifully smooth petals, which are of elegant shape) and *Mrs. John Jamieson, H. T.*, which the committee desired to see again.

Other novelties of interest were:—*Bon Accord. H.T.*—A very pleasing shade of rose-pink, but somewhat thin. This Rose should prove a grand bedding variety, as the habit is almost perfect. Shown by Messrs. Adam & Craigmile. *Florence Forrester.*—A beautiful creamy-white bloom; and *Mrs. W. H. Rowe*, after the colour of Sharman Crawford, a large flower of exceptional substance; the best of its colour. Both these shown by Messrs. S. McGredy & Son, Portadown.

Competitive Classes. Cut Blooms.

The Jubilee Challenge Trophy, a Gold Medal, and a sum of money were offered as the 1st prize in the class for 36 blooms. Hugh Dickson, Ltd., Belmont, won the 1st prize worthily, with a grand exhibit, including a bloom of Coronation, which won the N.R.S. Medal offered for the best Rose in the show and by the Society for the best Rose other than a H.T. or Noisette variety; also Mildred Grant (a veritable giant), Mrs. W. H. Sargent, Caroline Testout, Mrs. John Jamieson, Leslie Holland, and H. D. Pinkerton (new); 2nd, Messrs. Alex. Dickson & Sons, Newtownards, whose collection included fine blooms of Caroline Testout, Sharman Crawford, and Queen of Spain; 3rd, Messrs. S. McGredy & Son.

For 72 blooms, distinct, the 1st prize was again awarded to Hugh Dickson, Ltd., who showed in wonderful form; 2nd, Messrs. Alexander Dickson & Sons, who also showed splendidly, their bloom of George Dickson being worth a long journey to see.

Hugh Dickson, Ltd., secured the 1st award in the class for 24 distinct varieties, three blooms of each; 2nd, Messrs. Alex. Dickson & Sons.

For 36 blooms, distinct, Mr. G. Prince, Oxford, was successful; 2nd, Mr. J. Walsh, Portadown; 3rd, Mr. F. E. Smith, near Belfast. Mr. Prince also won in the class for 16 distinct varieties, three blooms of each, with Mr. F. E. Smith, 2nd.

In the class for 18 blooms, distinct, Mr. G. Prince again excelled with a grand show of Tea Roses; 2nd, Hugh Dickson, Ltd.

Mr. John Mattock was awarded the 1st prize in the class for 12 blooms, distinct; 2nd, Mr. James Walsh; 3rd, Mr. F. E. Smith.

In the open classes Hugh Dickson, Ltd., was successful for 12 blooms of new Roses, distinct varieties; 2nd, Messrs. S. McGredy & Son; 3rd, Mr. W. Bentley, Leicester.

For 12 blooms of any new Rose, Hugh Dickson, Ltd., secured the premier award; 2nd, Mr. G. Prince; 3rd, Messrs. S. McGredy & Son. Messrs. Alex. Dickson & Sons excelled in the class for 12 blooms of any H.P. variety; whilst for 12 blooms of any Rose other than H.P., T., or Noisette varieties, Mr. W. Bentley was successful; 2nd, Mr. H. Dickson in both classes.

Mr. Geo. Prince won the 1st prize in the class for 12 blooms of any T. or Noisette; 2nd, Messrs. Alex. Dickson & Sons; 3rd, Mr. Walter Bentley.

For 12 distinct varieties, five blooms of each sort, Messrs. S. McGredy & Son won the 1st prize with one of the most even collections in the show; 2nd, Hugh Dickson, Ltd.; 3rd, Messrs. Alex. Dickson & Sons.

Messrs. S. McGredy & Son, with grand baskets of Lady Hillingdon, Lyon Rose and Mrs. A. Tate, was successful in the class for five baskets of cut Roses, five distinct varieties, each variety in a separate basket; 2nd, Mr. E. Hicks; 3rd, Mr. J. Mattock.

In the section devoted to decorative Roses, Mr. John Mattock, with a charming display, secured the leading award for 18 distinct varieties: 2nd, Hugh Dickson, Ltd. In a similar class for 12 distinct varieties, Mr. E. Hicks was successful; 2nd, Mr. G. Prince; 3rd, Rev. J. H. Pemberton. This was a very fine class.

In the amateurs' section, F. Dennison, Esq., Leamington, secured the first award in the class for 24 blooms, distinct, with a very creditable exhibit containing many choice blooms.

For 36 blooms, distinct, Rev. J. H. Pemberton was placed 1st with very fresh blooms, well staged; 2nd, H. V. Machin, Esq., Derby.

F. Dennison, Esq., was awarded the 1st prize in the class for eight distinct varieties, three blooms of each; 2nd, H. V. Machin, Esq.; 3rd, Mrs. Dunlop. For nine blooms of any Rose except those of the Tea or Noisette sections, Dr. G. Campbell Hall was successful; 2nd, H. V. Machin, Esq.; 3rd, F. Dennison, Esq.

Mrs. Dunlop showed best in the class for 18 blooms, distinct varieties; 2nd, Robert Thompson, Esq.

Mrs. G. H. Brown excelled in the classes for six distinct varieties, three blooms of each, and for six blooms of any Rose except a Tea or Noisette variety.

In the class for 12 blooms, distinct varieties, J. F. Harrison, Esq., Ulverton, won the 1st prize with finely-coloured blooms; 2nd, J. F. Crozier, Esq. This gentleman showed best in the class for four distinct varieties, three blooms of each.

In the class for six blooms of any Rose except Tea or Noisette, the premier exhibit was staged by J. H. Welch, Esq.; 2nd, T. F. Crozier, Esq.

The best six blooms of new Roses, distinct, were shown by W. Boyes, Esq.; 2nd, Rev. J. H. Pemberton.

J. F. Crozier, Esq., showed best in the class for 12 blooms, distinct, whilst H. V. Machin, Esq., excelled in the class for nine blooms of any one variety; 2nd, F. Dennison, Esq.

Other prizes in the amateurs' section were awarded as follows:—(a) For nine blooms, distinct varieties: 1st, W. Boyes, Esq.; 2nd, H. Whittle, Esq. (b) For six blooms: 1st, W. Upton, Esq.; 2nd, F. J. Harrison, Esq. (c) For six distinct varieties: three blooms of each: 1st, W. Upton, Esq.; 2nd, F. J. Harrison, Esq. (d) For six blooms of any one variety: 1st, H. Machin, Esq.; 2nd, F. Dennison, Esq. (e) For 12 distinct varieties, not fewer than 3 nor more than 12 trusses of each variety: 1st, Rev. J. H. Pemberton; 2nd, H. V. Machin, Esq. (f) For six distinct varieties, not fewer than 3 nor more than 12 trusses of each variety: 1st, F. A. George, Esq., Worcester; 2nd, Col. Sharman Crawford.

Champion Roses (Nurserymen).

The best Rose, other than a H.T. or Noisette variety, was Coronation, shown by Hugh Dickson, Ltd.

The best Rose H.T. variety, George Dickson, exhibited by Messrs. Alexander Dickson & Sons, Ltd. A wonderful flower.

The best Tea or Noisette variety, Mrs. Foley Hobbs, exhibited by Mr. Geo. Prince.

Champion Roses (Amateurs).

The best Rose, other than H.T. or Noisette variety, Gloire de Chédane Guinoisseau, exhibited by Mr. William Boyes.

The best H.T. variety, William Shaw. Shown by William Upton, Esq.

The best Tea variety, Mrs. Myles Kennedy. Exhibited by F. Dennison, Esq.

All the champion blooms received special Silver Medals.

Decorative Classes.

In the class open to ladies only, the best decorated table arranged with any kind of flowers was shown by Mrs. H. E. Richardson, Lisburn, who employed pale pink-coloured Carnations, with a profusion of foliage and a few crimson Dianthus; 2nd, Mrs. F. Harrison, of Ulverston with Rose Irish Flame, a very beautiful but somewhat formal arrangement; 3rd, Mrs. A. R. Bide, who employed Rose Lady Hillingdon. This beautiful table was much admired.

For a table decorated with Sweat Peas, the 1st prize was won by Mrs. Best, Armagh, with Anglian Pink; 2nd, Mrs. D. Atkinson, for a pretty but thin arrangement.

The best table decorated with Roses was arranged by Mrs. F. J. Harrison, who used Irish Elegance very effectively; 2nd, Mrs. H. P. Pinkerton, who also contributed a very charming arrangement of Irish Elegance. The centre vase was a trifle heavy. For a bowl of cut Roses the 1st prize was awarded to Mrs. E. M. Bennett, Southampton, who showed a charming arrangement of Old Gold, a variety which was recently awarded a Gold Medal; 2nd, Mrs. C. Williamson, Canterbury; 3rd, Mrs. A. Atkinson. For a vase of cut Roses and foliage the 1st prize was won by Mrs. Charles Williamson; 2nd, Miss Johnson; 3rd, Mrs. Stewart. Mrs. Burnett secured the 1st prize for a basket of Roses.

Messrs. R. F. Felton & Sons, Hanover Square, London, exhibited, in the Rose tent, an enormous basket of Roses showing a scheme of colour ranging from the palest yellow to the deepest shades of orange and copper, employing successfully such beautiful varieties as Juliet and Beauté de Lyon. The exhibit was recommended a Gold Medal, and at the close of the show was presented by the Council to the Lady Mayoress.

Sweet Peas.

Those who had visited the fine show of Sweet

petitive classes, and many traders arranged magnificent displays.

The 1st prize in the class for 12 distinct varieties was won by the well-known Irish grower, Mr. E. Cowdy, with an almost perfect collection. Prominent among them was a vase of the variety R. F. Felton, which experts agreed was the finest in the show. Mrs. W. P. Wright, White Queen, Edna Unwin, and Mrs. H. Sykes were shown splendidly. The 1st prize was a silver cup, presented by Lady Smiley, and a sum of money. Lord O'Neill, Antrim, was awarded the 2nd prize. Miss E. M. Field also showed a most creditable exhibit.

In the class for 12 vases, restricted to certain varieties, the 1st prize was awarded to James Hall, Esq., Moy, who had grand vases of Gladys Burt, Edna Unwin, Charles Foster, and Marjorie Linzee; 2nd, Miss E. M. Field, Shankill, Co. Dublin, whose blooms of Stirling Stent and Tennant Spencer were prominent; 3rd, H. E. Richardson, Esq., Lisburn.

For nine bunches John Smelling, Esq., Busby, N.B., led with a superb exhibit in which it was difficult to detect a weak spike; possibly Rosabelle, Thomas Stevenson and Mrs. Cuthbertson were shown best in this fine exhibit. 2nd, John Harriss, Esq., Ulverston.

In the single-bunch classes the awards were: (*blue*), 1st, John Smelling, Esq.; 2nd, Lord O'Neill; (*white*), 1st, E. Cowdy, Esq., with Etta Dyke; 2nd, Mr. Smelling, with White Queen; (*crimson*), 1st, Mr. Cowdy, with Sunproof Crimson, grand in colour and superb in quality generally; 2nd, J. Collen, Esq., Portadeen; (*lavender*), 1st, Mr. Cowdy, with a splendid vase labelled Lavender Queen, but it was generally recognised as R. F. Felton; 2nd, Col. Wallace, Downpatrick, with Nettie Jenkins; (*blush*), 1st, Lord O'Neill, with Elfreda Pearson; 2nd, E. Cowdy, Esq., with Mrs. H. Sykes; (*salmon*), 1st, Mr. E. Cowdy, with a grand vase of Earl Spencer; 2nd, Mr. H. D. Barton, who showed Barbara; (*cream*), 1st, Mr. John Smelling, with Dobbie's Cream; 2nd, Mr. Cowdy, with Faulkner's Primrose; (*mauve*), 1st, Lord O'Neill, with Mauve Queen; 2nd, Mr. E. Cowdy, with Wenver Castle; (*cream-pink*), 1st, Mr. Cowdy, with Gladys Burt, a glorious vase; 2nd, Mr. James Hall, with Mrs. R. Hallam; (*scarlet*), 1st, J. Hall, Esq., Premier; 2nd, Mr. Cowdy, with the same variety; (*Picotee white*), 1st, Lord O'Neill, with Elsie Herbert; 2nd, Mr. Cowdy, with the same variety; (*carmine*), 1st, Mr. Cowdy, with John Ingman; 2nd, Lord O'Neill, with the same variety;, (*picotee cream*), 1st, Lord O'Neill, with Mrs. Breadmore; 2nd, Mr. H. Barton, with the same variety; (*fancy varieties*), 1st, Mr. Cowdy, with a wonderful vase of Prince George; 2nd, Col. Wallace, with Charles Foster; (*orange*), 1st, Lord O'Neill; 2nd, Mr. Cowdy; (*pink*), 1st, Lord O'Neill; 2nd, Mr. Cowdy, with Marjorie Linzee; (*maroon*), 1st, Mr. James Hall, with Nubian); (*striped or flaked variety*), 1st. Mr. Cowdy; 2nd. Miss Field; both exhibitors showed Mrs. W. J. Unwin. In several of these classes no fewer than ten exhibits were staged, and the masses of colour produced was most effective.

The cup presented by Mr. Calvert for 24 bunches in not fewer than 18 varieties, was won by R. D. M. Barton, Esq., Antrim; 2nd, H. E. Richardson, Esq.

Carnations, &c.

The Irish climate is evidently well-suited to the cultivation of perpetual-flowering Carnations, as the blooms shown were finer than are generally exhibited by amateurs in England. For nine vases of six or more varieties, H. E. Richardson, Esq., was successful. He showed choice vases of Carola, Marmion, Jessica, and Rose Doré; 2nd, J. Acheson, Esq., with R. F. Felton and Mrs. Burnett as his best vases. For three varieties, distinct, the 1st prize was awarded to F. J. Crozier. Esq.; 2nd, W. J. Richardson, Esq.

Lord Dunleath showed the best Souvenir de la Malmaison Carnations, having splendid blooms of Princess of Wales, Sir Charles Freemantle, and Blush Malmaison; 2nd, Lord O'Neill.

For six vases of border Carnations or Picotees, the 1st prize was won by H. E. Richardson, Esq.; whilst for three vases

Exhibits of Pelargoniums produced a brilliant effect, Mrs. Hughes, Colonel Sharman Crawford, H. B. Murray, Esq., and R. Boyd, Esq., being the principal prize-winners.

Mrs. Green, of Belfast, was placed 1st in the classes for a group of stove and greenhouse plants and six table plants respectively, both exhibits being well staged and of excellent quality.

Some idea of the general interest which was taken in the show locally may be gathered from the fact that a tent over 200 feet long was practically filled by three principal Belfast nurserymen and florists—Messrs. Alexander Dickson & Sons., Ltd., Messrs. Frank E. Smith, Ltd., and Messrs. Arthur Ritchie, Ltd.—with artistic designs, displays of stove and greenhouse plants, hardy flowers and Sweet Peas. These were all staged effectively. Messrs. Alex. Dickson & Sons also showed an instructive exhibit demonstrating the germination of seeds.

Prominent amongst Messrs. Ritchie's exhibits was a representation in mosses and flowers of Shaws Bridge, with a river flowing beneath it. This was a very clever piece of work. Messrs. Smith's exhibit contained fine bouquets of Sweet Peas and a design representing a horse-shoe made with Cornflowers, with four nails of White Carnations.

BIRMINGHAM HORTICULTURAL.

July 19, 20.—The Handsworth Horticultural Society held an annual flower show in the Victoria Park, Handsworth, on the confines of Birmingham, for many years, but the association was recently reorganised, and it is now known as the Birmingham Horticultural Society. The show of the new society was held on the above dates at Handsworth. Stove and greenhouse plants, hardy flowers, Roses and table decorations were largely and well exhibited, but fruit was poorly represented. Unfortunately, the arrangements were deplorably bad, and caused exhibitors a very great deal of trouble and annoyance. It is to be hoped that the committee will give serious attention to this matter in the future.

Plants (Open).

The principal class was one for a group of plants arranged for effect on a space not exceeding 300 square feet. The 1st prize of 20 guineas, together with a Silver Challenge Cup value 10 guineas, was won by Messrs. James Cypher & Sons, Cheltenham, who had a well-arranged group, in which Clerodendron fallax, Ixoras, Kalanchoes, Francoas, Ericas, Orchids, richly-coloured Codiæums, Dracænas, Acalyphas, Alocasias, Marantas, Strobilanthes, and choice Ferns were the principal plants employed. A rustic arch clothed with beautiful foliage and flowering plants marked the centre of the group. The 2nd prize was awarded to Sir George H. Kenrick, Whetstone, Edgbaston (gr. Mr. J. V. Macdonald), whose artistic group was fashioned on pretty much the same lines as that of Messrs. Cypher & Sons. 3rd, Mr. W. Vause, Leamington.

The winning exhibit of 12 stove or greenhouse plants was also arranged by Messrs. James Cypher & Sons. Their best specimens were Statice profusa, Clerodendron Balfouri, Allamanda, Hendersonii, and Codiæums Warrenii and The Countess. 2nd, Mr. W. Vause. 3rd, Mr. W. Manning.

Colonel Walker, Acocks Green, gained the 1st prize for a group of tuberous-rooted Begonias arranged on a table space of 12 feet by 3 feet.

The best exhibit of half-a-dozen Coleus plants came from John Arthur Kenrick, Esq., Berrow Court, Edgbaston (gr. Mr. A. Cryer), who also took the lead in a class for six Caladiums.

J. Boston, Esq., Handsworth (gr. Mr. T. Perks), was awarded the 1st prize for six Fuchsias.

There were only two exhibits in the class reserved for rock and water gardens arranged on a space of 20 feet by 20 feet, near the centre of the large circular tent, with double frontage. The 1st prize of £10 was secured by Messrs. Gunn & Sons, whose plants were not all, strictly speaking, rock or water garden subjects. Nevertheless, it was a very striking exhibit, and much admired. Messrs. Child & Co., who had a less-imposing exhibit, were placed 2nd.

Cut Flowers (Open).

Messrs. Perkins & Sons, Coventry, were awarded the 1st prize in a class for 48 Roses, distinct varieties. The blooms exhibited were large, fresh, and of excellent quality. The following varieties were noteworthy:—Captain Hayward, William Shean, Marie Baumann, J. B. Clark, Mme. Mélanie Soupert, Gladys Harkness, Edward Mawley, Mildred Grant, W. R. Smith, Frau Karl Druschki, Avoca, Suzanne Marie Rodocanachi, Lyon, C. J. Grahame, Gloire de Chédane Guinoisseau, and Mrs. David McKee. 2nd, Mr. John Mattock, Headington; 3rd, Mr. W. T. Mattock, Headington.

In the next class, for 24 Roses, distinct, Messrs. Perkins & Sons were again placed 1st. 2nd, Mr. Henry Drew, Longworth, Berks.

Messrs. Perkins also excelled in a class for 18 Roses, distinct, showing grand blooms of Mrs. Joseph H. Welch, Frau Karl Druschki, Mrs. Theodore Roosevelt, Captain Hayward, and Pharisaer. 2nd, Mr. Henry Drew.

The best stand of 12 Tea Roses, in not fewer than six varieties, came from Messrs. W. & J. Brown, Stamford, who had shapely blooms of White Maman Cochet and Mme. C. Soupert. 2nd, Mr. Henry Drew.

Messrs. Gunn & Sons, Olton, were awarded the Silver Cup, value 5 guineas, presented by W. G. Griffiths, Esq., and £4, offered by the society, for the best collection of Roses arranged on table space of 10 feet by 4 feet.

The best exhibit of 12 vases of Carnations or Picotees, 3 blooms of each, with their own buds or foliage, came from Messrs. A. R. Brown, Ltd., King's Norton, whose flowers of Black Douglas, Alba, Rhea, Lord Steyne, Kaffir Chief, and Margaret Thurston were large, handsome, and effectively staged. 2nd, Mr. W. H. Parton, Moseley (gr. Mr. G. R. Rudd).

In another class for a collection of Tree Carnations, arranged on a space of 6 feet by 4 feet, Mr. A. F. Dutton, Ivor, Bucks., won the 1st prize with shapely flowers, principally of the rose-shaded varieties.

In a class for a display of Sweet Peas, occupying a space of 20 feet by 4 feet, Messrs. Herd Bros., Penrith, were awarded the Silver Challenge Cup, value 20 guineas, and a Gold Medal value £5. The flowers were of splendid quality and beautifully arranged.

Messrs. T. Grove & Son, Sutton Coldfield, beat Messrs. Seagrave & Co., of Sheffield, in a class for 24 bunches of hardy border flowers, in not fewer than 18 varieties (annuals and shrubs excluded).

Mr. J. Bastock, Moseley, had the most tasteful arrangement of Pansies and Violas, and Messrs. Harkness & Sons, Bedale, showed the best collection of Delphiniums.

Mr. Stephen Sims, Derby, won the 1st prize for table decorations. Other successful exhibitors of cut flowers included Sir Richard Graham, Bart., and Messrs. W. J. Godfrey & Sons, Exmouth.

Among the successful exhibitors of fruit we noted the Manor Fruit Farm, Knowle (black and white Grapes); F. E. Muntz, Esq., Umberslade (Melons); and Captain W. H. Starkey, Leamington (Black and Red Currants and Strawberries).

Honorary Exhibits.

Messrs. Young & Co., Cheltenham, contributed a grand lot of Tree Carnations.

Messrs. R. J. Barnes & Son, Malvern, showed Roses, Sweet Peas, and Violas.

Messrs. Hewitt & Co., Solihull, had a large bank of hardy flowers.

Messrs. Bakers, Wolverhampton, displayed a selection of hardy flowers in a formal garden.

Messrs. Webb & Sons, Stourbridge, exhibited Sweet Peas, fruit, and vegetables.

Messrs. A. R. Brown, Ltd., King's Norton, showed a bright collection of Roses.

Mr. J. Stevenson, Wimborne, and Messrs. G. Stark & Sons had collections of Sweet Peas.

Mr. A. F. Dutton, Ivor, Bucks., sent choice Tree Carnations.

Messrs. Jarman & Co., Chard, showed Roses, Sweet Peas, and Centaureas.

From Messrs. Peed & Son, West Norwood, came a choice collection of well-grown Caladiums.

Messrs. W. J. Godfrey & Sons, Exmouth, sent Pentstemons and Poppies.

Messrs. Rich & Co., Bath, showed a large collection of hardy flowers.

NATIONAL CARNATION & PICOTEE.

July 23.—The annual exhibition of the Southern Section of this Society was held on this date at the Royal Horticultural Hall. The exhibits were much more numerous than last year (when it will be remembered the exceptionally hot weather caused the plants to finish flowering at an unprecedentedly early date), and compared very favourably, in point of numbers, with previous shows. The vases of flowers in the classes for "Flowers Shown as Grown" made a very attractive display, notably those in Classes 33 to 38, inclusive. There was a very fair attendance, and, whilst the greatest amount of admiration was bestowed on the flowers already mentioned, many of the visitors were keenly interested in the florists' Carnations and Picotees, and were very anxious to learn their various "points." It was a matter for regret with the exhibitors that the date was again too late for some of the southern growers. The season is unusually early, but this could not be foreseen.

The Silver Cup for the highest aggregate of points in Division 1 was won by Mr. James Douglas, Great Bookham. The greatest number of points in the second division was obtained by Mr. R. Morton, Woodside Park, who receives the Cup offered for that division.

Flowers Shown on Cards.

These classes are divided into two divisions: the trade growers can only show in the first division, and amateurs who exhibit in this division are debarred from competing in the second division. The competition in these classes was very good; four of the five classes in Division 1 each had five competitors. In each class 12 blooms must be shown, in not fewer than 9 varieties and not more than 2 blooms of any one variety.

Bizarres and Flakes.—1st, Mr. C. F. Thurston, Wolverhampton, who showed a splendid set of very even blooms. The varieties were:—Gordon Lewis (two blooms), Ophelia, Admiral Curzon, Meteor, Ethel Macrae, Recorder, Torchlight, J. S. Hedderley, and Flamingo. 2nd, Mr. James Douglas, Great Bookham, Surrey, whose exhibit contained several exceedingly fine blooms, notably of the varieties Torchlight (which was the premier Flaked Carnation), Gordon Lewis, Ajax, and Master Fred; but they were not so even as those on the winning board. 3rd, Mr. H. Mathias, Stubbington, Hants.

Selfs.—In this class there were many beautiful flowers shown. Mr. H. Mathias was decidedly first, and his bloom of the yellow variety Maud Allan, which was adjudged the premier Self Carnation, was a delightful flower. The other varieties shown were Tubal, Daffodil, Theodore Galton, Titan, Mrs. H. Green, E. Shiffner, Irma, Delia, Wyatt, Mrs. E. Hambro, and a red seedling. 2nd, Mr. C. F. Thurston, who showed good blooms of Tubal, Cardinal Newman, and Sir Galahad. 3rd, Mr. J. Douglas.

Fancies.—Mr. H. Mathias also won the 1st prize in this class. His stand contained very large flowers of good form and colouring. The varieties were:—Donald McDonald (2 blooms), Bombardier, Erl King, Becky Sharp, Linkman, Devonian, Hecla, Hercules, Mrs. Leo Hunter, Queen Eleanor, and D. O'Connell. 2nd, Mr. C. F. Thurston, whose blooms of Sir Walter and Linkman, though smaller, were very good. 3rd, Mr. J. Douglas.

Picotees: White ground.—The Picotees reached a high standard; in most cases the ground colour was very pure. 1st, Messrs. A. R. Brown, Ltd., King's Norton, who showed Mrs. W. H. Twist, Myra, Dorothy (2), Edmund Shorthouse (2), Lady Maud (2), Thos. William, Janet, Mrs. H. Hoskin, and Violet. 2nd, Mr. J. Douglas, whose purple-edged premier white-ground Picotee Amy Robsart was a charming flower. 3rd, Mr. H. Mathias.

Picotees: Yellow ground.—1st, Mr. H. Mathias, whose collection comprised Ariel, five seedlings, Corona, Gloria, F. W. Goodfellow, Puck, Onward, and Santa Claus. Two of the seedlings were especially desirable. 2nd, Mr. J. Douglas, whose finer blooms were Mrs. J. J. Keen, Goblin, and John Ruskin.

In the second division the flowers were, in some cases, but little inferior to those in the first. Here the requirements were six blooms of dissimilar varieties.

Bizarres and Flakes.—1st, Mr. H. R. Taylor, Cheam, who showed the varieties Gordon Lewis, Zebra, and the premier Bizarre Black Diamond especially well. 2nd, Mr. D. Walker, Kilmarnock.

Selfs.—1st, The Rev. C. A. Gottwaltz, Droitwich, whose best blooms were Major Galton and Crystal.

Fancies.—1st, Mr. H. R. Taylor. The blooms of Linkman and Margaret Thurston were very noteworthy. 2nd, Mr. E. G. Price.

Picotees: White ground.—1st, Mr. H. R. Taylor. From this board we selected Dora Knight and Kathleen as being the best.

Picotees: Yellow ground.—Mr. H. R. Taylor was again the most successful exhibitor. In this class he showed Her Majesty, Peter Pan, and Agnes especially well. 2nd, Mr. W. H. Parton.

Flowers Shown as Grown.

In the first division the competition was not so keen as was the case with the flowers shown on cards; only two classes attracted five exhibitors. In these classes, which are, presumably, intended to show the flowers in a natural manner, the supporting wires were far too much in evidence. The following classes each stipulate that four varieties, three blooms of each, shall be shown, in vases, with Carnation foliage.

Selfs.—There were five exhibits in this class, and, whilst the 1st prize collection from Mr. J. Douglas contained the finest blooms, the superabundance of foliage and flower-buds detracted from their decorative value. The 4th prize collection, shown by Mr. H. Mathias, was very much more ornamental. The flowers of the variety Bob Acres shown by Mr. Douglas were very bright and fresh. There was no 2nd prize awarded, but Mr. F. W. Goodfellow and Messrs. A. R. Brown, Ltd., were placed equal 3rd.

Fancies, other than white ground.—Mr. Douglas was also the most successful exhibitor in this class, but the attraction of his exhibit suffered again from the superfluous foliage. The flowers of the varieties Liberté, Lord Steyne, and Pasquin were exceedingly good. 2nd, Messrs. A. R. Brown, Ltd., who showed four very dainty sets of blooms. 3rd, Mr. H. Mathias.

Fancies: White ground.—There were only two competitors in this class. Mr. J. Douglas was awarded the 1st prize. His more noteworthy varieties were The Bride and Montrose. 2nd, Messrs. A. R. Brown, Ltd.

Picotees: Yellow ground.—1st, Mr. J. Douglas, whose outstanding varieties were Her Majesty and Exquisite. 2nd, Mr. H. Mathias, who showed Santa Claus in especially good form.

Class 10 required nine distinct varieties, Selfs, Fancies and yellow-ground Picotees, three blooms of each variety. 1st, Mr. J. Douglas, who arranged Liberté and Linkman in splendid condition. 2nd, Mr. H. Mathias. 3rd, Messrs. A. R. Brown, Ltd.

Open Classes.

There were ten classes, open to any exhibitor, and each class required nine blooms of one variety of a specified shade of colour, shown in a vase with Carnation foliage. These exhibits formed a very attractive feature of the show. The Cartwright Challenge Cup and a silver medal were awarded to the best individual exhibit in these classes. These trophies were awarded to Mr. James Douglas for an excellent vase of the apricot-coloured Self Carnation Mrs. G. Jones. Mr. Douglas was very successful in these classes; he was placed 1st no fewer than six times.

Pink or rose: 1st, Mr. J. Douglas, with Rosy Morn. White: Mr. H. Mathias was placed 1st with Titan. Dark-red or maroon: 1st, Mr. H. Lakeman, Thornton Heath, who showed Mrs. George Marshall. Yellow: Mr. H. Lakeman, whose blooms of Carnation Daffodil also received the premier card. Red or scarlet: 1st, Mr. J. Douglas, for Bob Acres. Buff or terra-cotta: 1st, Mr. J. Douglas,, with the variety Mrs. G. Jones. Any other Self Carnation: Mr. H. Mathias, who showed Helen. Mr. Douglas was placed 1st in the remaining classes with the following varieties:—John Ruskin (yellow-ground Picotee), Pasquin (yellow or buff fancy), The Bride (any other fancy).

In the second division, for amateurs only, three blooms of each variety were similarly shown. The competition was exceedingly strong, and many very good blooms were staged. The chief prize-winners were the following, the names of the varieties shown are placed in parentheses:—Pink or rose: Mr. D. Walker (Lady Hermoine). White: Mr. R. Morton (Mrs. Eric Hambro). Dark-red or maroon: Mr. R. Morton (Mrs. Geo. Marshall). Yellow: Mr. R. Morton (Daffodil). Red or scarlet: Mr. W. H. Parton (Etna). Yellow-ground Picotee: Mr. R. Morton (Exquisite). Buff or terra-cotta: Mr. R. Morton (Elizabeth Shiffner). Yellow or buff-ground fancy: Mr. G. D. Ford (Mrs. Penton). Any other fancy: Mr. W. H. Parton (Ivo Sebright). White-ground fancy: Mr. R. Morton (The Nizam). Any other Self: Mr. D. Walker (Jim Bludzo).

There was a strong competition in the class for six varieties of Picotees. 1st, Mr. R. Morton, who showed Mrs. Geo. Marshall and Margaret Lennox especially well; 2nd, Mr. W. H. Parton; 3rd, Mr. E. J. Price, Bournville.

The Martin Smith Cup, offered to the amateur for the best 12 distinct varieties in separate vases, three blooms of each, was won by Mr. Robert Morton, Woodside Park, whose vases of Mrs. G. A. Reynolds, Mrs. G. Marshall, and Etna were splendid; 2nd, Mr. W. H. Parton, Moseley.

In the classes for smaller growers there were many meritorious flowers shown. Messrs. J. B. Willetts, of Yardley, were exceedingly successful; they were the chief winners in three of the four classes. Mr. E. W. Painter was the 1st prize winner in the other class.

Table Decorations.

There were only two tables arranged for competition. Mr. E. J. Price, Bournville, won the 1st prize with May Day Carnation and trails of Selaginella; 2nd, Miss C. Blick, Hayes, Kent, in whose vases the sprays of Asparagus plumosa nana seemed a trifle heavy.

Mr. L. H. Hart, Hertford, showed the best three sprays, and Mr. W. H. Parton was similarly successful with three flowers for buttonhole wear. The vase of seedlings which won the 1st prize for Mr. A. Spurling, Borough Green, was a very charming arrangement.

Premier Blooms.

Suitable cards were awarded to the exhibitors who showed the blooms which were adjudged to be the best in the show of their sections. These were as follow:—

Bizarre: Black Diamond, shown by Mr. H. R. Taylor.

Flake: Torchlight, shown by Mr. J. Douglas.

Fancy: Becky Sharp, shown by Mr. H. Mathias.

Self: Maud Allan, shown by Mr. H. Mathias.

Heavy-edged White-ground Picotee: Amy Robsart, shown by Mr. J. Douglas.

Light-edged White-ground Picotee: Fair Maiden, shown by Mr. Price.

Heavy-edged Yellow-ground Picotee: Mrs. J. J. Keen, shown by Mr. Douglas.

Light-edged Yellow-ground Picotee: Eclipse, shown by Mr. Taylor.

Bizarres or Flakes: 1st. Messrs. A. R. Brown, who showed Joseph Jester, a very good scarlet flaked bloom.

Selfs: 1st, Mr. H. Mathias, whose plum-purple variety Irma is a decided acquisition.

Fancies: 1st, Mr. Taylor, Cheam. This bloom, which was unnamed, is very large, of good shape, and has heavy crimson marking on a yellow ground.

White-ground Picotee: 1st, Mr. H. Mathias, for the variety "Bill," which has a light edge and clean ground.

Yellow-ground Picotee: Mr. H. Mathias also won the 1st prize in this class. The variety Dago is a splendid flower, and was selected for a Certificate.

Certificates.

Dago.—A Yellow-ground heavy-edged Picotee, with a bright crimson margin; an exceedingly good bloom. Shown by Mr. H. Mathias.

Gloria.—A pale Yellow-ground heavy-edged Picotee. The pale pink edging makes this a very charming flower. Shown by Mr. H. Mathias.

Eclipse.—A Yellow-ground Picotee, with light crimson edge. This desirable variety was shown by Mr. H. R. Taylor.

Mrs. J. J. Keen.—A heavy-edged yellow-ground Picotee, with a good rose-pink margin. A very delightful flower. Shown by Mr. J. Douglas.

Peggy.—A White-ground light-edged Picotee. A very good form, with red-purple margin. Shown by Mr. H. Mathias.

Non-competitive Exhibits.

Mr. Maurice Prichard, Christchurch, Hants., made an effective display with border flowers.

Mr. Charles Turner, Slough, also made an attractive exhibit of border flowers; the herbaceous Phloxes were exceedingly bright.

Messrs. Phillips & Taylor, Lily Hill Nurseries, Bracknell, Berks., floated blooms of various hardy Nymphæas in a shallow tank, and exhibited cut blooms of border flowers. On a side table they also showed a great variety of cut Carnations. Mr. H. Lakeman, Thornton Heath, Surrey, arranged blooms of Carnations with sprays of Asparagus and Gypsophila paniculata.

Messrs. Webb & Brand displayed exceedingly well-flowered cut spikes of Hollyhocks.

Messrs. H. B. May & Sons, Upper Edmonton, exhibited a great number of their greenhouse Ferns, and a few Ixoras.

BRIGHTON ROSE AND SWEET PEA.

July 23, 24.—The twenty-first annual exhibition of this society was held on these dates in The Dome and Corn Exchange. Owing to the vagaries of the season, the show was not so successful as usual. The late date proved unfortunate, for although the entries in the various classes were numerous, many exhibitors were compelled to withdraw their entries.

Mr. Frank Woollard, Brighton, was the chief prize-winner in the open classes, his successes including the silver cup, silver-gilt medal, and 1st prize for a group of Roses (either plants or plants and cut blooms), gold medal and 1st prize in the class for 36 cut blooms, distinct, 1st prize in that for 24 blooms distinct, the premier award in the classes for 18 blooms, Teas or Noisettes, for 25 long-stemmed Roses, five sorts in separate vases, and the silver medals for the best H.P. and best H.T. in the show. In the class for a circular group of miscellaneous flowering and foliage plants, S. C. Witting, Esq., was 1st, for the third successive time, thus winning outright the handsome silver cup offered in the competition. This exhibit also received the Corporation challenge bowl, to be held for one year.

In the Sweet Pea classes, Mr. W. R. Hammond, Burgess Hill, was placed 1st for 24 varieties in 24 vases. For 12 varieties, Mr. W. H. Smith won the 1st prize and the silver medal. Mr. H. Ramsbottom won the premier awards in the classes for 30 stems of crimson or scarlet flowers and for 30 stems of blue or mauve Sweet Peas, showing the variety Maud Holmes in the first and Flora Norton Spencer in the latter class. For 30 stems of pink Sweet Peas, Mr. W. H. Smith was 1st with very fine sprays of Hercules. In the class for white varieties, Mr. C. A. Wood was awarded the 1st prize for the variety Etta Dyke.

For the non-competitive exhibits the following well-deserved awards were given:—Messrs. Balchin & Sons, Brighton, and Messrs. Sutton & Sons, Reading, received gold medals, the former for a beautiful arrangement of stove and greenhouse plants and the latter for a magnificent display of flowers, Melons, and vegetables. Silver-gilt medals were awarded to Messrs. Wells & Co., Merstham, for Carnations and Phloxes; the Clury Nurseries, Langley, Bucks., for Carnations; the Barnham Nurseries, Ltd., for Roses; Mr. Frank Woollard, Brighton, for Roses; and Mr. G. W. Piper, Uckfield, for Roses. Messrs. Cheal & Son (Sweet Peas and miscellaneous flowers), and Messrs. Blackmore & Langdon (Begonias), were awarded silver medals.

CHELTENHAM SWEET PEA.

July 11, 12.—A Sweet Pea show, inaugurated by the *Cheltenham Looker-on*, was held in the Montpelier Rotunda, on these dates. The principal prize was won by Mr. W. Jarratt, Thorpe, and the Challenge Bowl for the best bunch of Sweet Peas in the show was awarded to Mr. John Player, of Thirlestane Hall, for the variety Mrs. Breadmore. Non-competitive exhibits were made by Miss Hemus, Messrs. Cypher & Sons, and Messrs. Young & Co., of Hatherley.

Obituary.

WILLIAM COMFORT.—We regret to record the death of Mr. William Comfort, which occurred on the 15th inst., at the age of 65. He was one of five brothers, all of whom, like their father and grandfather, followed gardening as a profession. He served his time in his native county of Aberdeen, and afterwards became foreman at Altyre, near Forres. Mr. Comfort served as head-gardener at Maryhill, Elgin; Aberlour, Banffshire; Farnley Hall, Otley, Yorkshire; Knowle Hall, near Birmingham; and Kylemore Castle, Co. Galway, first under the late Mr. Henry, M.P., and latterly under the Duke of Manchester. About seven years ago he retired from service, and has since resided in Berwick-on-Tweed, where he carried on a business as fruiterer and seedsman. He leaves a widow, but no family. One of his brothers, Mr. Charles Comfort, is gardener at Broomfield, Davidson's Mains, Midlothian.

ARTHUR HATTON.—This well-known florist and fruiterer, of High Street, Tonbridge, died on the 9th inst., at the age of 64 years. Before engaging in business for himself Mr. Hatton was gardener to Mrs. Swanzy, at The Quarries, Sevenoaks, for more than 20 years. For 30 consecutive years Mr. Hatton had acted as one of the judges at the Sevenoaks flower show, and he frequently officiated in that capacity at Margate and many other places.

DEBATING SOCIETIES.

READING GARDENERS'.—The strongest muster of members for the society's annual excursion since the memorable trip to Welbeck Abbey in 1907, assembled on the 18th inst, when Cliveden, the beautiful gardens and grounds of Mr. Waldorf Astor, near Maidenhead, were visited. The committee chartered the steam launch "Majestic" for the conveyance of the party, which, accompanied by the president, Mr. Alderman Parfitt and Mr. W. Pole Routh, started from Caversham Lock at 9.30 a.m. picking up outlying members at several locks and at Henley, until the number of guests was 150. Cliveden was reached at 1.40 p.m. At the landing stage the party was met by the gardener, Mr. W. Camm, and under his guidance at once proceeded by the steep winding path to the summit of the hill, thence to the huge covered tennis court, where luncheon was served. The mansion, which is situated immediately above the world-famous Cliveden Woods which render the Thames at this point so singularly beautiful, claims as its founder George Villiers, Duke of Buckingham, and was for a time occupied by Frederick Prince of Wales, father of George III. Two former mansions having been destroyed by fire, the present handsome structure in the Palladian style was designed and erected by the late Sir Charles Barry, and stands in a beautifully timbered park of 300 acres. The gardens and glasshouses were inspected and the visitors were impressed with the delightful scenery and excellent crops.

GARDENING APPOINTMENTS.

Mr. JOHN B. CRICHTON, of Mr. JOHN DOWNIE's Nurseries, Edinburgh, and previously Gardener to Earl CAIRNS, Farleigh House, Bath, as Gardener to CHARLES BROOK, Esq., Kinmount, Annan.

Mr. F. CROSBY, for the past 4½ years in Mr. L. O. WALTER's Nursery, St. John's Wood, London, and formerly of Dane House Gardens, Shenfield, as Gardener to A. J. VAN PRAAGH, Esq., Arabin Dower House, High Beech, Essex.

Mr. G. HUDSON, for 3½ years Gardener to the late Mr. J. THOMAS, Wood Hall, Shenley, Barnet, and previously for 13 months Gardener at Wood Hall, Hemel Hempstead, and for 8 months in the Nurseries of Mr. W. FODEN, as Gardener to ARTHUR DE LISSA, Esq., Mistletoe Farm, Eastcote, Pinner.

Mr. F. LAKE, for the past 8½ years Gardener to H. F. COMPTON, Esq., Minstead Manor, Lyndhurst, Hampshire, as Gardener to the Hon. H. A. MILLES LADE, Nash Court, Faversham, Kent. (Thanks for contribution of 1s. 6d. for R.G O.F. box.)—EDS.

MR. H. PENNELLS, for the past 5 years Gardener to T. P. JACOMB, Esq., Hatch House, Winchfield, Hampshire, as Gardener to C. G. TURBERVILL, Esq., Tilton, Catsfield, Battle, Sussex. (Thanks for contribution of 1s. 6d. for R.G.O.F. box.)—EDS.

SCHEDULES RECEIVED.

Kent Commercial Fruit Show Association.—The second annual show will be held at the Corn Exchange, Maidstone, on Tuesday and Wednesday, October 29 and 30. Secretary, Mr. R. Wellington, The College, Wye, Kent.

Kingswood, Walton and Tadworth District Horticultural Society.—The nineteenth annual exhibition of fruit and flowers will be held in the grounds of Kingswood Manor, Kingswood, on Wednesday, August 7. Hon. Secretary, Mr. W. Cooper, Kingswood Manor Lodge.

Women's Agricultural and Horticultural International Union.—The show and sale of farm and garden produce and live poultry will be held at the Royal Horticultural Society's Hall, Vincent Square, Westminster, S.W. on Wednesday, October 23. On the same day at the Hall the National Poultry Diploma Examination will be held,

MARKETS.

COVENT GARDEN, *July 24.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Achillia, per doz. bunches	1 6- 2 0
Alstroemeria	3 0- 4 0
Arums (Richardias)	2 0 —
Asters, white	2 6- 3 0
Bouvardia, per dz. bunches	6 0- 7 0
Carnations, p. doz. blooms, best American var.	0 6- 1 0
— smaller, per doz. blooms	0 4- 0 8
— Carola, crimson, extra large	1 6- 2 6
— Malmaisons, p. doz. blooms:	
— — pink	4 0- 8 0
— — blush	3 0- 4 0
— — red	3 0- 4 0
Centaurea, (sweet Sultan) mauve and white, per doz. bunches	2 0- 3 0
— yellow	1 6- 2 0
Chrysanthemum maximum, per doz. bunches	1 0- 1 6
Coreopsis, per doz. bunches	0 9- 1 0
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches	0 6 -0 9
Gardenias, per box of 15 and 18 blooms	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	1 6- 2 0
— Bride, white per dz. bnchs:	2 6- 5 0
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
— paniculata	4 0- 6 0
Lapagerias, white, per dozen	1 6- 2 0
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 0 —
— — short	1 0 —
— lancifolium alba, long	1 6 —
— — short	1 6 —
— speciosum rubrum, p. dz., lng.	1 3- 1 6
Lilium speciosum rubrum, p. dz., short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 6- 2 0
Mignonette, per doz. bunches	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	9 0-10 0
— Odontoglossum crispum	3 0- 4 0
Pancratiums, p. dz. blooms	2 6- 3 0
Pelargoniums, p. doz. bunches	3 0- 4 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms,	
— Bridesmaid,	0 9- 1 0
— C. Mermet	0 9- 1 0
— Frau Karl Druschki	0 9- 1 0
— General Jacqueminot	0 9 —
— Liberty	0 9- 1 0
— Madame A. Chateney	0 9- 2 0
— Niphetos	1 0- 1 6
— Richmond	1 0- 2 6
— Sunburst	1 6- 2 0
— Sunrise	0 6- 0 9
— President Carnot	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegan	1 0- 1 6
— Kaiserine	0 9- 1 6
Scabious caucasica, per doz. bnchs.	2 0 —
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve,	3 0- 4 0
— white & yellow	3 6- 4 6
Stephanotis (72 pips)	1 6 —
Stock, per dozen bunches:	
— white	3 0 —
Sweet Peas, pr. dz. bunches:	
— coloured	0 9- 1 0
Tuberoses, p. doz. blooms, long	0 4 —
— — short	0 3 —
Violas, small blue, p. doz. bunches	0 9- 1 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0 12 0
Carnation foliage, doz. bunches	4 0 —
Croton foliage, various, per dozen bunches	12 0 15 0
Cycas leaves, artificial, per doz.	8 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, p.dz.	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Chrysanthemum coronarium, 48's, per dozen	3 0- 5 0
Cocos Weddeliana, per dozen:	
60's	6 0-12 0
Coleus, per doz.	3 0- 4 0
Croton, per dozen	18 0-30 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, doz.	6 0 —
— choicer sorts per doz.	8 0-12 0
— in 32's, per	

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ficus elastica, per dozen	9 0-12 0
Fuchsias, per dozen	8 0- 9 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Heliotropes	6 0- 8 0
Hydrangeas white, 48's, per dozen	18 0 21 0
— pink	8 0-12 0
— blue, each	2 0- 5 0
— paniculata, per dozen	18 0-24 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0-18 0
— lancifolium alba	15 0-18 0
Lilium longiflorum, per dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
— yellow	10 0-12 0
Mignonette, 48's, per dozen	6 0- 8 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargoniums, per dozen	.9 0-12 0
— Ivy-leaved	7 0- 9 0
Phœnix rupicola, each	2 6-21 0
Rhodanthi, per dz. pots	5 0- 6 0
Saxifraga pyramidalis 48's, per dozen	15 0-18 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0
Verbenas, pink	6 0- 8 0
— scarlet	8 0- 9 0
— white	8 0- 9 0
— blue	8 0- 9 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— English ½ bshl.	2 6- 3 0
— Tasmanian per case	10 0-15 0
— Australian per case	10 0-15 0
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	10 0 —
— Extra	13 0 —
— Giant	16 0 —
— Loose, p. doz.	0 6- 1 0
— Red coloured	5 6- 6 6
— Jamaica Giants, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Cherries, English,	
— Morello, chips	1 6- 2 0
— ,, ½ bushel	5 0- 6 0
— pecks	9 0-10 0
— Cooking ½ bshl.	6 0- 8 0
Currants:	
— (English), Black, pecks	4 0- 5 0
— Black, ½ bushl.	9 0-10 0
— Red, pr. ½ bshl.	4 0- 5 0
— Red, pecks	3 0- 4 6
Figs (Guernsey), per dozen	3 0- 8 0
— English	3 0- 8 0
Gooseberries, per ½ bushel	2 6- 4 0
— Dessert, ½ bshl.	3 6- 5 0
— Large dessert, per peck	3 6- 6 6
Grape Fruit, case:	
— 96's	18 0-20 0
— 80's	
— 64's	
— 54's	
— English (new) per lb.	0 9- 2 6
— Canon Hall	1 6- 5 0
— Muscats	1 0- 5 0
— Gros Colmar	1 6- 2 6
— Black Alicante	1 0- 2 6
— Madresfield Court	1 0- 2 6
— Gros Maroc	1 0- 2 0
Greengages, p. bx.	0 9- 2 6
— ½ sieve	10 0-14 0
Lemons:	
— Messina, per case	25 0-30 0
— ordinary, per case	17 0-25 0
Limes, per case	4 0 —
Loganberries, per chip	1 0- 1 6
Melons (Guernsey)	1 0- 5 0
— (English)	1 0- 5 0
— Canteloupe	1 6- 5 0
Nectarines, per dozen:	
— selected	10 0-18 0
— best	8 0-12 0
— seconds	4 0- 6 0
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Chestnuts, per bag	3 6-19 0
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 3 —
— Walnuts (Naples), kiln dried, cwt. cases	54 0 —
Oranges	
— Cape, per case	20 0-25 0
Peaches:	
— boxes	5 6- 7 6
— English, dozen:	
— selected	10 0-18 0
— best	6 0- 8 0
— seconds	2 0- 4 0
Pineapples, St. Michael	2 6- 5 0
Plums, French, ½ sieve	5 6- 7 6
— English, ½ sieve	5 0- 7 0
— Cherry, p. peck	2 0- 2 6
Raspberries:	
— punnets, per dozen	6 0-10 0
— chips	2 0- 2 6

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen	2 0- 3 0
Aubergines, per dozen	2 6- 3 0
Beans, English, ½ bushel	1 6- 3 0
— Scarlet Runners, ½ bushel	2 0- 3 0
— Broad, per bushel	1 6- 2 0
— French, per packet, lb.	0 4- 0 6
Beetroot, per ½ bushel	2 0- 2 6
Cabbages, p. tally	5 0- 7 0
Carrots (English), pr. doz. bun.	2 0- 3 0
— (French) per dozen bunches	4 0- 6 0
Cauliflowers, per dozen	3 6- 4 0
Chicory, per lb.	0 4 —
Cucumbers, pr. dz.	2 0- 3 0
Celery, bundle	1 0- 1 6
Endive, per dozen	2 6- 3 0
Greens, p. bushel	1 6- 2 0
Herbs (sweet), pkts., p. gross	7 0 —
Horseradish, 12 bundles	12 0-15 0
Leeks, per doz.	2 6- 3 0
Lettuce (English), Cos, per box	2 6- 3 0
Lettuce (English), Cabbage, p. bx.	2 6- 3 0
Marrows, per doz.	1 0- 2 0
Mint, per dozen bunches	2 0 —
Mushrooms, cultivated, per lb.	2 0- 2 6
Mustard and Cress, p. dz. punnets	1 0 —
Onions (Egyptian)	7 6 —
— (Spanish)	7 6 —
— (Spring), per doz bunches	1 6- 2 0
Parsley, ½ sieve	2 0- 3 0
— per doz. bun.	2 0 —
Peas (English), per bushel	3 6- 5 0
— bags	6 0- 9 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen	0 10- 1 6
Spinach, pr. bshl.	1 6-
Tomatos, per doz. lbs.:	
— (Guernsey),	3 0 —
— (English),	3 0- 3 6
— seconds	1 0- 1 6
Turnips (English), per dz. bunches	2 6- 3 0
Watercress, p. dz. bunches	0 6 —

REMARKS.—There is a good selection of early Apples, both dessert and culinary varieties, from home growers, also Sturmer Pippin and French Crab from Tasmania. The Continental supply of Pears consists of Williams's Bon Chrètien and Jargonelle, large supplies of the former being now obtainable. English Plums, Early Rivers and Czar, [illegible] the market. French consignments of Plums consist principally of Orleans, Royals and Violets, with some Gages, which are also arriving from Spain, some of the boxes containing very fine fruit. Of English Cherries, Black and White Napoleons, Turks and Nobles, are the varieties now on sale; the former are of excellent quality. Raspberries and Currants are still plentiful. Gooseberries consist of the following varieties, Warrington, Sulphur, White Lion and Reds, and are to be obtained in half-sieves, strikes and punnets; these are a much better crop than was anticipated during the early part of the season. Grapes of all varieties are very plentiful and cheap. Peaches and Nectarines have been a short supply, especially the latter. Supplies of Melons and Figs have been fairly well maintained during the past week. Canteloupe Melons are very plentiful. Tomatos have been a full supply from all sources and are selling readily. Mushrooms are scarce and expensive. Vegetables sell profitably all round. *E. H. R., Covent Garden, July 24, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per cwt. s.d. s.d.
Bedfords	4 0- 5 3	Blacklands ...	3 9- 4 3
Kents	5 0- 5 6	Lincolns	4 6- 5 6

Remarks.—At the beginning of the week Potatos were scarce and their prices advanced considerably, but supplies are now more plentiful again. We learn that the blight has appeared in Lincolnshire. *Edward J. Newborn, Covent Garden and St. Pancras, July 25, 1912.*

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending July 20, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—The general conditions remained fair and dry throughout a large area in Scotland, Ireland and the north-west of England; but towards the end of the period they became unsettled over England generally, and some rain was experienced in almost all localities. Thunder was heard on the 14th at Douglas, Dungeness and Kew, and a thunderstorm occurred at Alnwick Castle on the 20th.

The *temperature* was above the normal generally, the greatest excess (4·3°) being experienced in England S.W. In Ireland N., however, it was below it, and in Scotland N. and E. and England N.E. it was in close agreement with the average. The highest of the maxima were registered on the 14th in most Scottish localities, but on the 15th in most parts of England and Ireland. In Scotland E. and in some English districts the thermometer rose to 87° or 88°, but in Ireland N. it only touched 75°, and in Scotland N. 74°. At Camden Square the instruments enclosed in a Glaisher's screen touched 90°. The lowest of the minima occurred at most stations in Great Britain on the 19th, but in Ireland on various dates. The values ranged from 37° in Scotland W. and 38° in Scotland E. and England S.E. to 46° in England N.E., and to 54° in the English Channel. The lowest grass readings were 33° at Marlborough and Wisley, and 34° at Hampstead, West Linton and Llangammarch Wells. The thermometer sunk in the earth showed a temperature in excess of the normal both at 1 foot and 4 feet.

The *rainfall* was less than the average in all districts except England N.E. In Scotland and the north-west and south-west of England the fall was very slight. On the 19th as much as 1·2 inch fell at Canterbury, and on the 20th the thunderstorm at Alnwick Castle yielded 1·4 inch.

The *bright sunshine* exceeded the normal except in England N.E. and Scotland E., but except in Ireland the excess was not very great. In Scotland E. and England N.E. the mean daily duration was less than 5 hours, but in Scotland W. and England S.W. it was more than 8 hours, and in Ireland about 9½ hours.

THE WEATHER IN WEST HERTS.

Week ending July 24.

A welcome rain after the previous hot and dry week.—The past week was quite cool, both during the daytime and at night. On the coldest day (the 19th) the temperature in the thermometer screen at no time rose higher than 56°, which is 14° below the average maximum temperature for the month, and an unusually low reading for the time of year. On the two coldest nights the exposed thermometer fell to within 7° of the freezing point. The ground, which had previously been very warm even for July, has become much colder, and is now rather below the average temperature, both at 1 and 2 feet deep. Rain fell on four days, to the total depth of nearly an inch, which is equivalent to 4 gallons on each square yard of surface in my garden. Previous to this there had been no rain worth mentioning for over a fortnight, and the weather had been, as a rule during that time, very warm. This fall has not affected the soil gauge on which short grass is growing, but during the last two days half a gallon of rainwater has come through the bare soil gauge. The sun shone on an average for only 2½ hours a day, which is 4 hours a day short of the mean duration for the same period in July. On the first day the sun was shining brightly for 12½ hours, but on two days there was no sunshine at all recorded, and on two others the sun shone for less than half-an-hour. This was a calm week; in fact, on the windiest day the mean rate of movement of the air at 30 feet above the ground was only 2½ miles an hour. The average amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by as much as 16 per cent. *E. M., Berkhamsted, July 24, 1912.*

CATALOGUES RECEIVED.

T. Smith, Daisy Hill Nursery, Newry—Hardy Bulbs.
Charles Turner, Slough—Strawberries.
Christopher Bourne, Simpson, Bletchley—Daffodils.
John K. King & Sons, Coggeshall, Essex—Seeds.
T. E. Hallam, Moseley, Birmingham—Sweet Peas.
Stewart & Co., 18, South St. Andrew Street, Edinburgh—Bulbs.

ANSWERS TO CORRESPONDENTS.

Antirrhinums Diseased: *G. T., Watlington.* The plants are injured by a fungus which is present in the soil. The ground should be treated with some fungicide, preferably gas-lime, before anything else is planted. The injured plants should be destroyed by burning.

Begonias: *R. H. T.* You should have sent your name, not necessarily for publication, but as a guarantee of good faith. The rust on your Begonia leaves is caused by the Begonia mite. Dip the foliage in Tobacco water, or, if the leaves are too large, syringe them with a nicotine extract, taking care to wet both surfaces.

Book: *H. G. T.* A suitable book for your purpose is *Sweet Peas*, by Horace J. Wright (Present-Day Gardening Series). The work contains eight coloured plates and a chapter on Sweet Peas for exhibition, by Mr. Thomas Stevenson. It can be obtained from our publishing department, price 1s. 9d. post free.

Bottled Peas and Tomatos Fermenting: *J. H.* The reason the Tomatos and Peas fermented after having been bottled for six days may be due to either of the following causes:—1, the bottle's flange—upon which the rubber ring rests—being faulty, perhaps chipped; (2) the using of rubber rings made of a composition, instead of pure rubber; (3) insufficient sterilising. Special varieties of Peas are not necessary, those which are tender, and about half-grown, are considered the most suitable, and should be cooked for two or three minutes before bottling, in a copper saucepan with a little salt added to the water. Many who bottle vegetables make a practice of sterilising them two days in succession. Green Peas are considered the most difficult of all vegetables to preserve.

Carnations Unhealthy: *R. W.* The Carnation is injured by aphis. Spray the plants with an insecticide. The other plants should be sprayed with liver of sulphur—1 ounce in 3 gallons of water.

Celery Leaves: *C. H., Oxon.* The Celery leaves should be sprayed with the Bordeaux Mixture.

Crassula coccinea: *T. H.* This plant requires abundant light and air. Very little moisture should be afforded the roots during the winter season. The cuttings should be inserted as soon as the plants have finished flowering, and they should be kept on the dry side, in a light and airy house, where they may be allowed to remain throughout the winter, affording only sufficient heat to keep out the frost. If too much moisture is afforded the plants will grow freely but will not flower well. Specimens frequently fail to bloom until they are two years old.

Crotons: *A. B., Bristol.* There is no disease present. The plants require more air and less water at the root.

Domestic Servant: *Enquirer.* Although the courts have decided that head gardeners are "domestic servants," so far as concerns a notice of dismissal, yet a gift of a legacy stands on a different footing, and a legacy by a man to his servants will not include "outdoor" servants, unless these are specially so described. For instance, in a lawsuit decided last year, the Court of Appeal held that where a man bequeathed legacies to each of his "indoor *and out-door* servants," a head gardener, a cricket-ground man, under gardeners, estate carpenters, estate labourers, a lodge-keeper, and an odd job man were all included in the gift. Every such case is decided on the supposed intention of the testator as expressed in the wording of his will.

Ferns Diseased: *Albert.* The injury is caused by eel-worm. Your best plan is to dust the surface of the soil and the stems when damp with a mixture of tobacco powder and flowers of sulphur.

Gooseberry Bushes: *H. B.* The cause of the leaves falling is evidently Botrytis; as the fungus disease is present in the wood, there is no cure.

Grapes: *Anxious* and *L. S. (Foreman).* The fungus disease attacking your Grapes is known

of sulphur, and next spring with the Bordeaux Mixture before the flowers appear.

Mildew on Onions: *C. H., Oxon.* Spray the plants with a 3 per cent. solution of sulphate of iron in water, or with the Bordeaux Mixture at half strength. It is rather late to adopt remedial measures, as most of the damage is already done.

Names of Fruits: *Correspondent.* Peaches: 1 and 2, decayed; 3, Crimson Galande; 4, Alexandra Noblesse; 5, Dr. Hogg; 6, Dymond.

Names of Plants: *L. W., Norfolk.* Spiræa Menziesii, Echium vulgare.—*Sir Arch. Buchan-Hepburn.* 1, Staphylea Bumalda; 2, The Geranium appears to be a form or hybrid of G. sylvaticum. It does not agree at all with G. rivularis.—*J. Mason.* 1, Thalictrum Cornuti; 2, Lysimachia ciliata (Steironema); 3, Nicotiana rustica; 4, Rubus xanthocarpus.—*Horticist.* 1, Anthemis tinctoria; 2, Helxine Solierolii.—*Millar Bros.* Lathyrus sativus.—*M. C.* 1, Ceanothus indigo; 2 and 3, C., garden var. The varieties of Ceanothus are now so numerous that we cannot profess to recognise cut sprays of them. No. 2 looks like "Gloire de Versailles." The unnumbered shrub is Spiræa canescens.—*W. T., St Albans.* Rose Mme. Hoste (sent out in 1887).—*W. W.* 1, Saxifraga sp., unable to name without flowers; 2, S. cæspitosa var.; 3, Campanula abietina; 4, C. rhomboidalis; 5, Lamium maculatum; 6, Saxifraga Geum var. crenatum; 7, Sedum pruinatum; 8, S. rupestre; 9, S. oppositifolium; 10, Saxifraga sp.; 11, Sedum maximum; 12, Lilium Martagon album.—*T. H. D.* 1, Silene Armeria; 2, Phacelia campanularia; 3, Lysimachia punctata.—*R. T.* 1, Oncidium pubes; 2, Brassia verrucosa; 3, Cœlia triptera; 4, Leochilus cochlearis.—*O. H.* 1, Adiantum hispidulum; 2, Blechnum occidentale; 3, Doodia aspera; 4, Lomaria l'Herminieri; 5, Cyperus laxus.—*T. B., Wimbledon.* Prunus myrobalana (Myrobalan Plum; Virginian Cherry).—*A. J. G.* Pavia californica; 2, Achillea Ptarmica "The Pearl"; 3, Tropæolum, probably T. Vesuvius, the specimen was crushed.—*R. Smith.* 1, Acer rubrum; 2, Veratrum nigrum.

Onions: *P. P.* The Onions are injured by the Onion mould (see reply to *C. H., Oxon*). The maggot present is not the Onion maggot, and is not injurious.

Pæony: *H. R., Twickel.* Pæonia albiflora is sweetly scented, and especially its varieties Decandolle, fragrans, festiva, and maxima.

Potatos: *Journeyman.* The millipede attacking your Potatos is Blanjulus guttulatus. Liming the soil appears to be the only treatment of practical use on a large scale; dusting the seed tubers with soot and lime is also beneficial. Poisoned baits formed by soaking Cabbage leaves in Paris green have also proved satisfactory in gardens, or the pests may be trapped by placing pieces of Mangel Wurzel just under the ground near the plants the millipedes are attacking.

Sterilisation of Soil: *Foreman.* This subject is fully dealt with in the issues for February 17, p. 97; 24, pp. 113, 130; and March 2, p. 146, of this year.

Strawberries: *C. H., Oxon.* We have handed your query as to the best first early varieties for your soil and neighbourhood to an experienced grower similarly situated, who recommends Vicomtesse Hericart de Thury, Royal Sovereign, Monarch, and Kentish Favourite, in the order named, remarking that these varieties usually give satisfaction, but the variety Monarch is not so consistently a good cropper as the other varieties, although our correspondent has had very satisfactory crops of large, good-flavoured fruits. The new variety, Tuckswood Early, is said to be valuable. The variety Black Prince is one of the best for bottling.

Tomatos Diseased: *C. S., Wrotham.* Eel-worm is present in the roots; soak the soil with a solution of sulphate of potash.

Communications Received.—W. R.—F. E. C.—J. M.—Anxious—Carnation, Leamington—E. A. H.—S. D.—Esor—J. A.—W. B.—S. M.—Constant Reader—P. C.—C. R.—W. L.—W. D.—Subor—A. J. G., Calne—E. T. W.—Nottingham—Grinstead—W. L. M.—Amateur—A. W. W.—P. W. E.—C., Norwich—U. S.—J. H., Holland—J. S.—M. B., Java—I. B. B.—A Well-wisher—F. K. W.—J. P. W.—L., Brothers—T. E. W.—A. H.—G. M. T.—K. & Son—

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NOTES ON IRIS.

I. SINTENISII.

For several years past I have been trying to obtain living specimens of this interesting Iris, which was first described by Janka from specimens collected by Sintenis in the Dobrudja district on the western coast of the Black Sea, to the south of the mouth of the Danube. My nearest approach to success was in 1910, when I found in M. Philippe de Vilmorin's garden at Verrières-le-Buisson an unnamed Iris which I felt sure must be I. Sintenisii, even though my visit was in August and the plants had consequently long since flowered and were only bearing seed vessels. Through the kindness of M. Philippe de Vilmorin, I received a specimen of this Iris, which flowered this year, and proved to be the species in question. By a curious coincidence there were also sent to me this year flowering specimens of the same Iris from the neighbourhood of Manduria in south eastern Italy, and others from the Asiatic shore of the Bosphorus.

The foliage of this Iris consists of somewhat close tufts of narrow, almost linear, glaucous-green leaves, of the same height as the stem, which is about a foot long, but which is liable to be either longer or shorter by as much as 3 inches. The stem bears only a single terminal head of two flowers, and the flowers closely resemble those of the small European forms of I. spuria, being in shape not unlike a small, slender I. xiphium. The falls have a small, almost round blade, separated by a narrow constriction from the long, oval haft, and are closely veined with dark-blue purple on a white ground, which is indeed wholly obscured on the outer parts of the blade. The upright standards are of approximately the same shade of dark-blue purple.

The interest in this species lies in the fact that it apparently forms a connecting link between I. graminea and I. spuria. The characteristics of I. graminea are the curiously-flattened stem, with its single terminal head of two flowers, the absence of any long tapering neck to the ovary and the glossy upper surface of the leaves. On the contrary, I. spuria has a round stem, which bears one or two lateral, upright branches, in addition to the terminal head, and has also an ovary with a long, tapering neck, which, indeed, is often mistaken for the short, broad tube into which it suddenly expands at its apex. The foliage is slightly glaucous on both surfaces. I. Sintenisii agrees with I. spuria except in the fact that it has only the single terminal head of the two flowers, as in I. graminea, and in one other curious feature. This is found in the spathes, of which both valves are sharply keeled, while in the case of I. spuria only one valve is keeled and that only for part of its length. In this feature, I. Sintenisii agrees with I. graminea.

When we come to consider the distribution of I. spuria and I. Sintenisii, we are struck by the fact that their areas coincide very largely with those of two other species, widely separated in the Iris genus from the Spuria group, and differing chiefly in the presence or absence of the sharp keel along the back of the spathe valves.

The form of I. spuria which I. Sintenisii most closely resembles is that which grows in the marshes between Hyères and the sea, in close proximity to that form of I. chamæiris which grows, or grew (for I failed to find it last year, although plants were found for me a few years ago), on the Domaine du Ceinturon, and which was described under the specific name of I. olbiensis. I. chamæiris has one of its spathe valves, and one only, slightly keeled, but in the Balkans there is a corresponding species with both valves sharply keeled, namely, I. Reichenbachii. Of this species, the purple and yellow forms masquerade in some gardens under the names of balkana, bosniaca, serbica, macedonica, Skorpili, and others, but there seems to be no doubt that just as I. chamæiris varies in colour in the South of France and in North Italy, so also does I. Reichenbachii vary in the Balkans. It is, moreover, interesting to note that I. spuria and I. chamæiris agree in the possession of but slightly-keeled spathe valves, while their relatives in the Balkans, I. Sintenisii and I. Reichenbachii, both have sharply-keeled spathes.

"Crimean" Irises.

In connection with the above-mentioned synonym of I. chamæiris, namely, I. olbiensis, it would be interesting to know whether this name gives us the clue to the puzzling question, "Why are garden forms of I. chamæiris often catalogued as Crimean Irises?" On the other hand, a possible explanation is that the town of Olbia, which once stood near the site of the present Hyères, and after which this form of I. chamæiris was named, has been confused with the far more famous town of the same name near the mouth of the Dnieper, in close proximity to the Crimea. On the other hand, it is, of course, possible that the name "Crimean" came to be applied because it was thought that the dwarf Irises in question were hybrids of I. pumila, which grows, as a matter of fact, near Odessa, and probably also in the Crimea itself.

Abnormal Times of Flowering.

The late frosts in April this year destroyed numerous immature Iris buds long before they had emerged from the leaves, as could be proved by dissection. The fine weather in May then assisted the growth of plants which were not obliged to throw their energies into flowering, with the result that many have flowered at abnormal times.

In the last week in July there are in flower here I. setosa, I. tectorum, I. rubromarginata, I. Reichenbachii, I. lacustris, and even one plant of I. sibirica.

The only Irises that can regularly be relied upon to produce flowers in August are I. dichotoma, a Chinese species, which is more interesting than beautiful, and hybrids of I. Kæmpferi, when grown in a position that is shaded from the mid-day sun but not overhung by trees. I. dichotoma is now in bud here, and will be in flower in a few days. *W. R. Dykes, Charterhouse, Godalming.*

GILIA CORONOPIFOLIA.

The flowers of this beautiful biennial are rich scarlet, about 1½ inch in diameter, 1½ inch in length, and are borne in terminal bunches. The long, graceful leaves are 3 inches in length, and are of a very pale green; they add greatly to the attractiveness of the plant.

The species is not perfectly hardy, and should be given a greenhouse treatment during the winter months. By May the plant should be fairly well established, and could be planted out in the borders, where the flowers will make a gorgeous display during July. Only a few days ago I saw a fine specimen in flower; it was about 3 feet high, and had bloomed profusely throughout July. It is a valuable border plant, and a fresh stock may easily be raised every year from seeds. *H. E.*

CATTLEYA WARSCEWICZII "LOW'S VARIETY."

Our illustration (fig. 33) represents the beautiful Cattleya for which Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir Geo. L. Holford, K.C.V.O., received the award of a Silver Lindley Medal at the Holland House Show for excellence of culture, the plant having previously secured a First-class Certificate. The fine specimen bore 22 flowers. This variety is the richest in colour probably of any form of C. Warscewiczii; the broad labellum is of a deep claret-purple, with a lighter margin and small, yellow disc.

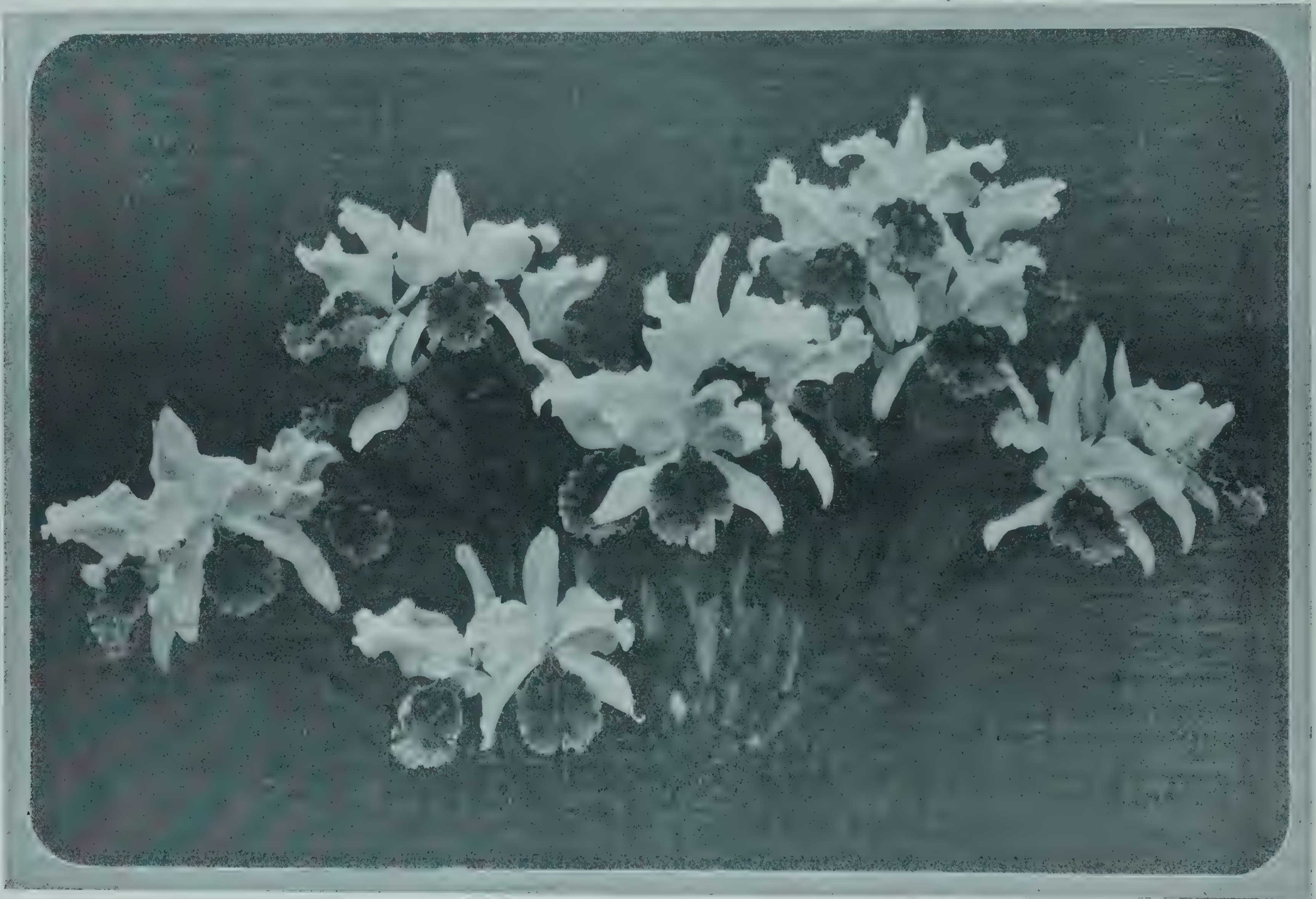


Fig. 33.—cattleya warscewiczii "low's variety."

THE BISSAGOS ISLANDS.

(Concluded from p. 47.)

A rubber plant (Landolphia Owariensis) is indigenous to several of the islands. It may be seen taking complete possession of an Oil Palm, but more commonly it is associated with groups of trees. The plant is a rambling, tangled, woody vine. I was unfavourably impressed with this form of rubber-yielding plant, in contrast with, say, Ficus elastica or Hevea brasiliensis. The islands abound with sundry species of Ficus, and I believe that F. elastica would do very well there.

Several small colonies of excellent Bowstring Hemp (Sansevieria guineensis) were noted on the islands.

The islands Caravella and Karasha are roughly parallel, and between them is a picturesque waterway about a mile-and-a-half wide, with a great wealth of Oil Palms on both sides. These two islands are some 60 miles from Bolama, and quite the nearest of the group to Europe being just off the Atlantic Ocean. From Caravella we make a long detour down to the island called "Ago Grande." This beautiful island comes end to end with a smaller one called "Ago Pequena," with a waterway nearly a mile wide and some 2-3 miles long.

From a scenic point of view this is the most beautiful island. The vegetation is magnificent on both sides. Moreover, it is the sole place which has not a shallow coast, the water being 60 feet deep. The ends of the islands come down almost vertical to the water's edge, and the vegetation has also descended to the same level. The rush of water through this deep cutting when the tide is full is very powerful indeed.

The interior of this fine island possesses extraordinary interest. After going the best part of a mile through grand vegetation with a great wealth of Palms, the visitor suddenly comes to tableland, and many hundreds of acres of waving grasses and pure pasture land, the whole constituting, as it now exists, an utter waste of natural resource.

From Ago Grande to the island Orango is but a few miles. This latter island is by far the largest of the group, and is directly off the Atlantic.

Our party subsequently arrived at the mouth of the Rio Grande, quite close to Bolama. This magnificent river is enchanting. It is true that it is only some 50 miles long, but its width varies from about 2 miles down to about half-a-mile, whilst its striking feature is the very large number of bay-like recesses, first to right, then to left, receding considerable distances into the mainland, and no two alike in form or size. These interesting recesses, like the coast of the river, are faced right down to the water's edge with fairly dense vegetation; indeed, not a little vegetation overhangs the water. In this region, to right and left of the Rio Grande, is a vast area of undeveloped land, amounting to many square miles. No small merit of this river is that it is navigable for ships of large size. The indications are in favour of this region being very good for all kinds of tropical Nuts and fruits, and there is a prospect for Cotton. Bowstring Hemp and also Agaves do extremely well.

It is strange that this group of severely tropical islands, so close to Western Europe, amounting to some hundreds of thousands of acres, remains totally undeveloped. I am of opinion that, had England or America owned the islands, a very different state of things would exist there. *F. W. Seers.*

FLOWER BORDER.

HIERACIUM VILLOSUM.

There are but few of the Hieraciums, or Hawkweeds, of value for gardens, but H. villosum, which is occasionally called H. valde-pilosum, is one of them. The large, silvery-wool-covered leaves are always pleasing, and the bright yellow flowers are of a finer shade of colour than in most of the species. It is a good plant for the border, but is still more at home in the rock garden. The finest effect the writer has ever seen produced by this Hawkweed was a group on a retaining wall in Sir Herbert Maxwell's garden at Monreith, Wigtownshire. Growing in full sunshine, and evidently enjoying the conditions in which it grew, the plant appeared much finer than we usually see it. A stock may be raised easily from seed. *S. Arnott.*

LILIUM CANDIDUM.

The white Madonna Lily (see fig. 34), emblematic of purity and one of the finest of our garden flowers, is endeared to us, especially by old associations. The "Lilies" of our childhood were Madonna Lilies. The Lilies we saw in pictures or read of in books were the same species, or were unhesitatingly classed as identical. In the old manor-house and rectory gardens, with their sundials, sombre Yew hedges, and ancient Mulberry trees, the white Lily grew in stately lines, while in the cottage gardens the clumps flourished of yore as they do at the present day, for there is no site where the fair Lily of the Annunciation shows such perfection of beauty as in the gardens of the poor. In such gardens, various kinds of soil and situation seem alike to suit L. candidum, for in sunshine and shade, in light and heavy soils, in dry and damp positions, it seems equally contented. To account for this the pretty conceit has been suggested that the Lily, following the example of her whose name it bears, loves rather to brighten the lives of the lowly and needy than to add its charms to the pomp and circumstance of the rich.

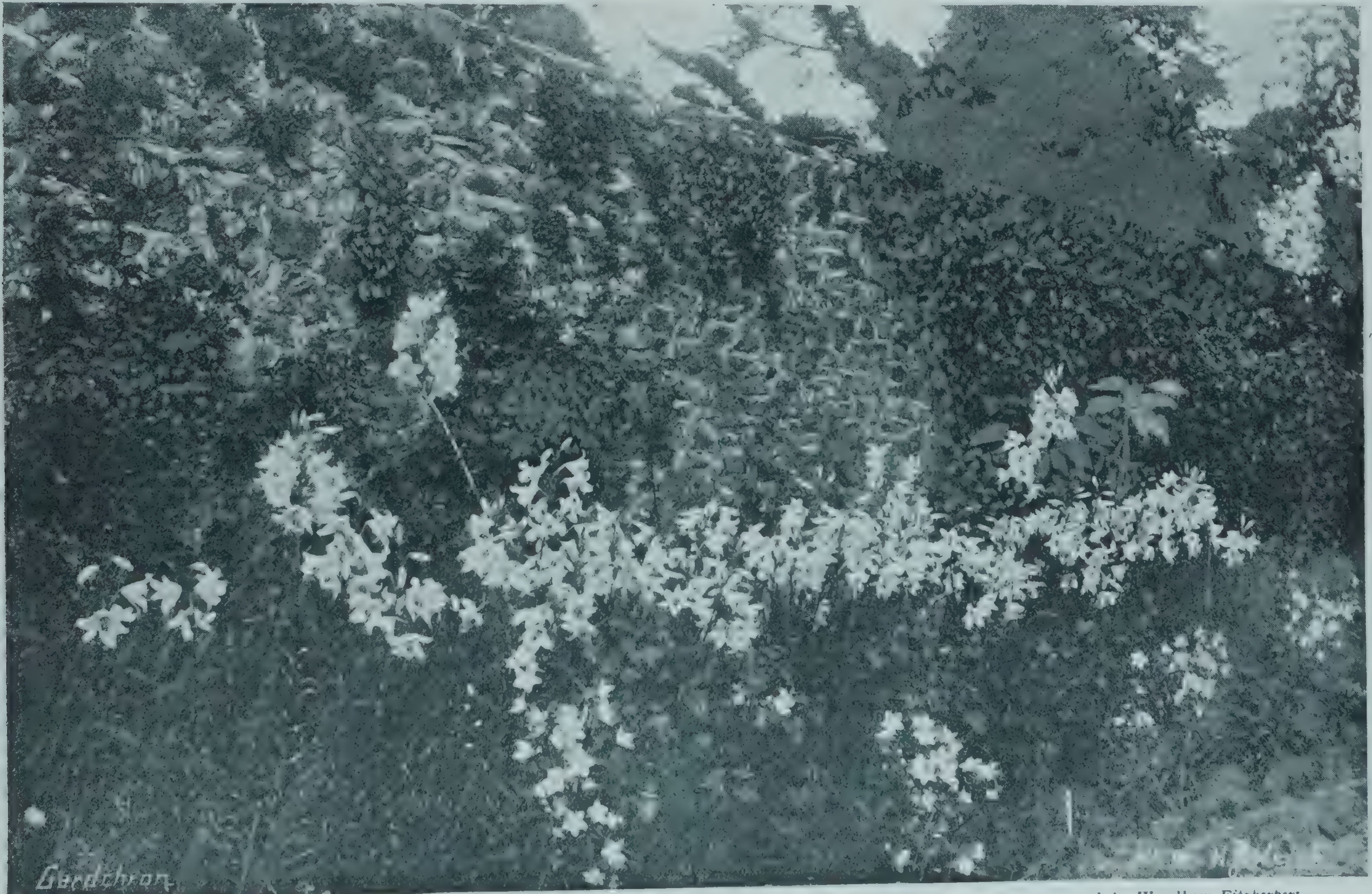
In almost all the allusions of poets to the Lily the Madonna Lily is evidently indicated. Shelley's

> "Wand-like Lily that lifted up
> Like a Mænad its moonlight-coloured cup,"

is without doubt the Lily in question. So are the "Lilies fair, the flower of virgin light," and "the milk-white Lilies that lead from the fragrant hedge," while the individuality of the flower that was in the writer's mind when the following verse was composed admits of no doubt:

> "And the stately Lilies stand
> Fair in the silvery light,
> Like saintly vestals, pale in prayer;
> Their pure breath sanctifies the air
> As its fragrance fills the night."

The beauty of the Madonna Lily is so pre-eminent that it retains its claim to be the queen of the garden, even though its blossoms come at midsummer, when Flora showers her gifts with lavish hands. All too short is its season of beauty, during which the tall, white flower-spires are in perfection and, in the dewy summer twilight, fill the air with perfume. For indoor decoration no flower can be used with better effect, yet one is chary of denuding the Lily-bed of even a portion of its charm and of diminishing the fragrance of the open air. *Wyndham Fitzherbert.*



[Photograph by Wyndham Fitzherbert.

Fig. 34.—Lilium candidum in a Devon garden.

LIME TREES IN THE ARNOLD ARBORETUM, JAMAICA PLAIN, U.S.A.*

The largest genus of summer-flowering trees here is Tilia (the Lindens). The genus is widely and generally distributed in all the temperate parts of the northern hemisphere with the exception of western North America and the Himalayas. Between 40 and 50 species and several hybrids are recognised, for hybrids and supposed hybrids in Tilia are common, and among these hybrids are some of the handsomest and most rapid-growing of all Lindens. Although Lindens are much planted for the embellishment of parks and as street trees, there is great confusion, especially in the United States, in regard to the different forms which are cultivated, and this confusion, in so far as it relates to the European species, was imported from Europe with the trees, for Linnaeus and many botanists after him believed that the Lindens of northern and western Europe were only forms of one tree, and so started the trouble.

In eastern North America there are seven species of Linden trees; four of these are from the extreme south, and either are not hardy in the Arboretum, or have been tried here during such a short time that they need not now be considered. The Linden of the north, T. americana, is a splendid tree, growing to its largest size on rich hillsides and moist bottom-lands, and showing its greatest beauty in the forests of New Brunswick, northern New England, and the valley of the St. Lawrence River. This tree may be easily distinguished from the other Lindens by the green and shining lower surface of the leaves, which has no hairy covering, with the exception of rather conspicuous tufts in the axils of the principal veins. This tree has been planted in eastern Massachusetts, but less frequently than in the neighbourhood of more northern cities. Here, especially in dry summers, the leaves are sometimes made brown by the red spider, which, however, is easily controlled by spraying. Tilia spectabilis, which is believed to be a hybrid between this tree and Tilia tomentosa of eastern Europe, is a very vigorous and fast-growing tree of much promise. In some European nurseries it is sold under the name of Tilia Moltkii. Tilia flavescens, usually found in nurseries under the name of T. floribunda, is a supposed hybrid between T. americana and the European species T. cordata. This tree is remarkable for its rather small, thick, and very lustrous leaves, and large flowers. Plants only a few feet high flower profusely.

The second North American Linden tree, T. alba, or, as it is often called, T. Michauxii, although it was first distinguished and made known nearly a century ago, was long overlooked or misunderstood by botanists; and it is only in recent years that this handsome tree has been found to be widely distributed from the valley of the St. Lawrence River to Georgia and Arkansas. It may be distinguished from T. americana by the pale lower surface of the leaves, which is more or less covered with star-shaped clusters of white hairs. This tree is now well established in the Arboretum, although the plants are not old enough to flower.

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* *Bulletin of Popular Information*, No. 30. (Arnold Arboretum, U.S.A.)

The third of our northern Lindens, T. heterophylla, is a species of the Appalachian Mountains, and is distributed from western New York to northern Alabama, and through Kentucky to southern Indiana and Illinois, growing to its greatest beauty and to its largest size in the forests which cover the slopes of the mountains of North Carolina and Tennessee. The leaves of this tree are larger than those of the other Lindens, and as they are silvery-white on the lower surface, and hang on long, slender stalks, the slightest breeze makes them turn first one surface and then the other to the eye. This hardy and beautiful tree appears to be rarely cultivated.

All the European Lindens succeed in the eastern states, where they have been more generally planted than the American species, and where there are large and old specimens of some of the species in the neighbourhood of the seaboard cities. There are five European Lindens, and it is among these and their hybrids that exists the greatest confusion in the minds of the cultivators of these trees. Probably the most widely distributed of the European species, especially in the south, is Tilia platyphyllos. This tree may be recognised by the yellow tinge of the leaves and the thick covering of short hairs on their lower surface and on their stalks, and by the prominent ribs of the fruit. This is the earliest of all Linden trees to flower here, and it is this tree which now appears to be most commonly sold in American nurseries as the European Linden. There are varieties with leaves larger than those of the type (var. grandifolia), with erect branches forming a broad, pyramidal head (var. pyramidata), and with variously divided leaves (var. lanceolata and vitifolia).

A more beautiful tree is Tilia cordata, the common Linden of northern Europe, where it sometimes grows to a very large size, the old historic Lindens of the northern and central parts of the Continent being usually of this species. This tree is distinguished by its small, thin, more or less heart-shaped leaves, which are pale on the lower surface and furnished with conspicuous tufts of rusty-brown hairs in the axils of the principal veins. It appears to have been little planted in the United States, and in the neighbourhood of Boston it is the rarest of the Lindens of western Europe. It is, however, a hardy and desirable tree, especially valuable on account of its late flowers, which supply the bees with food after those of all other Lindens have passed. There is a large-leaved form of this tree (var. cordifolia), from western Europe, in the collection, which is a handsome and vigorous plant of much promise. This is sometimes sold in European nurseries as T. europæa or vulgaris.

The third European Linden, called variously T. vulgaris, T. europæa, T. intermedia, and T. hybrida, is considered by some of the best observers of European trees a natural hybrid between T. platyphyllos and T. cordata. Although widely distributed in Europe, it appears to be much less common than either of its supposed parents, and the variation in the size, shape, and colour of the leaves makes its hybrid origin possible. On some individuals the lower surface of the leaves is quite green, and on others it is bluish, or even whitish, but leaves on different parts of the same branch differ in this respect, and on shoots produced from the bases of old trees the large leaves are quite green. T. vulgaris is a fine, round-headed tree, with rather small, somewhat pendulous branches, and it appears to have been more often planted in the neighbourhood of Boston than any other Linden. There are a number of large specimens in front of an old house in Centre Street, near Orchard Street, Jamaica Plain, and in Olmsted Park. In its flowering time it is intermediate between its two supposed parents. There is another supposed hybrid of the same parentage and a native of Hungary, known as T. vulgaris var. pallida. This tree has larger leaves, pale on the lower surface, and in habit and general appearance resembles T. platyphyllos more than the commoner forms of T. vulgaris. It is propagated in some of the Dutch nurseries, where it is sold as T. vulgaris or europæa, and in the Arboretum collection it is the most rapid growing and the most shapely of all the species and hybrids, giving promise of becoming an excellent street tree for this region.

Two Linden trees are found only in eastern Europe, the Silver Linden, T. tomentosa or argentea, as it is sometimes called, and T. petiolaris. The Silver Linden is a tree with erect branches forming a broad, compact, round-topped formal head, and large erect leaves, dark green and lustrous above, and white and covered below with short thick felt. This distinct and handsome tree has not been much planted in eastern Massachusetts, but it can be often seen in the neighbourhood of New York and Philadelphia, and there are a number of good specimens in Central and Prospect Parks. T. petiolaris is a more beautiful tree; this also has leaves which are silvery-white on the lower surface, but they hang down on long, slender stalks, and flutter gracefully in the breeze. The branches, which are also pendulous, form a rather narrow but open head. This tree is not known in a wild state, and all the plants in cultivation have been derived from a single individual found 90 years ago in a garden in Odessa. This beautiful tree appears to have been more often planted near Boston than the Silver Linden, but is still rare and little known here. A supposed hybrid of this tree with T. americana, and sometimes sold in nurseries as T. alba spectabilis, is one of the most rapid-growing of the Lindens and a very handsome tree, with the leaves of the size and shape of its American parent, but silvery-white on their lower surface. Plants raised at the Arboretum from the seeds of a tree of T. petiolaris which was growing in the neighbourhood of T. americana, the two flowering at the same time, are identical with trees of this hybrid found in European nurseries. T. vestita is probably the proper name for it.

Much attention in late years has been paid in Europe to another supposed hybrid Linden, T. euchlora, or, as it is more generally known, T. dasystyla. This is a pyramidal tree, with large, dark-green leaves, lustrous on their upper surface. It grows rapidly; its habit is good, and it is now largely planted as a street tree in Germany and Holland. Its origin is uncertain, although usually considered a hybrid of the little-known T. rubra of the Caucasus. T. euchlora is perfectly hardy here, and promises to be a useful tree in New England.

As a rule the trees of eastern Asia grow much better in the eastern United States than the related species of Europe, but this is not true of the Lindens. All the European Lindens flourish here, but none of the Asiatic species gives much promise yet of being handsome or valuable trees in this climate. Those which have been tried here are hardy, but they suffer from various fungal diseases and are short-lived. It is too soon, of course, to form an opinion on the value of the Lindens recently discovered in western China, but of those of eastern Siberia, northern China and Japan, only T. japonica has proved really satisfactory here. This is a small tree with pendulous branches, related to T. cordata, of which it has sometimes been considered a variety. It has no special ornamental value, although it is perfectly hardy and healthy, and flowers and produces fruit in the Arboretum every year.

THE ROSARY.

CULTURAL NOTES FOR AUGUST.

BUDDING may be continued throughout the whole of August, but it is well to complete this work before September arrives as then the nights become cold, with heavy dews, that do not favour a quick and complete union of the stock and bud. Examine the earliest-budded stocks, making good any failures with fresh buds, and releasing the tying material on those that have "taken," to allow for the swelling of the stock. Remove all flowers as soon as they fade, as they weaken the plant, so that the successional crops of blossom are not so good. In most cases, I prefer to cut back the wood a little below the exhausted flower, as this not only results in stronger growths, but the plants retain a desirable shape.

It is necessary to cut away the old trusses of dwarf-growing Polyantha and China Roses, taking care not to injure the succeeding crop which develops below the older trusses. A little trouble in these matters will secure clean trusses throughout the summer and autumn.

The summer-pruning of climbers will be general now, and the work must be done with the utmost care. For a long time the summer-pruning of these Roses was almost ignored, but now it is practised far too rigorously. The main object in pruning is to provide increased room to the shoots so that the others may gain strength. It is better to practise a little judicious thinning-out now than encourage a mass of comparatively useless growth that must be cut away next spring.

In most seasons water should be more liberally supplied to Roses during August than in July, as a deficiency of moisture at the roots often results in mildew putting in an appearance; and this is the worst pest of Roses in late summer and autumn.

Cuttings of most free-growing varieties will root freely now if inserted in sandy loam in a partially-shaded border. If the ground is dry, I have found it an excellent plan to pour water into the hole before inserting the cutting. This is a great aid to callusing, and much more effective generally than applying water afterwards. Tread the soil firmly about the cutting, taking care not to bruise the bark. As the growth will be that of flowering wood, there is no need to remove the bottom eye, as in the case of stocks. In the present case, these lower eyes will form the most valuable part of the future plant.

I do not advise the insertion of cuttings of the various stocks until next month, when the wood of these stronger growers will be in a better condition for rooting. If it is intended to plant new beds of Roses, there is no better time than the present for preparing the ground, provided the site is vacant. Before commencing the work, ascertain the nature of the soil, especially at about 2 to 3 feet down, as the whole question of preparation depends upon this. If it is of poor quality at the bottom, remove a portion, and replace it with good loam obtained from a meadow.

Thoroughly incorporate farmyard manure with the soil at about 18 inches deep, and, if poor below that, add a good quantity of crushed or half-inch bones. The bones provide valuable food for a long time. The object should be to secure a rich and fairly well-drained medium, not less than 2½ feet in depth. Do not make the top soil over rich with animal manures, at the same time avoid using artificial fertilisers at this stage. Food may easily be applied to the surface roots when they are in need of it, but the lower portion of the soil can only be made suitable before planting is carried out.

After the ground has settled, it will be beneficial to turn over the top spit again, leaving it rough, so as to expose as much soil as possible to the influences of the air. But this second digging should be done in ample time for the ground to settle again before planting. The advantages of preparing the ground early are obvious: it not only permits of earlier planting, but also, by being amongst the first purchasers, the early planter is likely to secure the best plants from the nurseries.

But these are not the only points in favour of early planting. The soil sets firmer about the roots before winter, with its drying winds, arrives, and undue shrivelling of the wood is obviated. *Practice.*

NOTES ON EARLY-FLOWERING RAMBLERS.

For the guidance of intending planters I give a short list of what I regard as the most desirable varieties for early flowering. Some will say that this is not the proper time to give lists for planting, but it is quite the right time, because preparations will have to be made shortly and the list selected, whilst those who order early get the pick of the nurseries.

Carmine Pillar is one of the earliest to open its rich, rosy-carmine, single blossoms. Although this Rose was distributed by Messrs. George Paul & Son so far back as 1896, it still retains its popularity. It shows to advantage when grown as a standard on the lawn, and is very beautiful either rambling over a pergola or climbing a tall pole.

Paul's Single White makes a charming combination with Carmine Pillar; growing in clusters the pure white, single flowers are freely produced, and in contrast with the deep green leaves make an attractive display. Although this variety is generally regarded as a climber, it may be planted in a bed in a mass and grown as a dwarf plant. By close pruning, as in the case of Hybrid Perpetual varieties, it may be induced to make vigorous shoots and continue flowering well into the autumn.

The Dawson is a rosy-pink variety that gives a full crop of flowers quite early. It makes a free, yet neat growth.

Aglaia, a Polyantha of a vigorous rambling habit of growth, was distributed in 1896, and it flowers especially freely when once the plant is established. Some are disappointed with its behaviour in this respect the first season or two, as it takes longer to become established than most varieties. When it does bloom it often gives more flowers than any other Rose. The bright yellow, shell-shaped flowers have a strong "Tea" perfume.

Claire Jacquier is the best of yellow-flowered ramblers, the compact buds are suffused strongly with orange.

Climbing Caroline Testout gives blooms as fine as the dwarf type, and its floriferousness is remarkable. The satiny-rose colour is especially pleasing early in the season.

Gardenia cannot be omitted from any list, no matter how small it is. I consider this Wichuraiana variety as the most useful of all Roses. A well-established tree will furnish not only early blossoms but also late ones, as the flowering continues into November. The rich yellow buds are useful as cut blooms, especially when accompanied by the dark green leaves. As the flowers expand they become pure white. For a pillar plant or for training over a screen or pergola no other Rose is superior.

Rêve d'Or will flower abundantly quite early in June if given a position on a south wall. When closely pruned to induce late flowering the blooms become much deeper in colour, and the foliage assumes a coppery tint which harmonises well with the deep-yellow petals.

Reine Olga de Wurtemburg was introduced by Nabonnand in 1881. It is a free and continuous bloomer of a vivid red colour, being more remarkable for its shade than for the shape of its blossoms.

Euphrosyne is a pretty carmine-tinted, single variety that produces its flowers freely in clusters. *E. Molyneux.*

THE FORESTS OF PROVENCE.

The coast and hills of Provence are as attractive to the botanist interested in the distribution of vegetation as to the lover of striking scenery and a glorious climate. Within a space of little over 30 miles all transitions between the typical Mediterranean vegetation of the coast and that of the high Alps may be traced. Leaving out of account the alluvial plains, the streamsides, and the cultivated land in general, the rock of which the country is composed, with a few notable exceptions, is almost everywhere limestone, and the hillsides present the same general type of habitat, so far as soil conditions are concerned, over and over again. Consequently the main factors differentiating the vegetation are climatic, and correspond with a decrease of temperature and an increase of atmospheric moisture as we pass from the low hills of the coast to the high mountains of the Maritime and Provençal Alps. The influence of aspect is very striking, the cooler and moister northern slopes frequently bearing quite a different flora from that of the sunny southern ones.

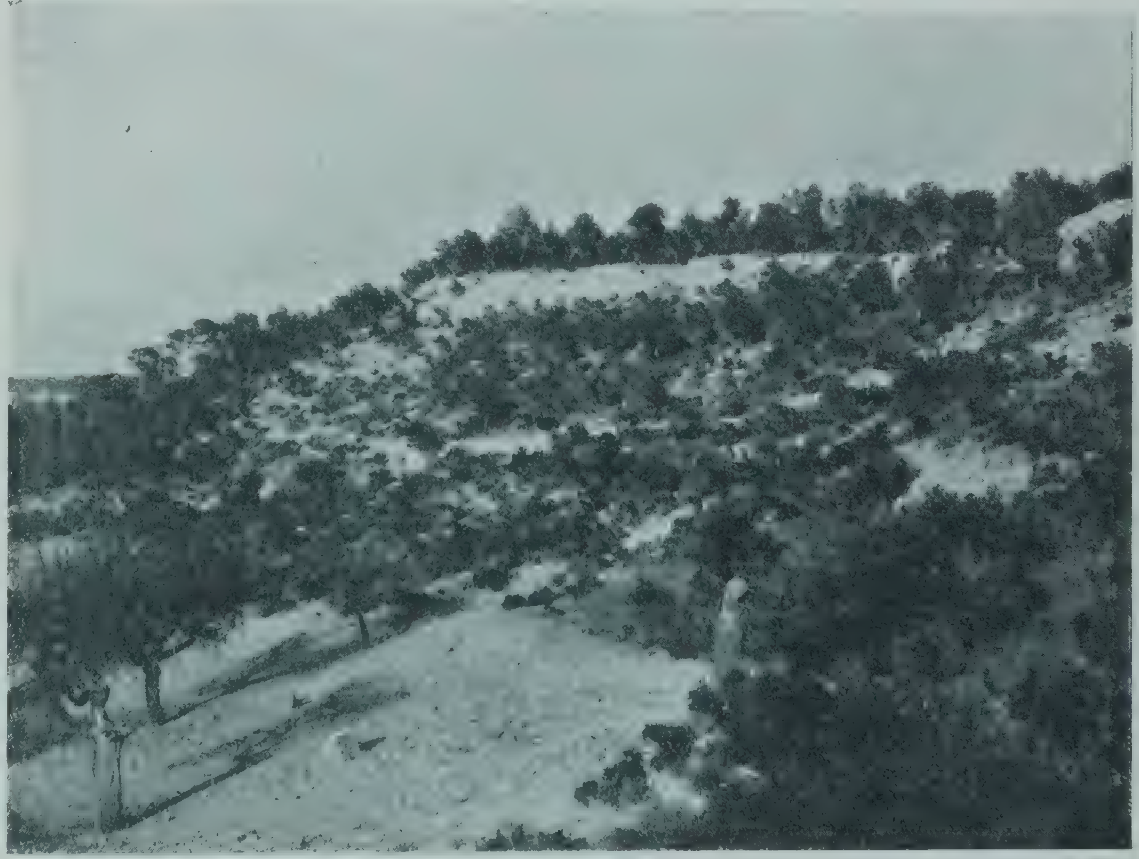

Fig. 35.—Forests of Provence.

Remains of Aleppo Pinewood on limestone plateau: "garigue" on slope: Olive cultivation on left. Near Rognac, Rhone Valley. 100 m. alt.

Broadly speaking, we can recognize four main zones of forest:—(1) The Mediterranean types of Pinus halepensis and of Pinus maritima (with Quercus suber locally); (2) a belt in which Quercus pubescens, a deciduous Oak closely allied to Q. sessiliflora, is dominant, (3) a belt of Pinus sylvestris extending into the sub-alpine region, and (4) forest of Picea excelsa and Larix europæa which form the uppermost forest belt, at least on northern slopes. These zones, of course, are all much influenced by aspect and there is a good deal of mingling in the transitional regions, but on the whole the zonation is exceedingly well marked.

1.—The Mediterranean Coniferous Forests.

Three species of Pine, apparently native, occur on the coast: each is dominant and forms pure woods in appropriate habitats. By far the most widespread is Pinus halepensis, the Aleppo Pine (figs. 35 and 36). This is the characteristic tree of the limestone hills of the coast and extends about 15 miles inland, where it reaches an altitude of 400-500 metres. Nearer the coast it may go considerably higher. This tree is considered by some authorities not to be native in the western Mediterranean, but, however this may be, there is no question that now it is the characteristic and well-nigh universal dominant of the limestone coastal hills of Provence, from the Rhone delta to the Italian frontier, and beyond. Associated with the Aleppo Pine are the common "Holm-Oak," (Quercus Ilex), and Quercus pubescens. The former, though exceedingly widespread and perhaps rightly considered the most characteristic Mediterranean tree, does not, so far as my experience in Provence goes, form extensive woods, and prefers somewhat sheltered places such as the sides of ravines. It also inhabits the clefts of steep rocks at considerable altitudes, where it is frequently no more than a shrub. In both these types of habitat it probably obtains more water than on the frequently very dry hillsides. Quercus pubescens (lanuginosa), the shoots of the current year of which are characteristically covered with a thick pubescence, is an occasional constituent of the pine woods. In the mild climate of the coast its leaves sometimes remain green till January, while in the most sheltered situations the new buds burst at the end of March. Further inland, at higher altitudes, the tree does not come into leaf till the end of April.

Pinus halepensis itself is not a very large tree, seldom exceeding 8 to 10 metres in height when full grown. It does not cast a deep shade and many of the Mediterranean shrubs flourish beneath it. While absolutely characteristic of the limestone, it grows quite well on siliceous soils. Thus in the neighbourhood of Hyères (e.g., on the southern edge of the Maurettes and on the island of Porquerolles), of St. Raphael, and of Cannes it is dominant on siliceous rocks, but it is noteworthy that these places are in the neighbourhood of great areas of limestone, from which the tree may well have invaded restricted siliceous areas or the edges of more extensive ones; it may also have been planted in such situations. I have never seen it in the interior of extensive siliceous areas, such as the Montagnes des Maures or the Esterel. In Algeria, it is true, Pinus halepensis is dominant on siliceous tracts such as the Forêt de Bainen, near Algiers, but there it has probably been planted, according to Prof. Trabut.

The shrubs accompanying the Aleppo Pine on the coastal limestone hills include most of the common Mediterranean evergreen species, with the exception of those, such as Erica arborea and Arbutus Unedo, which are confined, or nearly confined, to siliceous soils. Rosmarinus officinalis, Cistus albidus, Juniperus oxycedrus, Spartium junceum, and (in western Provence, where it is frequently dominant below the Pines) the low spiny shrub Quercus coccifera, are the most abundant and characteristic (fig. 36). The grass Brachypodium ramosum is very abundant and characteristic of the more open places. Thymus vulgaris, too, is often very abundant.

The Aleppo Pine-woods pass into garigue, the Provençal name for the shrub association of the barer limestone hillsides. This, according to Professor Flahault, is often derived from forest by wholesale felling of the trees, and such certainly seems to be the case (see figs. 35 and 36). At the same time it may well be that where the soil is very scanty and shallow, woodland associations have never existed, and garigue is the original association. The garigue shrubs are on the whole identical with those of the undergrowth of the more open Pine woods.

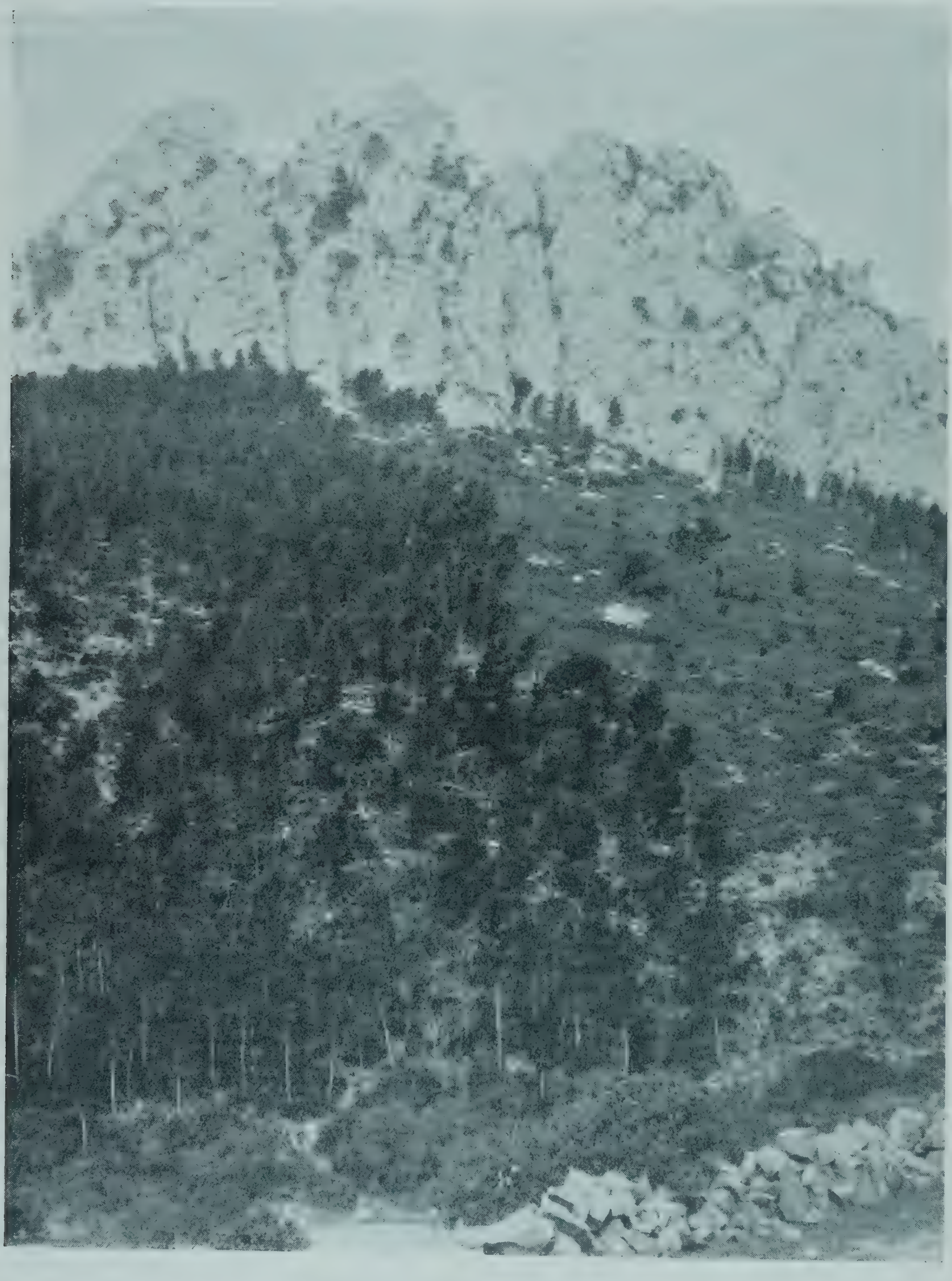

Fig. 36.—FORESTS OF PROVENCE.

Aleppo Pinewood on limestone talus: Undergrowth mainly of Quercus coccifera: Cistus albidus in flower in front: Pinus halepensis and Quercus Ilex in the clefts of the cliff above. Western portion of Ste. Baume range, near Gemenos. 200 to 400 m. alt.

Pinus maritima (Pinaster) is as characteristic of siliceous soils as its close ally, P. halepensis, is of calcareous. It dominates the woods of the siliceous regions, such as the Maures and the Esterel, where it is regularly exploited. Pinus maritima is a larger tree, and with its longer and stouter, darker green needles it casts a considerably deeper shade than its congener, and consequently when growing in close canopy there is little undergrowth. Quercus Ilex, Q. suber, and, to a less extent, Q. pubescens are the most commonly associated trees. In the more open parts of the woods and where the trees have been clear-felled, most of the Mediterranean shrubs occur, but, in place of Rosemary and Cistus albidus (which occur but are rarely abundant), Erica arborea, the beautiful tree Heath, usually growing to a height of 1½ metre, but in sheltered places attaining a greater stature, is very generally dominant, and in March fills the woods with the scent of its flowers. This plant, as is well known, is exploited for the making of "briar" (bruyère) tobacco-pipes, which is a considerable industry in some places, for instance at the little town of Cogolin in the Maures. Arbutus Unedo is also very abundant in the shrub association of the siliceous soils, scarcely occurring on the limestone. Other abundant shrubs are Calycotome spinosa, Cistus salviifolius and C. monspeliensis and Pistacia lentiscus, all of which are also very common on calcareous soils. The characteristic climbers are Smilax aspera and Lonicera implexa, each occurring on both types of soil. *A. G. Tansley.*

(To be continued.)

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 66-71.)

0, SCOTLAND, N.

Ross-shire.—The hardy fruit crops vary greatly, for whilst some kinds are remarkably good as to amount and quality, others are poor in these respects. Apples, for instance, though of great promise at the flowering period, are not equal to the average yield; the best varieties are Bramley's Seedling, Mr. Gladstone, Worcester Pearmain, Blenheim Pippin, and Stirling Castle. Pears are even a worse crop than Apples, but Jargonelle, Louise Bonne of Jersey, Colmar d'Été and Williams's Bon Chrètien are amongst the most fruitful. Plums are an excellent crop, and required thinning. Cherries, with the exception of Morellos, are poor. Small fruits, particularly Gooseberries and Raspberries, are fine average crops, whilst Strawberries were all that could be desired. It is difficult to account for the inequalities of the different varieties of fruits. The weather during the summer and autumn of 1911 was all that could be desired for the proper maturation of the wood and buds. The frost of February 5 (32½° Fahr.) must have caused considerable damage. Fine weather prevailed during April and part of May when Plums were in flower, and the fruits set well. The latter part of May and the whole of June was cold and wet, which adversely affected Apples, Pears and Cherries; thousands of the young fruits were destroyed by these unseasonable conditions, and 2° of frost on June 17 still further increased the damage. The walls in these gardens are devoted exclusively to Pears, Plums, and Cherries, Apples being grown either as dwarf standards or espaliers. The soil is a stiff loam, resting on a hard pan. The average rainfall is 42.04 inches. The fruit crops are this year a week to ten days later than usual. *William L. Minty, Ardross Castle Gardens.*

Sutherlandshire.—Strawberries were only about half the usual crop. Gooseberries also are very scarce, but Black Currants, Red Currants, and Raspberries are more than average crops. Apples vary; some trees have a fair number of fruits, whilst others have none, or very few. The out-door fruit crops generally are below the average. *D. Melville, Dunrobin Castle Gardens, Golspie.*

1, SCOTLAND, E.

Aberdeenshire.—All the fruit crops are three weeks later than last year. Gooseberries are a poor crop, having been much damaged by frost. Black and Red Currants are very heavy crops, but Strawberries were only an average quantity, and much later than last year. In some parts of this district the Strawberries were damaged by frost. Our soil is a medium loam, on a cold subsoil. *James Grant, Rothienorman Gardens.*

—— In this late district it is impossible to say yet what the quality of the fruit will be; it is far from maturity, and much will depend on the weather. In the early part of the season there were indications of heavy crops of all kinds of fruits, the blossom being unusually plentiful, owing, no doubt, to the fine season last year; but during the latter part of May we experienced several severe frosts, which damaged many of the blooms. In consequence, the fruit crops generally will be much below the average. *W. Henderson, Meldrum House.*

Banffshire.—The prospect of a good fruit year was very good in the early spring, but we experienced four nights of frost from May 22 to 26, which destroyed most of the blossoms. *George Edwards, Ballindalloch.*

—— The fruit crops of all kinds, with the exception of Pears and Victoria Plums, are disappointing after the fine show of blossom, and the exceptionally fine weather whilst the trees were in flower. I attribute the scarcity this season to the heavy crops borne by the trees last year. *Chas. Webster, Gordon Castle, Fochabers.*

—— Taking the crops generally this is a very good fruit season. The Apple crop is alone deficient, and it is difficult to account for this, as there was plenty of blossom and fairly good weather whilst the trees were in flower. I noticed that the foliage on the trees was in a more advanced state than is usual at the time of flowering, and possibly that had something to do with the deficiency of fruits. I noticed the same thing obtain a few years ago. Our soil is a dark loam of a loose nature. *Alex. Morton, Cullen House Gardens, Cullen.*

BERWICKSHIRE.—The Apple crop is a partial failure owing to late frosts damaging the bloom. Never before have I seen better prospects at the time of blossom. The soil here is very light in texture, and the subsoil is gravel. The fruit crops generally in this district are very good. *Peter Smith, Duns Castle Gardens.*

——The Strawberry crop was a poor one. Frequent frosts between May 18 and May 27, when the thermometer registered from 3° to 8° of frost, wrought much mischief while the plants were blooming and coming into bloom. What fruit developed was very small and late in ripening. Raspberries gave promise of a heavy crop, while Gooseberries and Red Currants are about an average quantity, but Black Currants are almost a failure. The drought of April and May had much to do with the failure of the Black Currant crop. Cherries and Plums are average crops: the fruits of early Cherries, such as Early Rivers and Elton Heart, were especially fine in quality. Apples, with the exception of wall trees, are lightly cropped. Our soil is a red loam resting on a clay subsoil. *Robert Stuart, Thirlestane Castle, Lauder.*

—— The fruit crops of all kinds promised well when in blossom, the flowers being exceptionally large and healthy. The fruits apparently set well, but later they dropped, after an unusual period (about six weeks) of very dry weather. The Strawberry blossoms withered as they opened owing to the drought. Our soil is of a light nature with sand and gravel subsoil. *R. Henderson, Ayton Castle Gardens.*

HADDINGTONSHIRE (EAST LOTHIAN). — With the exception of Strawberries there was an abundance of blossom on all kinds of fruits, and, with the exception of Plums and Black Currants, there are good crops of all kinds. The foliage is healthy and scarcely affected by any kind of disease or insect. Peaches are a failure in some cases, and Strawberries were, in general, a deficient crop. The soil is rather light, but that does not seem to have affected the crops as a whole. *R. P. Brotherston, Tyninghame, East Lothian.*

—— Owing to the drought of last summer Strawberry crowns did not develop properly, and many plants were almost killed by the excessive heat. Black and Red Currant bushes were greatly damaged by aphides, and in consequence many of these fruits dropped. Cherries promised exceedingly well at the flowering stage; the trees set a heavy crop, but one-third of the fruits dropped at the stoning period. Apples are good and clean. Apricots are a very heavy crop and of good quality. The soil of the district is mainly a medium loam of great fertility overlying, for the most part, gravel on the old red sandstone formation. A small portion of the county overlies a clay formation. *Thomas Macphail, Archerfield Gardens, Dirleton, East Lothian.*

FIFESHIRE.—All fruit trees were smothered in blossom, but owing to the cold, wet spring the Apple, Plum and Strawberry crops are very disappointing. The night temperatures were very low (from 40° to 46°) until the middle of July. We have a good depth of rich garden soil, but, unfortunately, a cold clayey subsoil. A July such as that of last year is best suited to this district. *W. Henderson, Balbirnie Gardens.*

MIDLOTHIAN.—All fruit trees gave great promise at the blossoming stage, but the good prospects were not realised, whether owing to the long drought of last year or the exceptionally dry months of April and March of this year, it would be hard to say. The trees have suffered badly from aphis. Yet there were heavy rains in the month of June, 7.39 inches being recorded for that month alone; 2.26 inches of rain fell on June 12, no less than 1.87 inch being measured in $2\frac{1}{4}$ hours on that date. The shortage of fruit cannot, therefore, be attributed to the absence of rain or the prevalence of frost. The month of May was cold, the wind coming from an easterly direction all that month. June again was very damp and sunless, the daily maximum and minimum temperatures being 57.19° and 50.21° against 64.1° and 39.12° respectively of last year. Strawberries were a complete failure. Black Currants are a thin crop, but the fruits are good in quality. Red Currants are deficient and inferior, but Gooseberries are plentiful and exceptionally good. The soil here seems to suit all fruits, being a fine rich deep loam principally on gravel, but the subsoil is at a good depth. To sum up we have (omitting Strawberries) good average crops. *Benjamin Ness, The Gardens, Oxenfoord Castle, Ford, Midlothian.*

—— All fruit trees produced an extraordinary quantity of blossom. The Pear crop, which was a very poor one last year, is good this season. Frost and a succession of cold nights when the trees were in flower spoilt the Apple crop, and the extreme dryness in April and May gave Apple trees a miserable appearance through infestations of insect pests, which the heavy rains since have cleared off. The general failure in the North of the Strawberry crop seems accounted for by the extreme dryness of the previous summer and autumn. Our soil is of a light nature on a gravel subsoil. *James Whytoek, Dalkeith Gardens, Midlothian.*

PEEBLESSHIRE.—The fruit crops in this high district are better than was at first anticipated. The wood of fruit trees and bushes, owing to the hot, dry summer of 1911, ripened prematurely, with the result that, although there was an abundance of blossom, a large number of the flowers appeared to be defective. A spell of cold, wet, sunless weather, during the time the Apples were in bloom, prevented the bees and other insects from pollinating the flowers, hence rather small crops; but the quality is all that could be desired. Pears and Plums are both good crops. Small fruits are, on the whole, good: Gooseberries set well, but a severe frost on April 15 caused numbers of the fruits to drop. Black and Red Currants and Raspberries are very plentiful. Strawberries bloomed exceedingly early this season; the thundery weather, accompanied with torrential rains and hailstorms, prevented the flowers setting. Later varieties fared a little better, but taken generally the Strawberry crop was a light one. All fruit trees and bushes are at present healthy, and growing luxuriantly. *George Haig, Garvald Gardens, Dolphinton.*

PERTHSHIRE.—Late frosts on April 12 damaged the Pear and Apple blossoms, which until that date looked promising. Early Strawberries were scarce on account of the drought of last year, as the crowns were very weak. Raspberries are a good crop. Our soil is of a heavy nature. *Andrew McAndie, Ruthven House Gardens, Meigle.*

6, SCOTLAND, W.

ARGYLLSHIRE.—Apples are the most disappointing crop. There was a great display of fine blossom, but the fruits failed to set, due, I think, to frost and cold winds. Strawberries are a heavy crop and of fine quality. Raspberries also promise well. *D. S. Melville, Poltalloch Gardens, Lochgilphead.*

AYRSHIRE.—Strawberries were, for some unaccountable reason, a poor crop. Raspberries and Currants are plentiful, whilst Plums are better than they have been for some years past. Apples look very well, and are a good average crop. *William Priest, Eglinton Gardens, Kilwinning.*

—— Up to the month of April all kinds of fruits promised exceedingly well for splendid crops. Cold and dry weather, however, set in about the middle of that month, and lasted well into May, doing considerable damage to Strawberries and Black Currants especially; while 7° of frost on May 23 caused further harm to Strawberries, most of the plants being then in flower. Other fruits are good average crops. *D. Buehanan, Bargany Gardens, Dailly.*

DUMBARTONSHIRE.—The Apple, Pear and Plum crops are practically failures in this district, owing to east winds prevailing during the flowering period. Raspberries, Currants, and Gooseberries are very heavy crops, and of good quality. Strawberries were plentiful, but lacked flavour, owing to an absence of sunshine. Our soil is a cold, shallow tilth on whin rock. *D. Stewart, Knockderry Castle Gardens.*

DUMFRIESSHIRE.—The Strawberry crop is decidedly below the average, and the Apple crop is below expectations, as the trees were covered with flowers. Small fruits are plentiful and good. *John Urquhart, Hoddom Castle Gardens, Ecclefechan.*

—— Small fruits are fair average crops, especially Raspberries and Red Currants. Gooseberries are very irregular, some bushes bearing heavy crops whilst others of the same variety are not so good. Warrington and Whinham's Industry are the best cropped varieties. Strawberries were a poor crop, the worst we have had for years past. Apples are poor compared with last year. Pears do not vary so much as Apples year by year. Plums are a fair crop, but a great many of the fruits are badly shaped and rusty-looking. We have fair numbers of both Sweet and Morello Cherries. Our soil is a sandy loam. *James McDonald, Dryfeholm Gardens, Lockerbie.*

—— The Apple crop is far short of last year, but certain varieties, such as Lane's Prince Albert, which is always a sure cropper, are bearing well. Pears do not do well in this locality outdoors. Raspberries and White, Black and Red Currants are very fine. Victoria Plums are good on walls, but Damsons are a failure. Strawberries were good: Givon's Late Prolific and Dumbarton Castle do well here. *David Inglis, Drumlanrig Castle Gardens, Thornhill.*

KIRKCUDBRIGHTSHIRE.—The fruit crops are exceptionally heavy. Apples and Pears required vigorous thinning to reduce them to normal quantities. All small fruits, with the exception of Strawberries, are very heavy crops; Currants being of the finest quality I have seen for several years past. *James Deuchars, Kenmure Castle Gardens.*

LANARKSHIRE.—Strawberries looked promising at the end of May, but the excessive rainfall of June had a disastrous effect on the crop. Many fruits damped off before they reached the ripening stage. On some of the large fruit farms in Scotland the Strawberry crop was little short of a failure this season. Black Currants are a fine crop where the plants are healthy. "Big bud" still causes much harm in this district. June, 1912, will long be remembered as the wettest June on record. Rain fell on 27 days. The rainfall of the month being 7.43 inches, or three times the average quantity. *Jas. Culton, Dildawn Gardens, Castle Douglas.*

—— A severe hailstorm on June 11 did great damage to Apples, Strawberries, and other small fruits in the open. *John Shiells, Carstairs Gardens, Carstairs Junction.*

STIRLINGSHIRE.—If the amount of blossom were an indication of the crops, fruit this year should be abundant, but the prolonged drought during May was detrimental to the swelling of the young fruits, and numbers dried and fell to the ground. Apples suffered most in this respect. Strawberries have proved disappointing on certain soils. On light soils the crop was never promising owing to last year's drought, but on heavy soil, such as clay, the long period of wet weather during June was injurious, and tended to produce too much foliage at the expense of the fruit. *J. Middleton, Callendar House Gardens, Falkirk.*

(To be continued.)

The Week's Work.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote,
Eastwell Park, Kent.

Climbers.—All kinds of climbers are growing vigorously, and attention should be given them at intervals. They may need only the shoots looped out of harm's way, or the superfluous growths removed. In the wild or natural garden, where the plants are climbing over stumps of old trees or on rocks, the less the shoots are trained the better. Also where they are growing over tall gateways, or on terrace walls, but little attention is necessary unless the strong growers are encroaching on their weaker neighbours. But those on verandahs, porches, or the windows of dwelling-houses or pavilions must be restricted. In such cases it is advisable to thin and train the shoots regularly, as they would otherwise soon become a tangled mass.

Climbing Roses.—The intense heat experienced pretty generally during the greater part of July, shortened the Rose season considerably, blooms of the later varieties lasting but a few days, and losing their colour immediately after opening. After the plants have ceased blooming, some of the old growths should be cut out, to allow the young basal shoots to be trained in their places. There are usually many more shoots than are required, and the weaker ones should be cut clean away, retaining only sufficient of the stronger branches to furnish the wall or trellis. It is a mistake to tie in too many shoots, for, unless they are ripened properly, the results will not be satisfactory next season. Climbing Roses are unequalled for garden decoration, and there is now a profusion of charming varieties to select from. They rarely appear inappropriate, but are perhaps seen at their best when allowed to ramble at will up an old tree stump, or over a steep bank or wall. Many charming effects may be arranged, by introducing them freely into shrubberies, beds of Rhododendrons, and amongst evergreens of all kinds. In such surroundings they give a beautiful colour effect, at a time when the Rhododendrons and other shrubs are out of bloom. They should be planted in rich loam to enable them to get a good start.

Antirrhinum. — These are amongst the most satisfactory of bedding plants, and are now making a splendid show; they should not be omitted from any garden where masses of colour are required. Varieties can now be procured in many shades, ranging from white to crimson. Two especially charming varieties are Coral Red and Carmine Pink. Beds of these, edged with dwarf white or yellow varieties, make a pleasing combination. One great advantage in using the Antirrhinum as a bedding plant is that it does not require the protection of a glass house or frame in winter. By sowing seeds in January or February, strong plants may be had in April, and, if they are planted in the beds early, the plants have a long season in which to establish themselves, and are then sufficiently strong to give a good display the whole of the summer. To ensure continuity of bloom, the old flower spikes must be cut off as soon as the flowers have fallen. If the capsules are retained for the seed to mature on the plant, it will at once cease blooming. Lateral growths develop quickly, and it will greatly assist to this end if water is afforded the roots during periods of drought. The Antirrhinum thrives and makes a good show in shrubberies and other places, unsuited for many flowering plants, but in common with most things they repay for a generous treatment.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme,
Warter Priory, Yorkshire.

Newly-grafted Trees.—When the scion and stock have united thoroughly and the graft is growing well, remove the tying material entirely, but take care to see that the young shoot is secured to a stake to prevent it being damaged by strong winds. Remove suckers directly they appear.

Budding Fruit Trees.—August is the best month for carrying out this operation. It is not much practised in private gardens except in restoring the symmetery of trees that have become bare of fruiting wood. Where trees are bare at their bases they may be easily furnished with growth again by inserting a bud here and there on the branches. Budding fruit trees is a more simple operation than grafting, and it should be carried out in a similar manner as in budding Roses. Select a plump bud from the middle portion of a shoot of half-ripened wood, take it off with a shield about one inch long, and remove the wood carefully with the handle of the budding knife. After the shield is inserted as low down as it will go, bind it lightly round with raffia, leaving only the bud exposed. Select dull or showery weather for performing the work, and first see that the bark will part freely from the stem. If hot, dry weather follows the operation, syringe and shade the bud. If in a fortnight or three weeks the buds are still green, the ties may be loosened, and later removed altogether. The buds will remain dormant this season, but as soon as the sap commences to flow again next spring they will grow freely.

Black Currants.—As soon as the fruit is gathered the bushes should be partially pruned to encourage the young shoots to grow stronger from the base. No bush fruit responds better for severe pruning than the Black Currant; the plants produce a greater weight of fine fruits when pruned at this date than if left until the autumn or spring, as the shoots become better matured. No shoots should be allowed to remain more than two years; by this system strong, vigorous growths are produced each year from the base, and early thinning greatly assists the ripening of the wood. Collect all prunings and burn them to destroy any insect pests that may be present, including the mite that causes "big bud." The Black Currant is one of the best bush fruits to plant on a north border or other moist position, and when grown in such situations the season of fruiting is prolonged. The richest manure available should be spread over the roots liberally during the winter months and lightly forked into the soil.

Red and White Currants. — These are excellent fruits to plant on a north wall. Keep all the superfluous side shoots removed or a mass of foliage will be produced and prevent the ripening of the wood and the fruits from keeping well.

Gooseberries. — Bushes growing against walls will require attention. Where there is still space to fill, the leading shoots may be allowed to extend, while in other cases young shoots should be encouraged to grow from the base to take the place of worn out branches. Where the wall space is already filled, shortening the shoots so that the fruits may be fully exposed to the light is all that is necessary at this season.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq.,
Woburn Place, Addlestone, Surrey.

Cyclamen.—Old corms of Cyclamen that have been rested for a time may be repotted. A considerable quantity of the old soil should be removed from them, taking care not to injure the strong, fleshy roots. They should be potted in receptacles a size larger than they previously occupied. Prepare a fairly rich compost of loam, rotted horse droppings, leaf-mould, sand, and a little old mortar rubble, and pot firmly. Grow the plants in cool conditions at the start, a cold frame placed in a semi-shaded position being suitable, removing the lights at night to give the plants the benefit of dews. By this date the young plants should be in their flowering pots. They should be afforded similar conditions as recommended for the older corms. If, however, they are grown in frames exposed to sunshine, shade must be provided. Spray between the pots both in the morning and afternoon of fine days, as moist conditions are essential to keep down yellow thrips. If this pest increases, notwithstanding sprayings, the plants must either be dipped in an insecticide or fumigated.

Cinerarias.—Seedling Cinerarias are large enough for transferring from the seed-pans to small pots. I prefer pans to boxes, which are used by some growers, as the foliage is not so liable to turn yellow during the winter as is the case when they are allowed to grow to a fairly large size in boxes.

Calceolaria. — Seedling Calceolarias also may be pricked out when the plants are large enough to handle. No advantage is gained by leaving them in the seed pots or pans, and a change of soil is beneficial. Both Cinerarias and Calceolarias require for some time to come as cool a treatment as it is possible to give them. When the young plants are well rooted, the lights should be removed at night: this treatment will help to keep them sturdy. The lights should be placed in position during stormy weather.

Humea elegans.—Seedling Humeas should be potted-up singly. If the seed was sown early, they may be in a fit condition for shifting into 4-inch pots. They should be grown in a cool, moderately dry pit or frame, as the foliage of plants with soft growth often suffers injury during the winter.

Hydrangea hortensis.—The single-stemmed specimens grown in pots may be discarded after they have flowered, unless they are required for purposes of stock, or to furnish large specimens capable of producing five or six heads of blooms. If saved, they should be cut down to three or four pairs of leaves, and as soon as they have started well into growth, pot them into large 32's, or even small 24 pots. If placed out-of-doors till the time for frost arrives, the young growths should mature sufficiently for each of them to develop a good head of bloom next spring, or early summer. Cuttings may be inserted to furnish single-stemmed plants. They may be rooted either in pots or in light soil in a frame. Fairly hard shoots should be selected, and they should be made very firm in the soil. After one good watering, slight dampings overhead daily should provide sufficient moisture till such times as the shoots are rooted. A slight shade is necessary during the day till roots have formed, at which stage the plants may be allowed all the light and air possible. Those rooted in frames should be potted in 48 size (5-inch) pots, in which they will flower successfully.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart.,
Gatton Park, Surrey.

Lælia pumila.—Plants of Lælia pumila and its varieties are making new growth, and as young roots are produced from their bases they should be repotted or have fresh material applied at the surface as may be necessary. These plants require liberal supplies of water at the roots during their season of growth, therefore it is important that the rooting material be sweet and in a porous condition. Shallow pans without side holes are the most suitable receptacles to grow them in, and these should be fitted with copper wire handles for suspending the plants. Place a few crocks in the bottom of the pan with a few short pieces of Fern rhizome over the top; press the potting material moderately firm, leaving sufficient space when finished for a surfacing of living heads of Sphagnum-moss. A mixture of equal parts Osmunda fibre, A1 fibre, and Sphagnum-moss cut into short portions, with crushed crocks added to ensure porosity, provides a suitable compost. Plants that have sufficient rooting space for another season's growth and with compost in a good condition may have a little of the old soil removed from the surface, replacing it with some of the new compost. Water should be applied sparingly to newly potted plants until the roots have become re-established, when the plants should be dipped in tepid rain water. The plants should also be sprayed overhead whenever the weather is favourable. This treatment should be continued till after the plants have passed out of flower, when they should be kept slightly on the dry side, and this treatment continued throughout the resting season.

Dendrobium. — If the cultural conditions have been favourable, these plants should have made good progress this season. Many of the early species, such as D. Wardianum, D. crassinode, D. chrysanthum, D. aureum, and D. primulinum will have completed their growths, and very soon after the terminal leaf appears the plants should be removed to a light, airy house where the plants will not make further growth, as the object is to have the new pseudo-bulbs ripened thoroughly. A vinery that has been cleared of its fruit is a suitable structure for them, as partial shade will be afforded them by the foliage of the vines. The plants should be syringed once or twice daily in order to keep down insect pests. Water should be applied to the roots whenever the compost appears dry, until the foliage begins to show signs of decay, when syringing should be discontinued and the supply of water at the roots reduced gradually. The new pseudo-bulbs may be loosely tied to neat stakes, or they may be allowed to assume their natural depending habit; D. Wardianum in particular flowers more freely, and its flowers are shown to better advantage when the pseudo-bulbs are permitted to droop naturally. Other species of Dendrobium and their numerous hybrids should be treated according to their stages of development; plenty of heat and moisture should be afforded growing plants. Aërial growths sometimes push forth from the pseudo-bulbs; these should be taken off, and if it is desired to increase the stock may either be potted singly in small pots or placed several together in larger receptacles. Cuttings that were inserted as advised in the calendar for March 30 last are developing roots from the new growths, and should be dealt with in a similar manner. After being potted they should be placed in a shady position in the house until they are rooted in the compost, when they should receive similar treatment to the established plants. The growths of D. Phalænopsis are in an advanced stage of development, and the plants should be supplied liberally with moisture, both at the roots and in the atmosphere. They should also be well syringed overhead on the afternoons of bright days, and the blinds should be drawn up after closing the ventilators, so as to promote a hot, humid atmosphere.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Hoeing.—This is a very important operation at this season, when the ground is dry, and between growing crops. The frequent stirring of the surface soil between the various subjects not only destroys weeds and prevents their multiplication, but loosens the surface and forms a natural mulch against drought. The dutch hoe is the most suitable implement to use between all kinds of small crops where the surface is fairly even, but for maincrop Potatos the draw hoe will be found the best tool for eradicating the larger weeds.

Chervil.—Occasional sowings of Chervil should be made at intervals. Select a piece of ground on a south border, and sow the seed thinly in drills drawn 10 inches apart. When large enough thin the seedlings until they are 6 inches apart.

Herbs.—Such herbs as Sage, Mint, Thyme, and Marjoram may now be cut, dried, tied in bunches and hung in an open shed for use during the winter months.

Gourds and Pumpkins.—To obtain large handsome fruits and a good growth, the plants should be provided with plenty of water at the roots and fed with drainings from the farmyard and artificial manures. The young fruits should be exposed to the light and air as much as possible, and, in the case of plants grown on trellises, supported before they attain too large a size. When grown on the ground like Marrows, the fruits may be elevated on boxes or pots. Aphis is often a troublesome pest to these plants. Place a fresh mulching of rotted manure if the materials of the former mulch are exhausted. The edible varieties are very palatable when cooked in a green state like Vegetable Marrow, and the largest of the Pumpkins, when thoroughly ripened and preserved, are often eaten during the winter months, being considered a great delicacy.

Autumn Sown Onions.—It is too early to sow the seed, but none too soon to select and get in readiness the piece of ground intended for the seed bed. The soil should be well and deeply dug, but no manure should be added, although a liberal dressing of soot and wood ashes may be applied, especially to the surface. Leave the ground in the rough state for the present, to be trodden down and raked level before the seeds are inserted. Draw drills at 9 inches apart and sow the seeds thinly but evenly. The following varieties are all excellent for sowing at the end of the present month:—White Leviathan, a splendid variety for exhibition purposes and immediate use, but not a good keeper; White Emperor, quite distinct from the former, and Giant Red Roccas, which is perhaps the best for keeping, whilst the bulbs attain to a good size.

Onions for Pickling.—Onions that were sown in March or April on poor ground are quite ripe and ready for lifting. In addition to their usefulness for pickling, their attractive silver skins make them well adapted for inclusion in salads. Improved Queen is an excellent variety.

Endive.—Another good sowing of Endive should be made to maintain a supply during the winter months. The seeds may be sown either in the open ground in drills or broadcast in a shallow frame, transplanting the seedlings when large enough. Oftentimes the seed fails to germinate freely, but frequent dampings will do much to assist in this respect. When grown in frames the damping and shading may be kept under better control.

Celery.—Excepting perhaps a small late sowing for flavouring, the whole of this crop should now be planted, and the various early and late batches will require periodical attention. During dry weather too much water can hardly be applied to Celery, whilst drainings from the farmyard should be given when the plants are well established. The Celery fly is usually troublesome about this season: frequent dustings of soot and pinching of the maggots between the finger and thumb or picking off the affected parts are the best methods of dealing with the pest. Continue to blanch the earliest supplies with brown paper as advised in a previous calendar.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Early Peaches and Nectarines.—Attention must now be given to the ripening of the young fruiting wood. If the trees have not been pruned, the pruning should be done at once. Old-established trees will require a totally different treatment in this matter to younger ones. To keep old trees well furnished with good, fruit-bearing wood, it is necessary to cut out some of the older branches which are becoming bare at their bases. This will afford room for plenty of young growths, that will keep the lower parts of the trees furnished. All growth which will not be required next year should be removed. The remainder of the young shoots should be loosened from the trellis to expose them thoroughly to the light and air. During hot weather the foliage should be syringed freely late in the afternoons. See that the roots do not suffer for want of moisture. Old-established trees may be given diluted liquid manure occasionally.

Early Pot-trees.—The culture of fruit trees in pots is becoming very popular, which is not surprising, as, provided a suitable house is available, no system of indoor fruit-culture is more satisfactory. A house of pot-trees will give far more fruits, and furnish them over a longer period, than a similar house with trees planted permanently. The fruits may not be quite so large, but their colour and flavour are all that could be desired. Trees which were forced early in the spring may be repotted so that they will have time to make plenty of fresh roots before they are started again. Old-established trees may be repotted in the same receptacles. The roots should be shaken out carefully and the ball of soil reduced so that there will be plenty of room to ram the new soil firmly about the roots. A suitable rooting medium consists of loam, mixed with a good sprinkling of old lime rubble, crushed bones, wood ashes and soot. The trees need to be shaded till they have recovered from the disturbance and syringed three or four times a day. Afford water with great care till the roots are again active.

Mid-season Trees.—When all the fruits are gathered give the trees a thorough soaking with clear water. The foliage should be subjected to a vigorous washing with a hose or garden engine every afternoon, and should red-spider be present, spray the trees well with an insecticide several times at intervals of two or three days. Afford them the same treatment in regard to pruning as advised for the early trees. Examine the ties on the main branches, and cut those which are becoming too tight. The shoots of young trees swell rapidly during the autumn months, and, unless there is ample room for expansion, the ligature will cut into the bark and do great damage. Canker often follows upon neglect in this matter.

Late Trees.—Trees carrying heavy crops of fruit require stimulants till the fruits are approaching the ripening stage. During hot weather the foliage should be well syringed with rain-water twice daily. The walls and paths should be damped frequently to promote a moist atmosphere. Admit plenty of air to the trees at all times unless it is necessary to hasten the ripening of the fruits. Even in these circumstances the houses should not be closed entirely. Fruits which are nearing maturity should be slightly shaded; certain varieties, especially of Nectarines, are very liable to injury from scalding; but a little lime-wash syringed over the glass will provide suitable shade. The fruits on the latest trees should be propped up to the light, if this has not already been done. The crop will be more satisfactory in every way for this little extra trouble. When the fruits are ripening they should be examined every morning and gathered before they become over-ripe. When perfectly ripe they will keep longer if placed in a cool, airy room than if left on the trees.

THE APIARY.

By Chloris.

Honey at Shows.—The time of the year has arrived when agricultural and horticultural societies are holding annual exhibitions. Beekeepers should lend a helping hand in this good work for two reasons: (a) to assist the local society and to help in educating the public in the pleasures of beekeeping and the utility of honey as a food, and (b) to advertise their own wares, and thus create a market for the products of the apiary. The prizes may not repay for the out-of-pocket expenses incurred, but a good market for the honey may more than compensate the exhibitors for many years to come. Some are afraid to exhibit because they are only learners, but so were all the greatest exhibitors once, and everyone must make a beginning. It is a good plan to visit the shows to judge the exhibits, so that one's own shortcomings may be rectified in the future; further, most beekeepers are very pleased to discuss beekeeping with anyone interested in the art, so difficulties that have cropped up in the past may be told to men who have, perhaps, overcome them. Those beekeepers who are more advanced than their brethren may render shows more attractive and of greater educational value by giving lectures and demonstrations in the manipulation of bees by rigging up a demonstration tent. Further, people should be taught that honey is a useful and necessary food.

The Second Honey Flow.—The rains of June, followed by the present warm weather, are causing the Clover to come into bloom, and the blooms will secrete a good quantity of valuable nectar. Those who have sections or frames containing dark honey will do well to extract and ripen this and replace the drawn-out combs for the bees to refill with delicious Clover honey. Those who wish to prevent the issue of a swarm, which often happens after a prolonged wet spell followed by very warm weather, should ventilate their hives by placing a wedge under each corner. Take off all sections as soon as they are completed, for they will become travel-stained if left on, and, to avoid injury to the sections, place the super clearer underneath the crate to be removed; this operation is best performed at noon, when fewer bees are in the hive and use as little smoke as possible. Shallow frames should be removed to a warm room and there extracted, while the honey is thin and very liquid. The combs should be returned to be refilled or cleaned during the evening, to prevent robbing.

Wax Moth.—This pest is very troublesome everywhere this season. Quilts should be carefully examined and all grubs killed, also any moths that are discovered.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Editors and Publisher.—*Our Correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all letters relating to financial matters and to advertisements should be addressed to the* PUBLISHER; *and that all communications intended for publication, or referring to the Literary department, and all plants to be named, should be directed to the* EDITORS. *The two departments, Publishing and Editorial, are distinct, and much unnecessary delay and confusion arise when letters are misdirected.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

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Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but they cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, AUGUST 5—
Machen Fl. Sh. Bletchley and Fenny Stratford Hort. Soc.'s Sh. Clevedon Hort. Soc.'s Annual Sh. in Herbert Gardens.

TUESDAY, AUGUST 6—
Leicester (Abbey Park) Fl. Sh. (2 days). Scottish Hort. Assoc. meet. Barry Fl. Sh. Artindale's Sweet Pea Sh. at Sheffield.

WEDNESDAY, AUGUST 7—
Bridgend Fl. Sh. St. Fagan's Fl. Sh.

THURSDAY, AUGUST 8—Harrogate Fl. Sh. (2 days).

SATURDAY, AUGUST 10—
Aberdeen and Northern Counties Sweet Pea Sh.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—62·1.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, July 31* (6 P.M.): Max. 66°; Min. 51°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, August 1* (10 A.M.): Bar. 29·3°; Temp. 65°; *Weather*—Overcast.
PROVINCES.—*Wednesday, July 31*: Max. 63° Oxford; Min. 55° Preston.

First Steps in Fruit Culture.* The author of this particularly interesting book, describing the best American practice, is a member of the staff of the Massachusetts Agricultural College. The work is full of sound practical advice for the fruit grower of any country, although of course it is to be borne in mind that some practices usual in the United States are not quite suitable to other countries, particularly where bush fruit is grown among the taller trees. This latter method of cultivation is not common in the United States, and is not mentioned in the book under notice. Indeed, Mr. Waugh does not include bush fruit in the scope of his book.

The author begins by describing fully and clearly some of the best methods of grafting, putting root-grafting first, as one of the most commonly practised in his country. The stocks are taken up, grafted in the autumn, and stored in a cool cellar through the winter in damp sawdust, to be planted out in the spring in nursery beds. It might be supposed that the uprooting of the stocks would check severely the vigour which they impart to the scion in the first instance; but, probably, this tendency is counteracted by the advantage of grafting on to roots instead of on to stems. When planted in the nursery beds, they are covered with soil nearly to the tops of the scions, leaving only two buds above the surface. They are usually ready for planting out in their final quarters after two years' growth, but in fertile soil they may be ready in one year. Budding is also described, and, as with grafting, the description is helped by illustrations, as also are other branches of fruit growing. Among his references to stocks, Mr. Waugh does not mention the Crab. Nor does he refer to the selection of some favourite stock for grafting, such as Northern Spy. The stocks most commonly used are obtained by the bad practice of sowing mixed Apple pips from the cider mills, and this is not condemned, although the author believes that the stock influences materially the character of the variety raised upon it.

Mr. Waugh prefers maiden Apple trees to older ones, and urges, rightly, we think, that trees over two years old should be avoided. The old plan of planting trees three or four years old has gone quite out of favour in the United States. The fancy for leaving trees not cut back until the second season from the planting obviously does not find favour in that country, cutting back before planting being usual. In the case of a maiden tree, cutting back to the main stem at the height at which it is desired to form the head of the tree is advised, while for two-year-old trees cutting the young branches back to from 1 inch to 3 inches of the trunk is recommended. The preference for low-headed trees has grown greatly in the United States, and young Apple trees are frequently headed back to straight sticks 18 inches above the ground level, while stems 2½ feet to 3 feet are perhaps more common at present, though some growers prefer high-headed trees. It is usual to prune severely also in the second season; but after that there is as much diversity of treatment in the United States as there is in this country, advocates of non-pruning being found there as here. Mr. Waugh recommends continuous attention to pruning, with care for keeping the centre of a tree open to sun and air, and he is a strong advocate of summer pruning, which appears to be no more common in his country among commercial growers than it is in our own.

The author strongly recommends the cultivation of orchards in preference to allowing grass to grow around the trees, although good results are obtained from the "sod and mulch" system when liberally pursued. He greatly prefers cultivation with the growth of cover crops sown in August to stand until the following spring, when they are ploughed in. This plan, of course, cannot be adopted where bush fruit is grown among the trees, and ploughing where trees are as shallow-rooting as are those on the paradise stock in this country could hardly fail to injure the roots. Presumably, when a crop of Tares or Clover is ploughed in, the ploughing must be done twice, once in each direction, for otherwise there would be a wide row of the cover crop left in each row of trees. Even with cross-ploughing, there would be a square of the cover crop left untouched around each tree, and, presumably, this has to be dug in. Mr. Waugh strongly recommends the regular manuring of fruit orchards, but seems to us to underrate the value of farmyard manure, and to over-rate that of artificial fertilisers. It is hardly necessary to state that the importance of spraying against insect and fungous pests receives due attention.

FLOWER SHOW 80 YEARS AGO.—The first show of the combined Swansea and Neath Horticultural Societies was held in the Assembly Room at Swansea just 80 years ago. The *Cambrian*, in its report of the show, remarked: "A stage, 24 feet long, was well filled with about 100 choice plants in pots, interspersed with bouquets of beautiful flowers, and a table of the same length had laid out on it 70 dishes of fruit." As with so many other societies, the Swansea and Neath Horticultural Society has grown and the amount of staging which sufficed for the first exhibition would be totally inadequate nowadays.

GEFFRYE'S GARDEN.—London's latest open space, the garden attached to Geffrye's Almshouses, was formally opened for the use of the public on the 27th ult. by Mr. J. W. LORDEN, Chairman of the Parks Committee of the London County Council. The Council in May, 1910, sanctioned an expenditure of £24,000 in respect of the acquisition of the property, and in December of the same year a supplemental estimate of £10,000 was approved in respect of the purchase of adjoining property in Maria Street, Haggerston, which was acquired as an extension to the garden. It is now reported that the total expenditure incurred to date, has amounted to £34,289, the excess expenditure being due chiefly to the legal costs incurred being greater than was anticipated. To cover this excess expenditure the County Council has voted an additional sum of £300.

AUSTRIAN HORTICULTURAL EXHIBITION.—We have received the announcement of an exhibition which is to be held at Vienna in May, 1913, under the auspices of the Vienna Botanical Society. There will be awards for all classes of exhibits, and the show is expected to be one of considerable importance.

THE NATIONAL POULTRY ORGANIZATION SOCIETY.—The July number of the *Journal* of this society should be in the hands of all persons seriously interested in poultry-keeping. The notes on such subjects as "Egg Trains," "Brown-shelled Eggs," "Autumn and Spring Chicken Rearing," and "Infertile Eggs for Eating," are exceedingly good reading, and, to the thoughtful reader, cannot fail to suggest improvements in his methods. There is also a well-written article on "The Value of Poultry in Fruit Culture," and, at the end of the *Journal*, current poultry literature is reviewed.

THE WOMEN'S AGRICULTURAL AND HORTICULTURAL INTERNATIONAL UNION.—This month's leaflet (price 2d.) contains a report of the annual meeting of the union and various short notes. The spelling of plant names needs greater attention, in order to prevent such obvious errors as Ceinum Rattrayi and Gypsophilam paniculatum.

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* *Beginners' Guide to Fruit Growing*, by F. M. Waugh. London: Kegan Paul, Trench, Trübner & Co.) Price 3s. 6d.

Loganberry Juice.—Prof. C. T. Lewis, of the Oregon Agricultural College, explains his method of making a delicious drink from Loganberries. "To prepare the juice, put the berries on the stove with just enough water to keep the fruit from scorching. Heat slowly, mixing and crushing occasionally with a large spoon. Be sure not to allow the berries to boil; 180° would be, probably, as much heat as necessary. After the berries have softened, put them in an ordinary cloth bag and drain out the juice. The process can be much simplified by using a small fruit press. In choosing the berries try to get those thoroughly ripe. Add one-third the amount of sugar when the juice is put on the stove, and stir occasionally until it is thoroughly heated, but if it boils the vinous flavour and high aroma are destroyed. In bottling the juice drive the cork in slightly and fill the space (above the cork) with hot, liquid fat. The juice makes a most healthful beverage. Half an inch to 1 inch in a glass of water will be enough. Some may wish to add more sugar, though the acid flavour is pleasant. It is, I believe, superior to Grape juice."

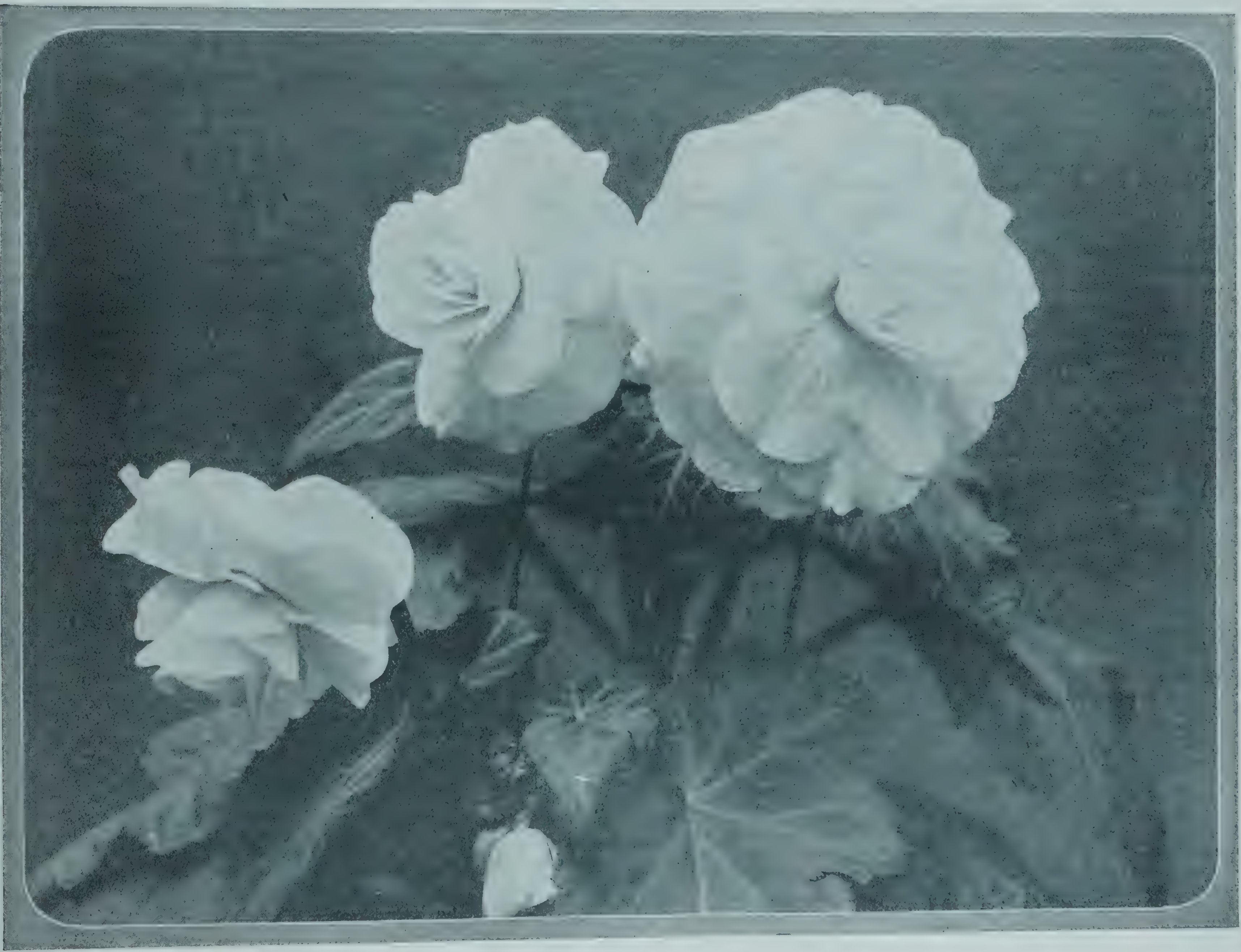

Fig. 37.—BEGONIA FLORENCE NIGHTINGALE: FLOWERS WHITE.

(Received R.H.S. Award of Merit. See *Gardeners' Chronicle* for July 6 last, p. 15.)

Dr. M. C. Cooke.—A recent number of the *Morning Post* contains an appreciation of Dr. Mordecai Cubitt Cooke, who celebrated his 87th birthday on the 12th ult. Dr. Cooke is well known to our readers and the botanical and horticultural world generally as being the oldest mycologist in Europe, and the author of many books and articles on fungi and plant diseases. His botanical works number upwards of 100, and contain many thousands of illustrations from his own drawings. The eight volumes of his best-known work *Illustrations of British Fungi* contain 1,200 full-page drawings prepared by himself for lithographic reproduction. His last published work, *Fungoid Pests of Cultivated Plants*, was issued by the Royal Horticultural Society in 1906 when the author was 81 years old. Dr. Cooke was born at Horning in Norfolk, and at nine years of age he left home to live with an uncle, a dissenting clergyman in Ilford, with whom he remained for three years, during which time his uncle taught him Latin, Greek, and algebra, and "laid the foundation of every quality he was able to display in the way of work in after life." Dr. Cooke's uncle used to send him for daily walks down the Barking Road with instructions to make collections of the plants and flowers that grew by the wayside, and to classify and name them afterwards with such assistance as he could obtain from his small botanical library. Later on, after working at various callings, such as assistant in a drapery establishment, as a lawyer's clerk, and teacher in a National school, he obtained employment in the Indian department of the great exhibition of 1862 to compile a catalogue of the Indian exhibits, a work for which his previous studies on the economic value of Indian food plants particularly fitted him. After this work in connection with the exhibition was finished he obtained a position in the Indian Museum, and when this museum was abolished he was transferred, at the instance of the late Sir Joseph Hooker, to the Kew Herbarium. He retired from Kew in 1892, after having been first cryptogamic assistant for a number of years. In addition to writing so many books Dr. Cooke contributed frequent articles to the weekly Press, including the *Gardeners' Chronicle*. Of the many honours conferred on him, mention may be made of the Gold Medal of the Linnean Society and the honorary M.A. degree of the Yale University.

Manchester and North of England Orchid Society.—The secretary writes to inform us that the next meeting will be held on the 22nd inst., and not on the 8th inst. as stated in the report of the last meeting.

Harrogate.—In their newest series of guide books, of which Harrogate is the first number, Messrs. A. & C. Black claim that these guides are constructed on an entirely original plan. The book is arranged alphabetically, so that the information needed can be easily found. In addition to 7 maps and plans of Harrogate and its environs, there are 12 attractive colour illustrations. This little guide book, published at the low price of one shilling, contains a deal of interesting information set out in an attractive manner. Nothing of importance seems to have been overlooked and the reader is informed how and when to take the famous Harrogate waters.

"The Botanical Magazine."—The issue (No. 91, new series) for July, 1912, contains illustrations and descriptions of the following plants:—

Agave marmorata, tab. 8442.—This species was collected by Roezl, in the province of Tehuacan, Mexico, and is rather rare in collections. Healthy leaves of A. marmorata are described as being glaucous, nearly white; they are extremely rough, especially on the undersides and near the points; the marginal and terminal spines are also tubercular and rough. The Indians of Mexico are said to use the leaves in veterinary medicine. The inflorescence is about 12 feet high, with a relatively slender scape. The bright yellow flowers, which have a somewhat unpleasant smell, are rather small, and are produced in dense clusters.

Erica ciliaris, tab. 8443.—The only counties in the United Kingdom in which this beautiful hardy Heath is to be found in a wild state are Dorset, Cornwall, and Galway. It extends thence to France, and is plentiful in Portugal and Spain. E. ciliaris was the subject of tab. 484 in the *Botanical Magazine*, and that figure of 112 years ago shows the species as found in the British Islands, in France, and in Spain, but the illustration in the present number depicts a form of E. ciliaris which is found in Portugal, and, although it has no botanical difference, is a much more desirable garden plant. This form, with large and brighter flowers, was introduced from Portugal by the late Mr. G. Maw in 1872. Ten years later this striking plant was re-introduced, and was described by Mr. Backhouse as E. Maweana. At this time most of the plants of the earlier introduction were lost, but, fortunately, some were preserved in an Edinburgh nursery, and plants were purchased for Kew. This Heath has since been largely propagated by cuttings, and has been planted in masses in various parts of the grounds, where, from July to October, they give bright displays of rich colour. For soils that are free from lime, Mr. Maw's Heath may be recommended as being perhaps the showiest of all the late-flowering sorts.

Styrax Wilsonii, tab. 8444.—Of the half-a-dozen species of Styrax in cultivation, S. japonicum is the hardiest and most desirable. S. Wilsonii has yet to be tested, and, should it prove to be generally hardy, will be a decided acquisition to our summer-flowering shrubs. Whilst being distinct from any other species, it comes nearest to S. japonicum, which was figured as S. serrulatum at tab. 5950, but is only one-half the size of that species. S. Wilsonii is described as being a compact shrub of shapely form, and flowers at a remarkably early age. A specimen at Kew flowered when only 17 months old. Although it is probably not quite hardy, it is recorded that during last winter, when 18° to 20° of frost were registered, young plants in the Kew nursery only sustained injury to the tips of the twigs. The alternate, elliptic-ovate leaves are a little over ½ inch long, and are irregularly toothed. The white flowers are borne in short, few-flowered terminal and axillary racemes. Propagation may be effected by layering, but since the seedling shrubs flower so freely at an early age, it will be preferable to rely on seeds.

Cotyledon subrigida, tab. 8445.—The illustration of this species shows a very handsome and distinct plant. The stout, glaucous-green leaves are about 4 to 6 inches long by 2 to 2½ inches wide, and have very attractive red margins. The flower-spikes become about 18 inches high, and the three to five secund racemes bear large yellow flowers with brilliant colouring on the spreading segments. C. subrigida was first discovered by Mr. C. G. Pringle in 1892, growing on ledges of cliffs in Tultenango Cañon, in Mexico. It grows vigorously, and, like other species, thrives well if placed out-of-doors in a sunny position during the summer, and removed to a dry, frost-proof greenhouse or frame for the winter.

Pseuderanthemum lilacinum, tab. 8446.—This dwarf tropical shrub is a native of Selangor, and is amenable to similar treatment to that afforded tropical Begonias. Its flowering season is usually in April, and, as a garden plant, it is of equal value to the other species of Pseuderanthemum, which have been longer in cultivation. P. lilacinum produces an erect panicle of long-tubed, lilac-blue flowers, which have a white or yellowish blotch with a number of minute red spots on the mid-lobe of the lower lip.

The Birmingham Show and Others.—At the first exhibition of the newly-constituted Birmingham Horticultural Society Messrs. Sutton & Sons were awarded a Gold Medal for an exhibit of fruit and vegetables, and Mr. H. N. Ellison, Nurseryman, West Bromwich, was awarded Silver-gilt Medals for exhibits of Cactaceous plants and Ferns. These are in addition to the exhibits remarked upon in our last issue. Mr. Ellison also exhibited Cactaceous plants at the Cardiff Show (Gold Medal) and at Southampton, where he gained the award of a Silver Medal.

Overhanging Branch of a Tree.—The daily Press have reported an action recently brought before the Shoreditch County Court to recover £3 for trespass and damage from a neighbour. It appears that part of a tree which grew in plaintiff's garden overhung defendant's garden, throwing a shade on a considerable portion of the ground. Plaintiff stated that the defendant "cut off a large branch, injuring the wall at the same time. Some 30 or 40 feet was cut away, and the leaves on the remainder of the tree are fading, and the sap is running out." The usual recriminations ensued, and resulted in the County Court action. The report of the case in the *Daily Express*, dated July 24, states that it was submitted that a man had a right to go on another man's land in order to abate a nuisance. Judge Smyly, in imposing a nominal penalty, without costs, agreed that this was so if it was absolutely necessary, but he did not think it was so in this case, and that the branch could have been cut off without getting on the trunk of the tree and cutting between it and the wall. Questions relating to the right of a person to remove portions of trees which overshadow their ground periodically reach this office, and so recently as July 20, in reply to a question relating to projecting portions of a fence, our legal correspondent pointed out that all cutting should be done from the operator's own side of the fence.

A Kent Estate for the Nation.—It is reported that the owner of the house and 26-acre estate known as Chippens Bank, Hever, Kent, who does not wish her name to be published, has endowed the estate and willed it to the nation, in memory of the late Miss Emma Cons, the first woman alderman.

Packing and Grading of Apples.—A representative association of fruiterers petitioned the Board of Agriculture to take steps to secure uniformity in the methods adopted by British growers in packing and grading their fruit and vegetables for market, in order that the British grower might be enabled to compete more effectively with foreign and colonial producers. As regards the packing of Apples, the Board recommended that the fruits should only be purchased in ½ cwt. boxes of the same type as those used in California, which state the name and address of sender, the net weight of contents, and name of Apple on each box. As regards grading it was recommended that when purchasing preference should be given to packers or growers who grade their Apples as firsts and seconds. It was also suggested that retailers should confine their purchases of cooking and eating Apples to a certain number of specified varieties in order to make grading practicable. The Board took the view that if a considerable majority of retail fruiterers were in favour of given methods of packing, their views should be brought to the notice of the growers, and they accordingly instituted an inquiry on the suggestions. In the course of this inquiry it was unfortunately found that there was considerable difference of opinion on the subject, and they decided to postpone further action until, by means of conferences or otherwise, they could ascertain with certainty the views of retail fruiterers.

Queen Wasps.—In response to an offer of 2s. per 100 dead queen wasps, no fewer than 3,850 were brought to the recent flower show at Witley (Surrey). The first prize-winner showed 1,205 specimens.

Taxation of Land.—The following communication is addressed to us by the secretary of the Land Union:—"The Horticultural Advisory Committee of the Land Union, consisting of practical men engaged in the horticultural trade, emphatically protests against the proposal to impose further taxes on land (as distinct from other forms of property), and states without hesitation that the practical result of such taxation would inevitably be to compel many British growers, who necessarily cultivate considerable quantities of land, to close down (they being already hard-pressed by the competition of growers in other parts of Europe). The Committee further desires to point out that this result would not only ruin many nurserymen and market growers, but would throw out of employment many thousands of workpeople employed by them, and would also render it impossible for persons of moderate means to enjoy the benefits of a garden. Finally, the Committee urgently claims that land should be relieved from the crushing and increasing burden of rates and taxes at present imposed to cover the cost of various public services, which should properly be borne by the Imperial Exchequer."

Flower Shows in Ireland.—According to a correspondent, flower shows appear to have an increasing popularity in Ireland. The exhibition at Belfast, reported in our last issue, was a great success. At Killarney a successful exhibition of Sweet Peas and other flowers was held on the 25th ult. At the recent Longford Show there were more classes than last year; North Kildare had also a splendid exhibition of fruit, flowers and plants, which was held in the grounds of Leixlip Castle; and an excellent horticultural show was held at Cavan in conjunction with the Cavan Agricultural Society's exhibition. Important shows will be held at Portumna on the 7th inst., Ballinasloe on the 13th inst., and Nenagh on the 15th inst.

Destruction of Water Weeds.*—In considering the question of the eradication of water-weeds from ponds, it is necessary to draw a distinction between the larger weeds, such as American water-weed, water crowfoot, duckweed, &c., and the smaller algæ. The larger weeds are not only the most obnoxious, but are also the most difficult to eradicate, as they can only be kept down by cutting and dragging them out. In small shallow ponds this may be done by men wading in the water and using hand-scythes; or scythe-blades may be attached to ropes, which can be dragged through the weeds from a boat or from opposite banks of the pond.

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* The *Journal* of the Board of Agriculture.

Special weed-cutting saws are also made for this purpose, and several other devices exist for use in large stretches of water. Some of these contrivances are of considerable size, and are very costly. The smaller algæ are visible chiefly as a green or brown scum, and are commonly seen during the summer and autumn on still or nearly still water. These troublesome growths not only frequently destroy the beauty of ponds entirely for a time, but also have an offensive smell. For the destruction of these small, slimy weeds, copper sulphate has proved to be very effective, especially in fresh water. This material has been used with success in recent years both for the smaller ponds at Kew Gardens and for the ornamental water in St. James's Park. Previous to the last two summers, it had been a costly and troublesome matter in the latter case to keep the water presentable in hot weather, men in boats being employed to remove the weed with rakes, &c. As a result of the adoption of the copper sulphate treatment, however, the lake can now be kept practically free from weed at a much less expenditure in money and labour than formerly. It must, however, be borne in mind that this remedy should only be applied with the greatest caution to ponds containing fish, some of which appear to be rather sensitive to copper sulphate. There is at the present time no detailed information as to the resisting power of English fish, and in the absence of such information it would not be advisable to treat any fish-pond in this country, even with a very dilute solution, such as 1 part in 5,000,000, without first determining by experiments with one or two fish in a few gallons of water, the susceptibility of each species. It is, however, somewhat reassuring in this connection to learn that copper sulphate applied during the last two summers to the water in St. James's Park was found to be not only harmless, but even beneficial to the fish. In former years many had been found to be badly attacked by a fungus, but at the last cleaning out the fish were found to be quite free from the fungus disease, and remarkably clean and silvery. If there are no fish in the pond, 1 part (by weight) in 1,000,000 (or 1 lb. of copper sulphate to 100,000 gallons of water) may be applied without rendering the water dangerous for drinking purposes. Ordinary commercial copper sulphate should be used, and, in standing water, may be easily applied, the only important point being that the copper sulphate must be thoroughly and rapidly distributed throughout the pond. In small ponds, the copper sulphate, broken small, and enclosed in a bag of loose texture, may be tied to the end of a pole and drawn backwards and forwards through the water. In large ponds the bag should be towed behind a boat, which should be rowed to and fro in parallel paths not more than from 10 to 20 feet apart. In water with a temperature of about 60° Fahr., something like 100 lb. of copper sulphate can be so distributed in an hour. The effectiveness of the treatment is found to depend to some extent on the temperature of the water, and, if this should be much below 60° Fahr., or if the water is very hard, or contains much organic matter, more copper sulphate should be used. It is found that copper sulphate rapidly disappears from water to which it has been applied, presumably because it combines with the algæ which it destroys. Copper sulphate has also proved effective when applied to the surface of the slime in the form of a spray composed of 1½ ounce of copper sulphate dissolved in 2 gallons of water; but if Water-Lilies are present they may be injured by this method of treatment. It is necessary to calculate the amount of water in a pond in order to determine the amount of copper sulphate which may safely be applied, and this may be done with sufficient accuracy by multiplying together the average length, breadth, and depth of the pond in feet, and multiplying the result by 6¼, the approximate number of gallons in a cubic foot.

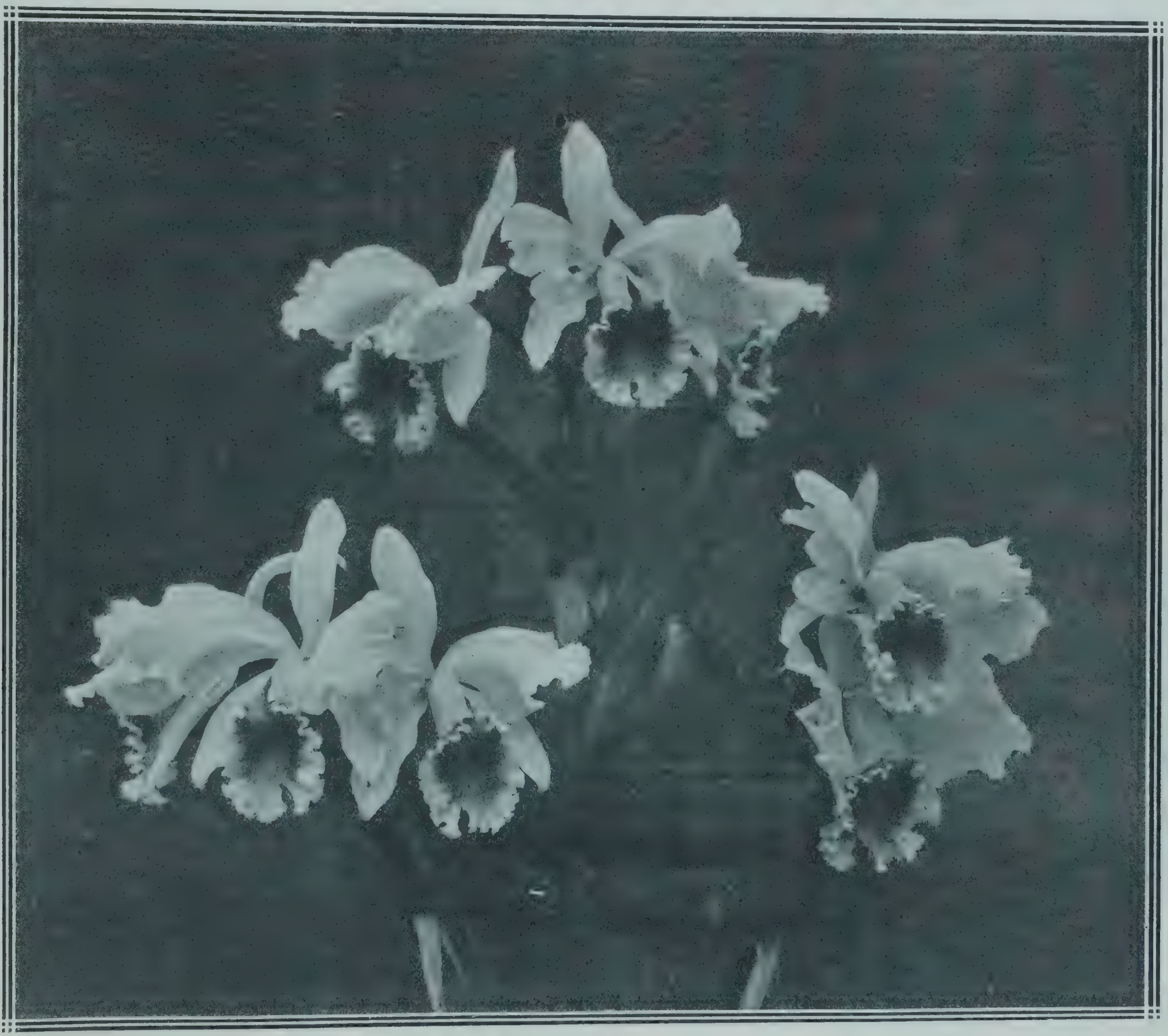


Fig. 38.—CATTLEYA MOSSIÆ VAR. A. DIMMOCK.
(See p. 98.)

Publications Received.—*The Journal of the Royal Horticultural Society.* July. (London: Royal Horticultural Society.) Price to non-Fellows, 5s.—*Extension Bulletin of the State of Rhode Island and Providence Plantations: Children's School and Home Gardening.* (Providence; Extension Department, Rhode Island State College.)—*Thirty-seventh Annual Report of the Ontario Agricultural College and Experimental Farm.* (Toronto: Ontario Department of Agriculture.)—*The Story of Our Trees*-

by Margaret M. Gregson. (Cambridge: University Press.) Price 2s. 6d.—***Soil Conditions and Plant Growth,*** by Ed. J. Russell, D.Sc. (London: Longmans, Green & Co.) Price 5s. net.—***The Perpetual-Flowering Carnation,*** by Montague C. Allwood. (London: The Cable Printing and Publishing Co.) Price 3s.—***Indoor Gardens,*** by T. W. Sanders. (London: Agricultural and Horticultural Association.) Price 1d.—***Les Ennemis des Plantes Cultivees,*** by Georges Truffaut. (Versailles: G. Truffaut.) Price 10 francs.—***Notes from the Royal Botanic Garden, Edinburgh.*** June. Price 9d.

CATTLEYA MOSSIÆ VAR. A. DIMMOCK.

OUR illustration (fig. 38) represents the plant of this charming variety of Cattleya Mossiæ, which was included in the famous group of Orchids staged by Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir Geo. L. Holford, K.C.V.O., at the Royal International Exhibition. The variety has previously been shown from Westonbirt, and it was given an Award of Merit at the Royal Horticultural Society, June 8, 1909. The sepals and petals are broad, and the whole flower well-formed, a very effective feature being the broad white margin of the lip, which has the front lobe marbled with violet-purple, the disc being yellow. The sepals and petals are blush-white. It belongs to the C. Mossiæ Reineckiana section, and in size and shape it is superior to others of the class.

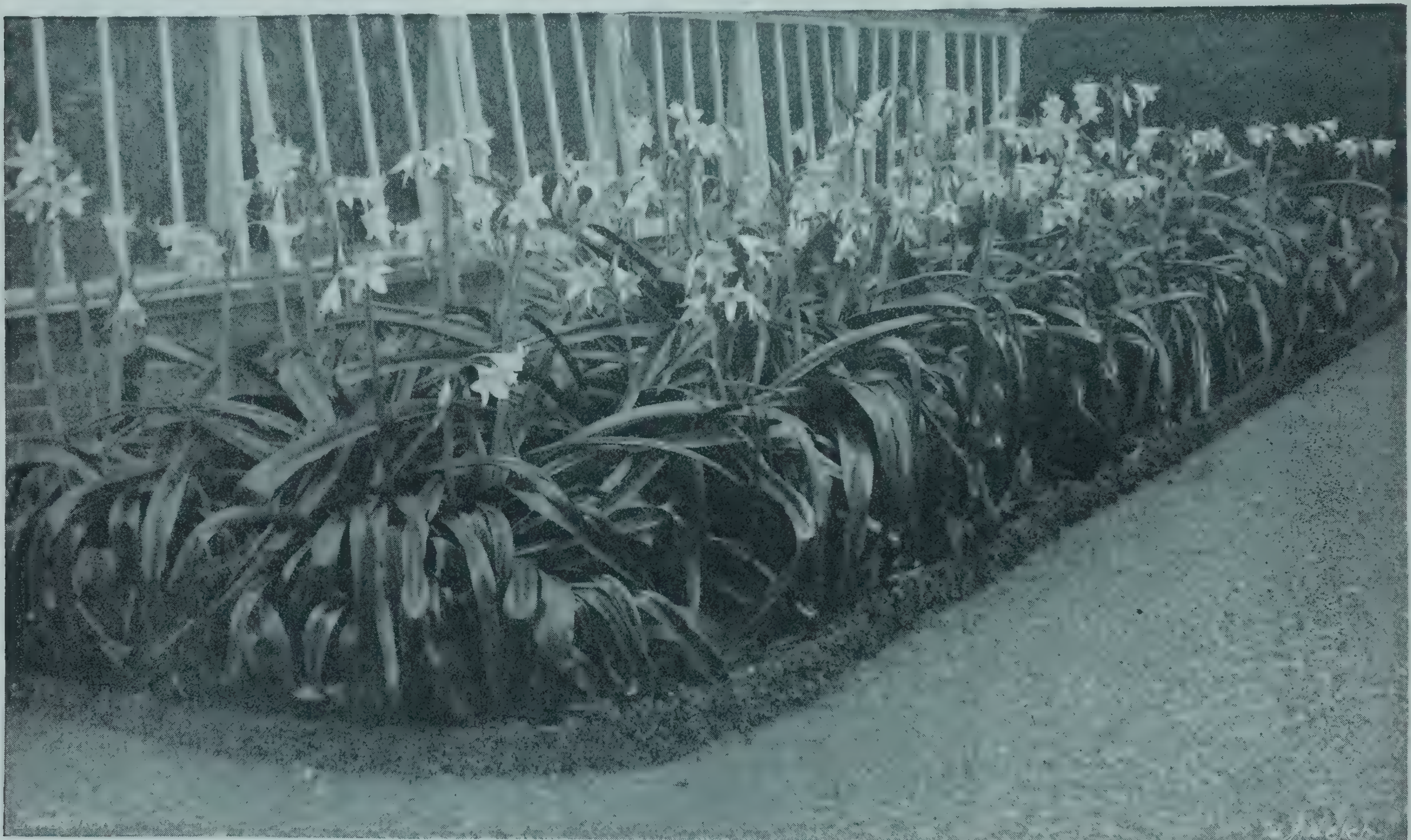


FIG. 39.—CRINUM POWELLII IN SIR TREVOR LAWRENCE'S GARDEN AT BURFORD, SURREY.

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

CRINUM POWELLII AS A BORDER PLANT.—I have the pleasure to send you herewith a photograph (see fig. 39) which may, perhaps, be suitable for reproduction in the pages of the *Gardeners' Chronicle.* It represents a bed of Crinum Powellii, which was planted quite 30 years ago, and has not been disturbed since. The bulbs were placed at least 2 feet deep, and in winter are protected with a covering about 1 foot deep of ashes. The foliage is sometimes touched by late frosts, as was the case this year, but the frosts do not affect the bulbs in the least. They throw up fresh leaves and flower profusely, as, indeed, they are doing at the present. *Trevor Lawrence, Burford, Dorking, July 30, 1912.*

NOTES ON STRAWBERRIES IN 1912.—Following a year of extreme drought and heat, one is not surprised to hear complaints as to the blindness of Strawberry plants. After they had fruited in 1911, the plants were so completely baked that the foliage flagged day after day. On account of this circumstance they were not able to make sufficient growth to form their crowns for the present season, hence there were many blind plants among the older specimens of all varieties. Some sorts suffered more than others, particularly "Royal Sovereign," on which so many depend for the bulk of their fruit, both market growers and amateurs. I have received many letters referring to this blindness, and, in order to allay the anxiety of those who intend to propagate next season from plants that have been blind this year, it may be said with confidence that there is not the slightest fear of either the old plants or the runners from them coming blind next season. The cause has been climatic, and, given a favourable season, there is no reason to suppose that these plants will not be able to perform their natural functions and mature fruiting crowns for next season. My firm has made a series of experiments with regard to blindness, by marking plants that have been blind one year, and watching them in the following season, and also the runners from the same, and have found that some of the plants that were blind as one-year runners in 1911 were fruitful this year, and some that were fruitful in 1911 have proved blind this year. There are a few varieties of Strawberries that are constitutionally subject to blindness, a characteristic inherited from their parents. For instance, the variety "Captain," which was always subject to blindness, was the parent of "Monarch," and "Monarch" is liable to the same blindness. Some years it is exceedingly fruitful, but another season acres of plants may come blind. This appears to be constitutional or inherited blindness, and I believe that to propagate from blind plants of such a variety is likely to produce blindness in the progeny. In regard to general varieties, I do not, of course, recommend propagation of runners from old plants or from blind ones when plenty can be obtained from young and fruitful plants. But I can with confidence say, from experiments made, that there is no risk in propagating runners from plants that have been blind in 1912, as such blindness was caused by the drought. The season of 1912 to the market grower has been an exceptional one. Strawberries began to ripen at an earlier period than I have ever known them. Southampton growers, this year, were exceedingly fortunate in escaping the early frosts, which, in many parts of the country, destroyed the early and centre blooms of the plants. This not only made the season late, but the size of the second fruit is never equal to that of the crown or centre fruit. Market growers in many parts suffered from frosts, and also from blindness, therefore the crop was a very light one, and prices ruled high. One of the largest growers in the Cheshire district, who distributes his Strawberries in 4 lbs. baskets, informs us that the great bulk of his crop has realised 6d. per lb. Taking this at 2 tons to the acre, it works out at £112 per acre. This is, of course, an exceptional circumstance, and is due in a measure to the careful way in which this grower marketed his fruit over a number of years and enabled his brand to obtain higher prices than other and less careful packers. The varieties that have done best here are the following. This has been an extraordinary year for "The Laxton," both in crop and quality. "Bedford Champion" and "Leader" have been extraordinarily good. "Pine Apple" is very early, and has a fine flavour, but is rather small. "Reward" suffered from the early drought. This variety appears to be rather tender in the epidermis of the young foliage, and is subject more than other varieties to attacks of fungus; but where it meets with suitable conditions it is a fine Strawberry. "The Bedford" has proved again one of the most reliable maincrop varieties, and is much appreciated on account of its fine flavour, bright colour, and large crop. "Givon's Late Prolific" has been very fine; its chief fault is that the fruit is rather soft. When the centre fruit has been picked, the secondary fruits do not swell up to any large size; hence, when it has been once or twice picked, the remaining fruits are small, and do not finish well. "Sir Joseph Paxton," so long the standard maincrop variety, is nothing like, either in constitution, size, or crop, what it was 20 years ago. "Laxton's Latest" is still one of the best lates, following Givon's by a few days. Of the perpetuals, "St. Antoine" and "Laxton's Perpetual" are the two best. "St. Antoine" should be planted in the spring and the bloom pinched out, and it will throw a large crop in September and October. "Utility" and "Rival" have both done well. "Utility" should be grown by all, as it is a very fine late variety, and, we think, better than "Givon's Late." The new variety, "George Monro," sent out by Messrs. Veitch as a forcing variety, is a very free cropper, but the fruits are small. Of the new ones, "King George V" has proved all that was expected of it as an early forcer, similar in all respects to "Royal Sovereign," but it is sweeter and four or five days earlier forced. It should, in the course of a few years, make its mark as a standard forcing Strawberry. "Maincrop" has done well as an out-door mid-season variety. "The Earl" (Waterloo × Royal Sovereign) is a finely-flavoured, dark Strawberry, very similar in foliage and colour to "Vicomtesse Héricart de Thury," but larger. "The Queen" (Waterloo × Queen of Denmark) is an enormous cropper, and of a flavour equal to the "British Queen," but will grow on any soil where Strawberries can be grown. *Edward Laxton, Bedford Nurseries.*

Strawberries v. Slugs.—On p. 41 *East Sussex* says, "It is no exaggeration to state that on the heavier soils tons of fruit have been spoiled by slugs alone, and the grower is practically powerless so far as preventive measures are concerned." This is rather a gloomy view to take of the situation, and I do not think we are quite so helpless in the matter. I cannot lay my hands on the paper now, but some years ago I saw galvanised netting recommended for the purpose of supporting the fruit and keeping it out of the way of the slugs, and the idea was considered a good one. True, it cannot be applied in the neighbourhood of large chemical factories, where the acid impurities in the air would act on the zinc and cause it to be injurious to plant life, but most Strawberries are grown in the comparatively pure air of country districts. I have not grown Strawberries for many years, and have had no opportunity of putting the idea into practice, but the plan I should suggest would be something like the following: Plant the rows in pairs, 2 feet apart, leaving a space of 3 feet between one pair of rows and the next one. Procure what is called galvanized sheep netting 3 feet in width, and place it over two of the rows in the spring when growth is commencing. Cut some stout wire, say about ⅛ inch in diameter, into lengths of 15 or 18 inches, and bend one end in the form of a shepherd's crook. Stick these wires in the ground about 1 yard apart, and rest the netting on the crooks. At first the netting should only be 2 or 3 inches from the ground, and be afterwards raised as the leaf-stalks and flower-stalks lengthen by merely raising the supports up to the required height. With the above arrangement there will be a width of 2 feet between one breadth of netting and another, which will be partly covered by the overhanging leaves and fruit. Stout netting of 4-inch mesh, 3 feet in width, with strong twisted wire running straight through the centre can be had for about 2½d. a lineal yard, 10s. 7d. per 50 yards roll was quoted to me to-day, and private growers should certainly use something of the sort. It would be an expensive item for trade growers to start with, but they would be recouped the first wet season. There would be no litter required, the fruit would be coloured all round, the flavour and quality would be better, the gathering would take less time because of the absence of vermin, the fruit would be sooner dry after a shower, and owing to the circulation of air under the foliage there would be less mildew; also there would be no fruit crushed by the feet of the gatherers, and the plants would fill less lateral space. If a stray slug should have the audacity to climb up a leaf-stalk, it would not be likely to cross the zinc-covered wire, for zinc is a perfect barrier against such an enemy. Where galvanized netting cannot be used, straw run through a chaff-cutting machine with the knives set about 2 inches apart will be found useful for covering the ground. Of this I have had practical experience, and where there is a machine driven by steam or gas it is an easy matter to get this done. Slugs do not like travelling over anything which moves under them. *Wm. Taylor, Bath.*

Vine Culture.—*R.P.B.*, in his review of *Vines and Vine Culture*, the 5th edition, p. 46, mentions a system practised in the north of growing Grapes by means of the primary leaves only. Will he explain what he means by this? As a successful Grape grower for 20 years, I have always allowed the leading growth to extend a fair amount, with the view of encouraging root action. I also pinch the sublaterals at the first leaf, which is, I believe, the system followed by the leading market growers. We are anxious to acquire improved methods, and the *Gardeners' Chronicle* is our means of learning of them. *Arthur W. Witt.* [It is a very simple method, and consists of the repression of all lateral growth, or, in order words, covering the trellis with primary leaves only, the one method which exposes the foliage to every possible ray of light. *R. P. B.*]

Campanula Allionii.—The illustration which accompanied Mr. Reginald Malby's interesting note on Campanula Allionii on p. 53 proved that even if the system of subterranean irrigation which he has arranged in his moraine is unnecessary, at least it is not harmful. In my own experimental moraine, composed of half very sandy loam and half granite chips, with no other provision for moisture than an occasional summer watering—from a can—and its own retentive properties, I find that Campanula Allionii grows with extraordinary freedom and flowers fairly well. A small specimen planted two summers ago has formed a carpet of foliage 2 feet across. So closely are the leaf rosettes packed that it would be difficult and tedious to count them, but on a rough estimate they must number between two and three hundred. This summer the plant bore only six or eight flowers, but it has spread much since then. At present I am cultivating three distinct forms of C. Allionii. The first bears flowers of a curious pinkish-lilac, and the bells are rather long and narrow, and pinched into a slight waist at the centre. The leaves are quite glabrous on both sides, but fringed with a distinct edging of soft, curved hairs, which are reflexed towards the base of the leaf. This form I collected at Mt. Cenis, where, with slight variations, it is the universal type. I have also a variety which I bought from Mr. Farrer's nursery, under the name of C. nana. It is the fine form of C. Allionii, which Mr. Malby saw on my rock exhibit at the International Show. The leaves are almost identical with my Mt. Cenis form, but the flowers are larger and fuller, and of a deep violet-purple colour. Lastly, I have a superb variety which came to me from Ireland. In this the leaf rosettes are very large and robust, and the leaves themselves, instead of being glabrous, and with hairy edges as in the two former varieties, are thickly covered with short, curved hairs lying close back in the direction of the base of the leaf. These hairs give the plant a silvery and very pretty appearance. The flowers are of enormous size, and of a glorious deep violet-purple. This last form of C. Allionii is, of course, by far the finest of the three. It is a strong grower, and I hope by next year to have sufficient of the plant to show it. Some time since I purchased a plant of C. Allionii alba, which arrived dead, or so nearly dead that even my moraine failed to revive it; but I doubt if it would have been as beautiful as my rosy-lilac and purple forms. Fortunately, all three of my C. Allionii forms are short stemmed, the flowers never rising more than a couple of inches from the ground, and usually keeping down to an inch. Mr. Malby's ran up to 2 or 3 inches, and at the Temple Show a year or two ago I saw one with flowers on stems quite 4 or 5 inches high. The plant had lost half its charm, which lies in a characteristic alpine dwarfness. I have planted several plants of C. Allionii in quite ordinary loam in different parts of my rock garden, and they have all grown and flowered well, though they have not run about and spread with the easy freedom of my moraine plant. Last winter I built a rock garden in Yorkshire, one section of which was moraine. For this I used blue limestone chippings, the most easily procurable material in the neighbourhood. As an experiment I put in a plant of C. Allionii, but as I had always understood that it was a lime hater, I little expected that it would do much good, even if it survived. I visited this garden a week ago, and was both delighted and surprised to find that C. Allionii had grown amazingly, and formed a good sturdy colony of healthy rosettes. C. Allionii is easily propagated by division of the underground stems in July. I have also raised a batch of seedlings, from seed which I collected at Mt. Cenis last September, and sowed in ordinary loam in the open. *Clarence Elliott, Stevenage.*

SOCIETIES.

ROYAL HORTICULTURAL.

July 30.—The usual fortnightly meeting of the Royal Horticultural Society was held on Tuesday last in the Society's Hall, Vincent Square, Westminster. The exhibits were fewer than usual. Delphiniums and Sweet Peas, which have been shown so finely, gave place to Gladiolus, herbaceous Phloxes, and Pentstemons.

There were fewer Orchids than usual, and the Orchid Committee made no award to a novelty.

The Floral Committee awarded ten medals and nine Awards of Merit to novelties.

The Fruit and Vegetable Committee awarded one First-class Certificate and two Awards of Merit to new Potatos.

At the three o'clock meeting in the Lecture Room, Mr. Cecil H. Hooper, F.S.I., delivered a lecture on "The Pollination and Setting of Fruit Blossoms."

Floral Committee.

Present: H. B. May, Esq. (in the Chair); Messrs. C. T. Druery, John Green, E. Bowles, R. C. Notcutt, W. J. Bean, R. Hooper Pearson, C. R. Fielder, C. Blick, John Jennings, J. F. McLeod, F. H. Chapman, J. T. Bennett-Poë, Chas. Dixon, H. J. Jones, Chas. E. Pearson, W. P. Thomson, E. H. Jenkins, W. Cuthbertson, and C. J. Lucas.

Messrs. H. B. May & Sons, Upper Edmonton, placed small groups of flowering plants amongst their exhibit of Ferns. The dark flowers of Heliotrope Madame Rodrigues and the medium blue shade of Campanula isophylla Mayi were enhanced by the pale-green fronds of the surrounding plants of Nephrolepis Neubertii and N. Whitmanii. (Silver Flora Medal.)

Messrs. Stuart Low & Co., Bush Hill Park, Middlesex, contributed a small group of Clethra arborea, also the Australian Lomatia silaifolia, and cut blooms of Carnations.

Messrs. J. Veitch & Sons, Ltd., Chelsea, again exhibited Fuchsias, Cannas and hybrid Rhododendrons. The small, blue Browallia viscosa is ornamental when the plants are massed. At the end of the table several plants of the hardy perennial Thalictrum dipterocarpum bore tall, erect racemes of pale-mauve flowers, with yellow anthers. (Silver Flora Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, set up a good group of Cannas, double-flowered tuberous Begonias, and Chironia exifera. (Silver Banksian Medal.)

Messrs. W. Cutbush & Son, Highgate, had an attractive table of Carnations just inside the entrance. The varieties Mrs. Mackinnon, Goldfinch, and Miss Winnie Pryor were fresh and good.

A small collection of Coleus was shown by N. L. Davidson, Esq. (gr. Mr. F. Cooper), Borlases, Twyford.

Gladiolus.

Messrs. Kelway & Son, Langport, Somerset, exhibited a large number of spikes of their Gladioli. From the many desirable varieties we noted Countess of Suffolk, Queen Wilhelmina, Queen Mary, Cybele, Lady Regnart, America, Princess Maud, Duke of Teck, Lady Muriel Digby, La Parisienne, Golden Measure, and Princess Louise as being exceptionally fine.

Messrs. Kelway also showed a few of their "Langprim" hybrid Gladioli, which have smaller flowers of delicate shades. (Silver-gilt Flora Medal.)

Collections of Gladiolus were also shown by several Dutch firms.

Messrs. P. Vos Firmen, Sasserheim, Holland, staged the blue-purple Baron Joseph Hulox, Ida (yellow, with crimson blotch), Mrs. Francis King, and other varieties.

Messrs. G. Zeestraten & Sons, Oegstgeest, Holland, showed, amongst other varieties, the bluish-mauve Badenia.

Messrs. Jean Barth Bos, Overeen, Holland, staged Fanny, Peace, and several other good varieties.

The largest collection was from Messrs. C. F. V. Zanten, Hillegom, Holland, which included the citron-yellow variety Glory of Noordwyk; Libesfeuer, a brilliantly-coloured flower, Badenia, and Empress of India, this last with rich, dark flowers.

Messrs. Aldersey & Marsden Jones, Tilston, Malpas, Cheshire, arranged a collection of Sweet Peas, amongst which the salmon-coloured variety Tortoiseshell was very conspicuous. (Bronze Banksian Medal.)

Mr. Maurice Prichard, Christchurch, Hants., arranged a large bank of Phloxes, Delphiniums, Gladiolus and other hardy flowers. Amongst the herbaceous Phlox the white-flowered variety Frau Ant. Buchner, the rosy G. Strohlein, and the lilac Albert Larteau were conspicuous. A few pot plants of Lysimachia Henryi amply displayed the creeping habit of this yellow-flowered species. The collection of Gladiolus contained some choice varieties. The purple shades of colour show a great advancement, and it seems that the day is not far distant when we shall see a real blue-flowered Gladiolus. (Silver Banksian Medal.)

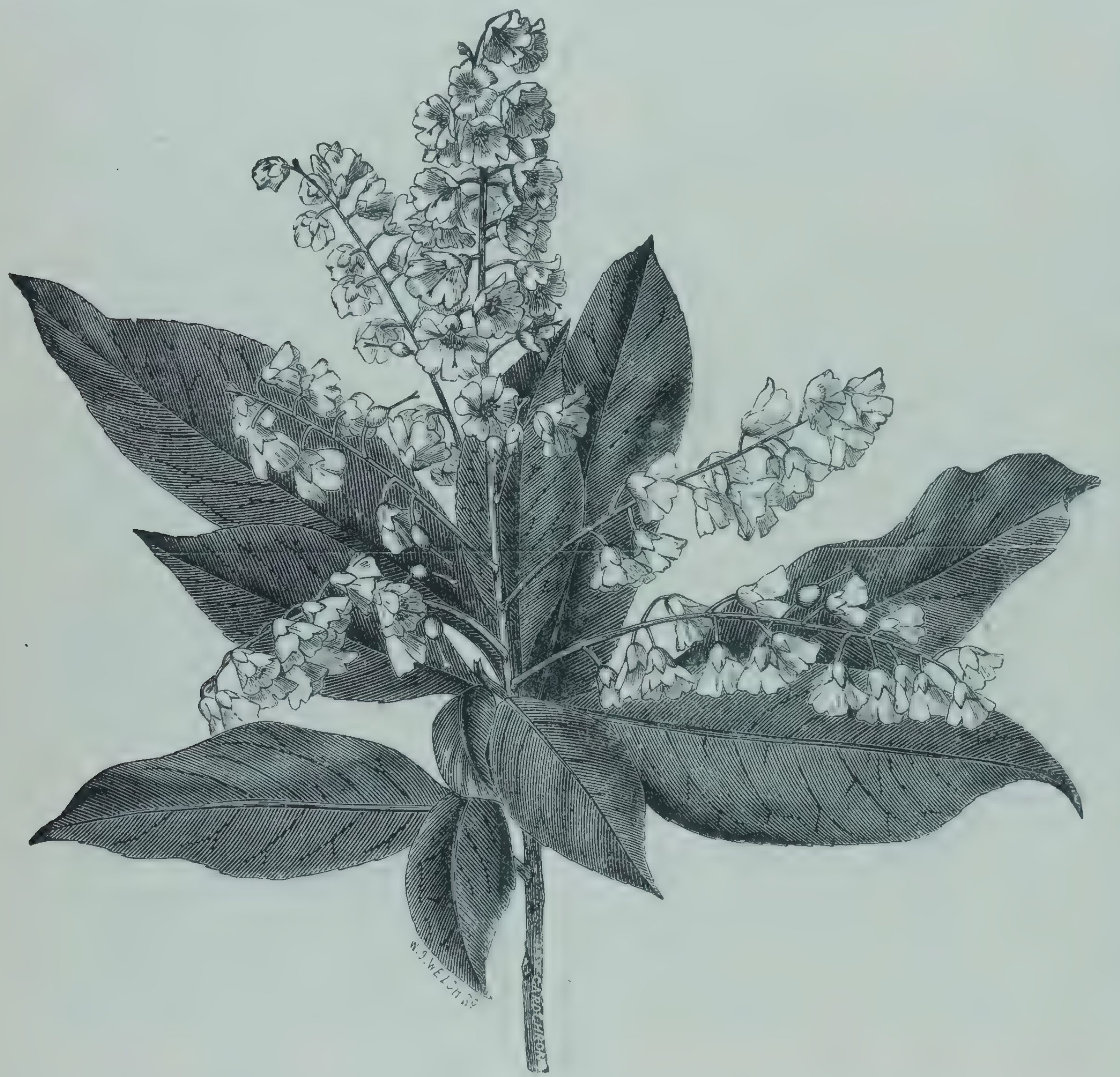


Fig. 40.—Clethra arborea (half size): flowers white.

(Received R.H.S. Award of Merit on Tuesday last.)

Messrs. Webb & Brand, Saffron Walden, Essex, exhibited densely-flowered spikes of splendid double Hollyhocks. Lady Bailey (flesh-pink), Salmon Queen, Princess (rose-pink), Mrs. L. King (rich yellow), Peri (pure white), Exultim (rich maroon), and Apple Blossom are only a few of the varieties shown.

Mr. James Box, Lindfield, Sussex, arranged an enormous quantity of herbaceous Phlox, chiefly in very bold groups of distinct varieties, such as Lindfield Beauty, Baron von Dedem, Frau Ant. Buchner, and Le Mahdi. Smaller quantities of Walter Wright, Josephine Gerbeaux, Ringstroom, &c., were also finely shown. (Silver-gilt Banksian Medal.)

Messrs. T. S. Ware, Ltd., Feltham, Middlesex, made a very attractive display with Pentstemons and herbaceous Phloxes. Such varieties of Phlox as Gruppenkönigin, Selma, and Le Mahdi were arranged in tall bamboo stands, whilst other equally good varieties were placed between blocks of Pentstemons of great merit. (Silver-gilt Banksian Medal.)

Messrs. W. Wells & Co., Merstham, Surrey, also exhibited a collection of herbaceous Phlox in many varieties, and a few stands of Carnations. (Bronze Flora Medal.)

Messrs. H. J. Jones, Ltd., Ryecroft Nurseries, Lewisham, arranged many fine varieties of herbaceous Phlox in bold stands of distinct colours, which made an imposing display. The pale mauve Madame Paul Dubrie was especially good. (Bronze Banksian Medal.)

Mr. G. Reuthe, Keston, Kent, exhibited many interesting and uncommon plants, including Feijoa Sellowiana, bearing its pretty flowers, the sweetly-scented Chimaphila maculata, Geranium Endlicherianum, Primula capitata, and several interesting Campanulas.

Messrs. Bees Ltd., Liverpool, exhibited a group of Lobelia "Blue Bees." The colour is excellent, but there were not sufficient flowers to make this an attractive variety. Alongside the Lobelia Messrs. Bees placed a few well-flowered plants of Dracocephalum Forrestii.

The Guildford Hardy Plant Nursery Co. exhibited a varied collection of hardy flowers. The inflorescence of Yucca served to remind visitors how freely the members of this genus are flowering this year. Other interesting flowers were those of Hemerocallis, Veronica, and Helianthus.

Messrs. Rich & Co., Bath, exhibited a great variety of cut blooms of Pentstemons and herbaceous Phloxes.

Awards of Merit.

Lysimachia Henryi.—A Chinese Loosestrife with sturdy but prostrate growths and dense terminal whorls of large yellow flowers. Shown by Mr. M. Prichard.

Gladiolus "Crown Jewel."—A large, closely-flowered spike of soft pink flowers, which have lemon-yellow blotches on the lower segments. This beautiful variety was shown by Messrs. Kelway & Son.

Begonia "Decorator."—A double-flowered tuberous-rooted variety, with an uncommonly free-flowering habit. It is a very desirable variety for growing in baskets or for conservatory decoration. The flowers are scarlet. Shown by Messrs. H. Cannell & Sons.

Rhododendron Clorinda.—This is an addition to the javanico-jasminiflorum hybrids which require cultivation in a warm greenhouse. The parents were R. javanico-carminatum and R. Minerva. The plant bore good trusses of beautiful rose-pink flowers of good form, and larger than most in its section. Shown by Messrs. J. Veitch & Sons.

Clethra arborea (see fig. 40).—A well-known greenhouse shrub, introduced from Madeira in 1784. The plants shown were very good examples, and bore many racemes of beautiful white flowers. Shown by Messrs. Stuart Low & Co.

Eschscholtzia "Mikado" caniculata.—A valuable and very striking variety. The petals of the flowers are prettily crumpled. The dark-red colour shades to fiery orange in the centre of the flower. Shown by Mr. W. H. Gardiner, Mill, St. Osyth.

Rose "Danæ."—A free-flowering variety with neat, shining foliage, and small, double flowers. The buds are of a soft yellow colour, which fades to nearly pure white in the outer petals of fully-open flowers. This beautiful Rose was shown by the Rev. J. H. Pemberton.

Astilbe simplicifolia (see fig. 41).—A pretty little Alpine species from Japan; the delicate white flowers are borne on slender, curving panicles, which stand clear above the dwarf, compact foliage. The plant, which is said to be quite hardy, is only 6 inches in height. Shown by Mr. G. Reuthe.

Hæmanthus "Andromeda."—The seven plants shown were very healthy specimens, and each bore a stout umbel of beautiful salmon-pink flowers, reminding one of H. Katherinæ (see Supplementary Illustration, *Gard. Chron.*, February 1, 1908). Shown by Messrs. Harkness & Sons, Bedale.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); and Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Sir Jeremiah Colman, Messrs. J. Charlesworth, W. H. Hatcher, J. E. Shill, Arthur Dye, W. H. White, Gurney Wilson, de B. Crawshay, F. J. Hanbury, R. G. Thwaites, F. Sander, T. Armstrong, and C. J. Lucas.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged an interesting group, for which a Silver Flora Medal was awarded. Three good specimens of the clear, white-petalled Cattleya Warscewiczii Frau Mélanie Beyrodt, with two, three and five flowers respectively, were arranged in the middle of the group. Cattleya Dowiana aurea with five flowers; several hybrid Cattleyas; Cypripedium Maudiæ, C. Chas. Rickman, and other Cypripediums; Odontioda Charlesworthii; Angræcum Scottianum; Bulbophyllum barbigerum and a good selection of Odontoglossums were also included.

Messrs. Stuart Low & Co., Bush Hill Park, were awarded a Silver Flora Medal for a group. At the back of the exhibit were good specimens of Oncidium macranthum, O. varicosum, and other Oncidiums. With them were the scarlet Renanthera Imschootiana; the pure white Miltonia vexillaria Lambeauiana and M. v. Queen Alexandra; Dendrobium Dalhousianum, D. Falconeri, and other Dendrobiums; Cattleya Warscewiczii and hybrid Cattleyas; a selection of Odontoglossums, including the white-lipped O. Uro-Skinneri album; Masdevallia calura, M. Peristeria, M. simula; Disa grandiflora; Cycnoches maculatum; Vanda cœrulea; and Brasso-Cattleya Maronæ.

Messrs. Charlesworth & Co., Haywards Heath, were awarded a Silver Banksian Medal for a select group, the most remarkable plant in which was their new Odontioda Madeline (see fig. 42), a worthy companion to the favourite O. Charlesworthii, with flowers of good size and shape and of a deep red colour slightly tinted with a golden hue. In front of the yellow crest of the lip is a blood-red disc, the apex being freckled with rose colour. Other good plants noted were Habenaria Susannæ, a fine specimen of Grammangis Ellisii, also Brassavola Digbyana, Miltonia vexillaria superba, Platyclinis filiformis, Bulbophyllum saurocephalum, hybrid Odontoglossums, and Cattleya Warscewiczii.

E. H. Davidson, Esq., Borlases, Twyford, was awarded a Silver Banksian Medal for a select group, containing Vanda Sanderiana "Borlases variety," a very large and handsome form, darker than the Chillingham variety; a fine plant of Cattleya Rex with two spikes; Odontioda Cooksoniæ with two flower spikes; Odontoglossum Harryanum, O. ardentissimum with a six-branched spike; and the white O. a. xanthotes.

Messrs. J. & A. A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for an effective group, in front of which were some superbly-grown scarlet Cochlioda Noezliana, Odontioda Diana, O. Charlesworthii, Miltonia vexillaria superba, Cattleya Gaskelliana alba, C. Hardyana, and some good hybrid Odontoglossums.

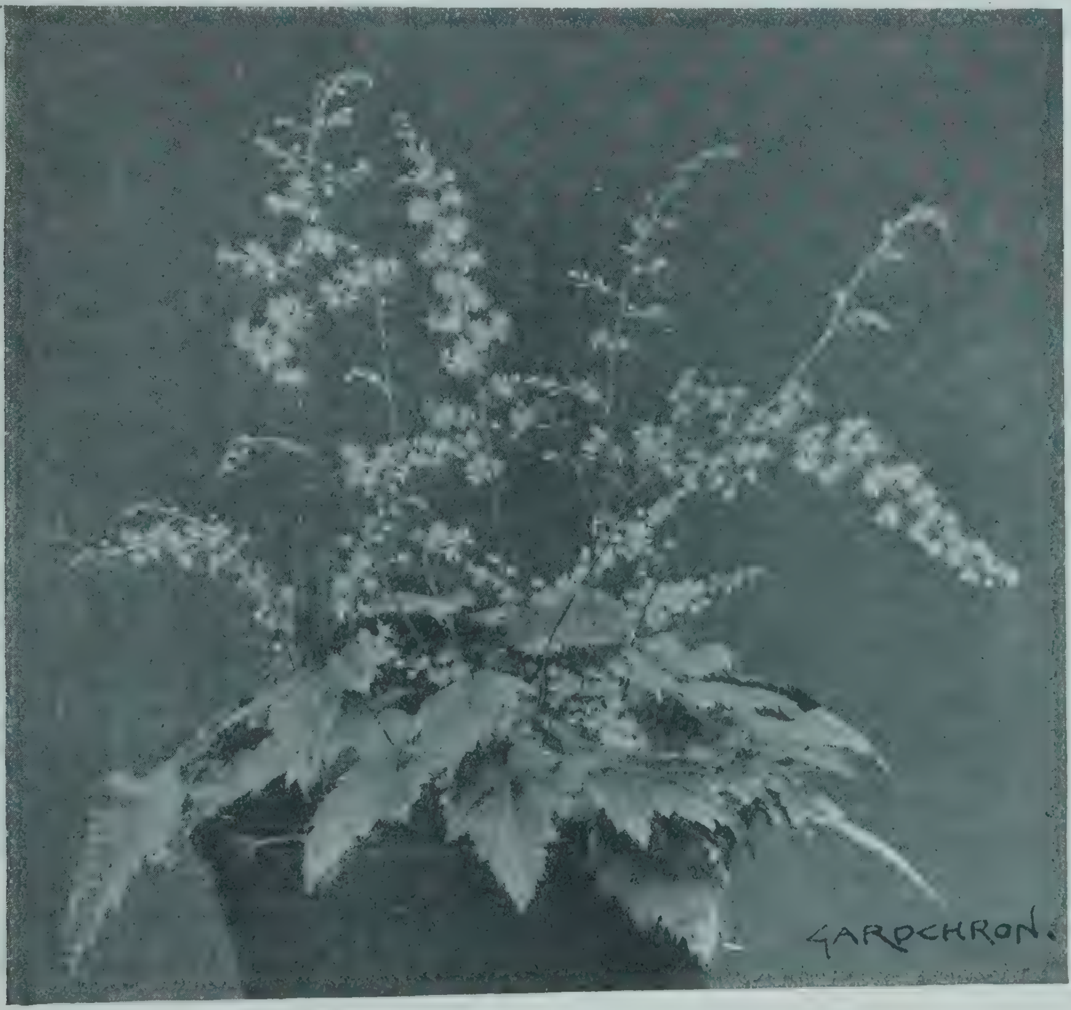


Fig. 41.—ASTILBE SIMPLICIFOLIA; FLOWERS WHITE.
(See "Awards of Merit" p. 100.)

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed Brasso-Cattleya Thesis (B. Digbyana × C. Aclandiæ), a quaint flower with greenish sepals and petals and white lip, tinged with rose on the fringed front lobe.

De B. Crawshay, Esq., Rosefield, Sevenoaks, showed Odontoglossum Ethelreda (Edwardii × triumphans) of a reddish-chocolate colour with a pink margin to the lip; also a very fine form of O. Jasper.

Messrs. Sander & Sons, St. Albans, showed the new Lælio-Cattleya × Mauretania (Martinetii × Canhamiana), a beautiful large flower with silver-white sepals and petals tinged and veined with bluish-lilac, and fine violet-purple lip with a narrow margin of lighter shade.

Mr. Sidney Flory, Tracy's Nursery, Twickenham, staged a small group, containing the pretty Bulbophyllum cocoinum with three spikes; a good Cattleya Gaskelliana alba, Anguloa eburneum Tracy's variety, a large pure white flower; the singular little Maxillaria rufescens, Warscewiczella discolor, and a pretty hybrid Cattleya.

Cultural Commendation.

A Cultural Commendation was awarded to Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., K.C.V.O., for a magnificent specimen of Cypripedium W. R. Lee (Rothschildiana × superbiens) bearing five flower spikes, bearing altogether 13 flowers.

Fruit and Vegetable Committee.

Present: Owen Thomas, Esq., in the Chair; Messrs. Edwin Beckett, J. Willard, Wm. Pope, A. R. Allan, A. Bullock, A. Grubb, J. Jaques, J. Harrison, and J. G. Fowler.

Three collections of vegetables, grown in the near vicinity of the hall, were exhibited by the Westminster Church Army City Gardens Association. These collections contained many meritorious vegetables. The largest collection was labelled Stillington Street No. 1, and included Kohl Rabi, several sorts of Lettuce, Red Cabbage, Shallots, and Mushrooms. Stillington Street No. 2 collection contained such vegetables as Cabbage, Peas, Beans, Vegetable Marrows, and exceptionally good Brussels Sprouts. The collection from Elverton Street contained very good Beet, Runner Beans, and Parsnips. These combined collections fully deserved the Silver Knightian Medal awarded them.

A dish of Apples, "Padnall Seedling," was submitted for inspection, and the committee expressed a wish to again see a dish in about a month's time.

Two Melons and a dish of Peas were also shown, but did not receive any award.

After cultural trials at Wisley several new varieties of Potato were submitted to culinary test, and the following received awards:—

First-class Certificate.

Witchhill Seedling (No. 73).—A kidney Potato of almost perfect shape, with shallow eyes and a slightly rugged skin. Shown by Messrs. Smith & Son, Aberdeen.

Awards of Merit.

King George V (No. 34).—A kidney Potato, with shallow eye and rough skin. *Irish Gem* (No. 16).—A pebble-shaped tuber, with smooth skin and very shallow eye. Both shown by Mr W. E. Sands, Hillsborough, co. Down.

Imperial Beauty (No. 61).—A long, kidney shaped Potato, with clean, smooth skin. Shown by Messrs. Barr & Son, Covent Garden, London

HUDDERSFIELD HORTICULTURAL.

July 26, 27.—The seventh annual exhibition of the above society was held on these dates. Three large tents were well filled with good exhibits. The exhibition was held in the Greenhead Park, which occupies a fine site in the town. There were four large groups of plants, all of them tastefully arranged. Messrs. J. Cypher & Sons, Cheltenham, were awarded the 1st prize; Mr. W. Holmes, Chesterfield, being placed 2nd; and Mr. J. S. Sharp, Almondbury, 3rd. For 12 stove and greenhouse plants, to include six specimens in flower, Messrs. J. Cypher & Sons were again placed 1st with an excellent selection. Mr. J. S. Sharp, nurseryman, Almondbury, excelled in the class for six Palms, with fine Kentias in variety. These exhibits were placed in the centre of the tent in which the "Nature Study" exhibits were arranged. There was good competition in the classes for table plants and exotic Ferns. Mr. Sharp won the 1st prize in the former, and Mr. W. Simpson Selby in the latter class. For 36 bunches of Sweet Peas, Messrs. Castle Bros., Carnforth, were a good 1st, with a fine exhibit. Exhibits of cut Roses were splendid. Messrs. Alex. Dickson & Sons, Ltd., Newtownards, excelled in the three classes for 72 blooms, 24 blooms, and 12 Tea varieties, respectively. Messrs. Harkness & Co., Hitchin, were placed 2nd in each case, and Mr. G. Gibson, Bedale, 3rd. Good collections of hardy cut flowers were exhibited by Mr. G. Gibson and Messrs. Broadhead & Son, Huddersfield. Excellent stands of Cactus, Show, and Pompon Dahlias were shown. Mr. B. Stringer, Cross Gates, was placed 1st in the larger classes for Dahlias, followed by Messrs. Bottomley & Burton, Elland. There was a good competition in the open classes for fruits. Mr. J. Brennand, Baldersby, Thirsk (gr. Mr. Hathaway), was placed 1st for eight dishes of fruit, and he was also 1st for black and white Grapes and Peaches. His dish of Bellegarde Peaches was exceptionally fine. Lady Beaumont (gr. Mr. Nicholls), and Mr. G. H. Shaw Howden (gr. Mr. Blakey) were the other prize-winners in these classes. In the vegetable classes there was also a good competition. The Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. E. Beckett), won the leading prizes, followed by Lady Beaumont, Mr. G. H. Shaw, and Mr. Collins, a local amateur grower, who was also a successful exhibitor in the amateur classes. Both in the latter and in the local cottagers' class fine produce was staged.

SCOTTISH HORTICULTURAL.

July 27.—The annual excursion of this association took place on the above date, when, on the invitation of the Honorary President, Captain Archibald Stirling, 100 of the members, including the president, Mr. Massie, and several of the other office-bearers, visited the beautiful grounds of Keir. On arrival at Keir, the visitors were received by Captain and the Honourable Mrs. Stirling, and afterwards they were entertained to luncheon in a marquee on the lawn. Captain Stirling presided at the luncheon, and, after the loyal toast had been duly honoured, extended a hearty welcome to the party, and gave the toast of prosperity to the association. The toast was acknowledged by Mr. Massie, who said that the future success of the association was already assured by the result of the appeal sent out during Captain Stirling's year of office, which would be remembered as a red-letter year in the annals of the association. He conveyed to Captain and Mrs. Stirling the hearty thanks of the party for their hospitality. Thereafter Captain and Mrs. Stirling conducted the party over the principal apartments of Keir House, and the weather, which unfortunately had broken down early in the afternoon, having now improved somewhat, the gardens and grounds were afterwards inspected.

LEAMINGTON AND COUNTY HORTICULTURAL.

JULY 24, 25.—The fourth annual show of the above society was held in Victoria Park, Leamington, on these dates. The exhibits of Carnations have never been equalled at Leamington, either in quality or quantity. Roses, Sweet Peas, hardy flowers, groups of plants and fruit and vegetables were all excellent. Amateur exhibitors appeared to be better represented than on previous occasions, but fewer trade growers were present. Unfortunately, many blank spaces were observed in the tents, but this we were informed was due to heavy rainstorms.

Additional interest was given to this year's show by reason of a deputation from the Council of the Royal Horticultural Society attending and making awards to meritorious exhibits (see list printed below). The arrangements made by Alderman Holt (chairman) and Mr. J. T. Hayes (hon. show superintendent) gave general satisfaction.

PLANTS (OPEN CLASSES).

The large group class is one of the features at Leamington. Each group occupied a space of 20 feet by 12 feet down the centre of a large tent. A rustic arch, decorated with choice foliage and flowering plants, was the central feature of each exhibit. The 1st prize of £20 was awarded to Messrs. JAMES CYPHER & SONS, Cheltenham, whose wonderfully fine exhibit was remarkable for the rich, reddish-coloured, narrow-leaved Codiæums and other choice foliage plants, displayed with great skill. Of flowering plants Ixora Duffii, Kalanchoë flammea, Clerodendron fallax, Liliums, Humeas, Ericas, Fuchsia triphylla, Francoas, and a number of Orchids gave pleasing colour and variety to this meritorious group; 2nd, Sir GEORGE H. KENRICK, Whetstone, Edgbaston (gr. Mr. J. V. Macdonald), whose effectively-arranged group lacked the brightness and warmth of colour characteristic of the 1st prize exhibit; 3rd, Mr. VAUSE, Leamington.

There were four exhibits in the next class, which was for 12 stove and greenhouse plants distinct, at least four to be in flower, in pots not exceeding 10 inches in diameter. The 1st prize was gained by Messrs. JAMES CYPHER & SONS, who showed the following specimens in good condition:—Codiæum Queen Victoria, C. Warrenii, Phœnix Roebelinii (extra good), Ixora regina, Statice intermedia, S. profusa, Erica ventricosa Bothwelliana, Stephanotis floribunda, Clerodendron Balfouri, Chironia ixifera, Allamanda Williamsii, and Rondeletia speciosa; 2nd, Mr. W. VAUSE; 3rd, Mrs. RAYSON, Newstead House, Leamington (gr. Mr. W. G. Jones).

The three best Fuchsias were exhibited by Mrs. JENKINS, Holly Walk, Leamington.

A. CAY, Esq., Kenilworth (gr. Mr. R. Denton), was awarded 1st prizes in classes for (1) three Coleus plants, distinct, and (2) a group of Ferns, arranged for effect on a space of 20 feet by 4 feet. The 1st prize in the last-named class consisted of a challenge cup, value 20 guineas, presented by H. Huggins, Esq.

The best of half-a-dozen exhibits, in a class for six tuberous-rooted Begonias, distinct, came from Mrs. RAYSON (gr. Mr. W. G. Jones), who also had the winning exhibit in a class for six Gloxinias, and in another for three Zonal Pelargoniums, distinct.

There were seven entries in a class for six table plants, distinct, in pots not exceeding 6 inches diameter. The successful exhibitor was Mr. W. VAUSE, who showed four narrow-leaved Codiæums and two Dracænas; 2nd, J. H. BURLEY, Esq., The Grange, Leamington (gr. Mr. H. J. Finch), who had three Codiæums, two Palms, and one Aralia; 3rd, Sir GEORGE H. KENRICK, Edgbaston (gr. Mr. J. V. Macdonald).

Mr. VAUSE's specimen of Bougainvillea glabra was the best of six in a class for a single plant in flower; 2nd, Mrs. RAYSON (gr. Mr. W. G. Jones), with a large Statice; 3rd, Alderman HOLT, Leamington (gr. Mr. J. Fisher), with Begonia President Carnot.

Good plants of Cycas revoluta gained 1st and 2nd prizes respectively for C. C. SHAW, Esq., Leamington, and the Misses ROBINSON, Leamington (gr. Mr. A. J. Friend), led in a similar class for one foliage plant.

ROSES AND OTHER CUT FLOWERS (OPEN).

ROSES.

Six classes were provided for Roses in the open section, and there was spirited competition in all of them. A silver challenge cup, value 25 guineas, presented by J. F. Shaw, Esq., was offered as 1st prize in the principal class, which was for a group of Roses, arranged on a space of 12 feet by 4 feet. The trophy was won by Messrs. GUNN & SONS, Olton, Birmingham, whose beautifully-arranged group contained bold masses of Liberté, George C. Waud, Irish Elegance, White Killarney, Gottfried Keller, Lyon, White Maman Cochet, Mme. Abel Chatenay, and Richmond. Tall pillars, decorated with Dorothy Perkins, Dorothy Dennison, and Excelsa were very effective; 2nd, Mr. W. LOWE, Beeston, Nottingham; 3rd, KING'S ACRE NURSERIES, Hereford.

The next important class was one for 24 Roses, distinct. The premier award was made in favour of Messrs. PERKINS & SONS, Coventry, who showed grand blooms of J. B. Clark, Frau Karl Druschki, Lyon, Horace Vernet, Claudius, Suzanne Marie Rodocanachi, Bessie Brown, Edward Mawley, William Shean, Gustave Piganeau, Mrs. Theodore Roosevelt, and Comte de Raimbaud; 2nd, Mr. HENRY DREW, Longworth, Faringdon, whose specimens of Ulrich Brunner, Alfred Colomb, Earl of Warwick, and Gladys Harkness were noteworthy; 3rd, KING'S ACRE NURSERIES.

Messrs. PERKINS & SONS, excelled in a class for 12 H.P. Roses, distinct; 2nd, KING'S ACRE NURSERIES.

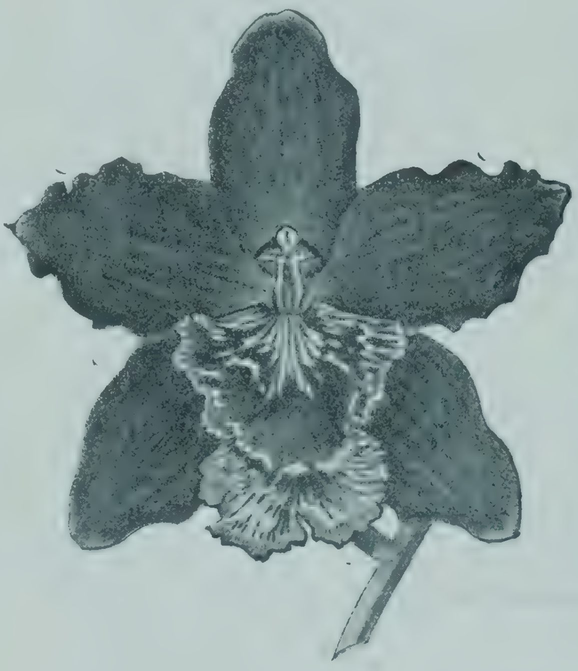


FIG. 42.—ODONTIODA MADELINE: FLOWERS DEEP RED, SLIGHTLY TINTED WITH GOLD.
(See Report of R.H.S. "Orchid Committee," p. 101.)

Messrs. PERKINS & SONS also took 1st prize in the next class, which was for six H.P. Roses, one variety. They showed Horace Vernet in splendid condition.

The best exhibit of 12 Tea Roses, distinct, came from Mr. H. DREW, who showed exquisite blooms of Mrs. Foley Hobbs, W. R. Smith, and Mrs. Herbert Taylor; 2nd, Mr. W. T. MATTOCK, Oxford.

MISCELLANEOUS CUT FLOWERS.

In a class for 20 bunches of hardy flowers, distinct kinds (mixed bunches not allowed), the 1st prize—a silver challenge cup, value 25 guineas, presented by F. A. Chandler, Esq., Leamington, was awarded to last year's winners, Messrs. GUNN & SONS, Olton, Birmingham, who had a wonderfully fresh, well-set-up collection, in which Phlox Josephine Gerbeaux, Gaillardia Vulcan, Anthemis Kelwayi, Verbascum hybridum, Heliopsis H. B. Ladhams, and Lysimachia clethroides were of superior merit; 2nd, FRANK BOUSKELL, Esq., Nuneaton.

The last-named exhibitor was awarded 1st prize for 12 bunches of hardy herbaceous flowers, distinct kinds, (bulbous plants not allowed). All the specimens were clean and fresh and well displayed; 2nd, Mr. W. LOWE, Beeston.

Messrs. PERKINS & SONS won the 1st prize for (1) a bouquet for the hand, and (2) a bridal bouquet.

Messrs. KIMBERLEYS, Kenilworth, were the only exhibitors in classes for (1) three sprays, suitable for a lady's dress, and (2) three buttonhole bouquets.

Messrs. W. PEMBERTON & SON, Walsall, excelled in classes for (1) 24 Dahlias, distinct, and (2) six varieties of Violas.

The class provided for Carnations, on a space of 10 feet by 4 feet, arranged for effect, produced strong competition. The coveted silver challenge cup, presented by C. T. Garland, Esq., and £4, offered by the Society, was won by Messrs. YOUNG & Co., Cheltenham, whose flowers were arranged in bold masses. Such varieties as Duchess of Devonshire, May Day, Hon. Lady Nield, Enchantress, Rose Enchantress, Britannia and Lady Henderson were splendidly shown; 2nd, Mr. C. W. WALL, Bath. The outstanding varieties in this collection were Carola, Winsor, Beacon, Mrs. C. W. Ward, Mikado, and Rose Dorée; 3rd, Mr. C. F. WATERS, Balcombe, Sussex. Exhibits in this class were also made by Mr. C. ENGELMANN, Saffron Walden, Mr. A. F. DUTTON, Iver, Bucks., and J. B. AKROYD, Esq., Rugby.

The best of four exhibits in a class for 12 vases of Carnations in not fewer than six varieties, with Carnation foliage only, came from Mr. A. F. DUTTON, Iver, Bucks. The varieties exhibited were of the American type, long-stemmed, nearly all pale-coloured varieties, and pleasingly arranged. The 2nd prize was awarded to W. H. PARTON, Esq., Moseley, whose large, refined, heavy-petalled flowers were much admired; 3rd, Messrs. A. R. BROWN, LTD., King's Norton.

Mr. C. H. HERBERT, Acocks Green, took the lead in a class for 12 fancy border Carnations in vases; 2nd, W. H. PARTON, Esq., Moseley.

SWEET PEAS.

The winning exhibit of 12 varieties of Sweet Peas came from Mr. W. H. HOLLOWAY, Port Hill Gardens, Shrewsbury. The flowers were large, substantial, and of splendid quality; 2nd, H. G. TWIST, Esq., Coventry.

In the principal class for Sweet Peas, for collections occupying spaces of 20 feet by 4 feet, only two exhibits were placed before the judges, who awarded Alderman Holt's challenge cup, value 20 guineas, to Mr. T. JONES, Ruabon, whose long, strong-stemmed flowers were very meritorious.

Eleven entries were made in the "Robert Sydenham Limited" class for nine varieties of Sweet Peas. 1st, Mr. W. H. HOLLOWAY, Port Hill Gardens, Shrewsbury, for a very handsome set of flowers, prettily arranged; 2nd, J. BOOTH, Esq., Claverdon (gr. Mr. W. V. Wall).

Messrs. Webb & Sons offered prizes for eight bunches of Sweet Peas. 1st, J. W. LAMPLOUGH, Esq., Leamington; 2nd, Mr. A. TAYLOR, Olton.

TABLE DECORATIONS.

Three classes were provided for table decorations, which were accommodated in a tent specially set apart for those popular exhibits. All the tables were 8 feet by 4 feet. In the first class exhibitors were allowed to use any kind of flower. The 1st prize was gained by Mr. W. T. MATTOCK, Oxford. The centre vase was decorated with lovely sprays of Odontoglossums, Francoas, and Gloriosa superba, relieved with sprays of Selaginella and Asparagus. Smaller vases contained Orchids, Francoas and sprays of Selaginella; 2nd, Mrs. BATCHELOR, Hampton-in-Arden.

In another class for table decorations, to consist of not more than two colours of Sweet Peas, ten very handsome tables were placed before the judges, who awarded the 1st prize to Miss DEAKIN, Hay Hall, Hay Mills, for an arrangement of pink Sweet Peas, relieved with slender sprays of Selaginella. The 2nd award was gained by Mrs. MACDONALD, Harborne, who also used pink flowers and Selaginella sprays, but the latter were rather overdone; 3rd, Miss A. S. HERBERT, Acocks Green, Birmingham. The prizes in this class were provided by Robert Sydenham Limited.

The next class was reserved for ladies residing in the county of Warwick. Here, again, Miss DEAKIN, Hay Mills, took the lead with beautifully fresh Sweet Peas, lightly arranged; 2nd, Mrs. H. ANDERSON, Shirley, with pink Sweet Peas and white Centaureas.

Fruit (Open).

In a class for eight dishes of fruit, ripe and fit for table, decorated with plants and cut flowers, the Duke of Portland, Welbeck Abbey, Worksop (gr. Mr. Jas. Gibson), was the only exhibitor, and he was deservedly awarded the challenge cup, value 25 guineas, presented by R. E. L. Naylor, Esq., together with £7 given by the society. The collection was as follows: Muscat of Alexandria and Black Hamburgh Grapes (two bunches of each), uncommonly good Barrington Peaches, Pineapple Nectarines, Williams's Bon Chrètien Pears, Brown Turkey Figs, large, well-coloured fruits of Apple "Rival," and Welbeck Seedling Melon. The decorations consisted of pink "Malmaison" Carnations and Humea elegans.

The Duke of Portland also gained 1st prizes in classes for (1) four dishes of fruit, distinct, with superb dishes of Peaches, Nectarines, one Melon, and a shapely bunch of Grapes; (2) two bunches of Black Grapes, showing well-berried bunches of Black Hamburgh; (3) two bunches of white Grapes with very fine Muscat of Alexandria; (4) six Peaches with handsome specimens of Barrington; (5) three dishes of dessert Apples; and (6) one dish of Plums.

Lord North, Wroxton Abbey, Banbury (gr. Mr. E. R. Jones), showed the best dish of Nectarines, as well as the best-flavoured Melon.

Lord Willoughby de Broke, Compton Verney, Kineton (gr. Mr. J. Lloyd), won the 1st prizes in classes for (1) Red Currants and (2) Cherries.

H. E. Wise, Esq., Shrubland Hall, Leamington (gr. Mr. W. H. Casley), had some splendid Apricots.

The Manor Fruit Farm, Knowle, had the leading exhibits of (1) single dishes of dessert Apples and (2) kitchen Apples. W. J. Gresson, Esq., Pershore (gr. Mr. T. Parry), took the lead in a class for Black Currants; and Mrs. E. W. Everitt (gr. Mr. E. Allaway) showed the best White Currants.

Mr. P. Lucas, Esq., The Oaks, Leamington (gr. Mr. W. Wright), beat 12 contestants in a class for Gooseberries.

Vegetables (Open).

The society's prize of £4, offered for 10 distinct kinds, was won by Hugh Andrews, Esq., Toddington Manor, Winchcombe (gr. Mr. J. R. Tooley), who had splendid Tomatos, Cauliflowers, and Parsnips; 2nd, Lord North, Wroxton Abbey, Banbury (gr. Mr. E. R. Jones).

Messrs. Sutton & Sons offered prizes for six distinct kinds of vegetables. The best of seven collections came from M. P. Lucas, Esq., The Oaks, Leamington (gr. W. Wright), whose Celery and Tomatos were excellent; 2nd, Mr. E. Deakin, Hay Mills.

Messrs. Webb & Son's prizes were offered for six distinct kinds of vegetables. 1st, Mr. E. Winchester, Rubery; 2nd, Hugh Andrews, Esq. (gr. Mr. J. R. Tooley).

Messrs. Dickson & Robinson's prizes were offered for six distinct kinds. 1st, W. J. Gresson, Esq., Birlingham House, Pershore (gr. Mr. T. Parry), who had excellent Tomatos and Onions. Cauliflowers were rather past their best; 2nd, Lord Willoughby de Broke (gr. Mr. J. Lloyd).

Captain W. H. Starkey, Leamington (gr. Mr. G. L. Blackburn), won 1st prize in Messrs. Clibran's class for six distinct kinds of vegetables.

Plants, Flowers, Fruits, &c. (Open to Amateurs Residing in the County of Warwick).

The challenge cup, value 10 guineas, together with £5 offered as 1st prize, was again won by the Misses Robinson, The Newlands, Leamington (gr. Mr. A. J. Friend), whose beautifully-arranged group contained an excellent variety of foliage and flowering plants. The centrepiece consisted of a tall mound clothed with choice plants, surmounted with a graceful Palm. 2nd, Alderman Holt, J.P., The Oaklands, Leamington (gr. Mr. J. Fisher).

Mr. Frank Dennison, Leamington, showed Roses of superb quality, and was awarded the 1st prizes in classes for (1) 12 varieties; (2) six Tea Roses; and (3) six Roses, one variety. A few of Mr. Dennison's best varieties were C. J. Grahame, J. B. Clark, Horace Vernet, Earl of Warwick, Mrs. John Laing, and Ulrich Brunner.

In a class for six varieties of Sweet Peas J. Booth, Esq., Claverdon (gr. Mr. W. V. Wall), was placed 1st with excellent blooms; 2nd, Hugh Mitchell, Esq., Hampton-in-Arden (gr. Mr. T. Batchelor).

The class provided for six bunches of hardy flowers, distinct, brought spirited competition, no fewer than 10 really good exhibits being placed before the judges. 1st, J. Booth, Esq. (gr. Mr. M. V. Wall); 2nd, Mrs. E. W. Everitt (gr. Mr. E. Allaway).

The Rev. J. W. Mason, The Firs, Warwick, was awarded the 1st prize for six magnificent spikes of Gladioli.

Fruit and Vegetables.

The principal class for fruit was one for four dishes, distinct kinds, for which a challenge cup, value 15 guineas, offered by Messrs. F. Benson and F. J. Land, to which the society added £2 as 1st prize, was won by Mrs. E. W. Everitt, Leamington (gr. Mr. E. Allaway), who had large, well-finished Black Hamburgh Grapes, handsome Hale's Early Peaches, Brown Turkey Figs, and Blenheim Orange Melon; 2nd, Rev. F. Hodgson, Clopton House, Stratford-on-Avon (gr. Mr. W. Nichol)—the winner of the cup on two previous occasions—had very fine crimson Galande Nectarines and Bellegarde Peaches; 3rd, Mr. C. Randall, The Limes, Leamington.

Alderman Holt, J.P. (gr. Mr. J. Fisher), beat five contestants in a class for two bunches of black Grapes. The variety exhibited—Black Hamburgh—was remarkable for its shapeliness, large berry, and good finish; 2nd, Mr. C. Randall; 3rd, Captain W. H. Starkey, Bericote House, Leamington (gr. Mr. G. L. Blackburn).

Mrs. E. W. Everitt (gr. Mr. E. Allaway) excelled in a class for two bunches of white Grapes. He had Buckland Sweetwater in splendid condition; 2nd, Rev. F. Hodgson (gr. Mr. W. Nichol) with Muscat of Alexandria; 3rd, Mr. C. Randall.

The winning dishes of Peaches—Royal George—came from the Hon. Edmund Parker, Westfield House, Rugby (gr. Mr. J. Glen); 2nd, Captain W. H. Starkey (gr. Mr. G. L. Blackburn). The last-named exhibitor had the best dish of Nectarines.

Mr. T. Stevenson, Manor Farm, Blackdown, brought the best dessert Apples, and Lord Willoughby de Broke (gr. Mr. J. Lloyd) took the lead in classes for Plums and kitchen Apples.

Of the nine exhibits in a class for six kinds of vegetables, Mr. E. Deakin, Hay Mills, Birmingham, and Lord Willoughby de Broke (gr. Mr. J. Lloyd) were placed 1st and 2nd respectively. Both exhibitors showed well.

Royal Horticultural Society's Awards.

The following awards were made by the deputation from the Royal Horticultural Society:—

Gold Medals.—Messrs. James Veitch & Sons, for stove and greenhouse plants; Messrs. James Cypher & Sons, for group of plants; Sir George H. Kenrick (gr. Mr. J. V. Macdonald), for group of plants.

Silver-gilt Flora Medals.—Messrs. James Cypher & Sons, for stove and greenhouse plants; Mr. W. Vause, for group of plants; Messrs. Gunn & Sons, for Roses; the Misses Robinson (gr. Mr. A. J. Friend), for group of plants; Messrs. Young & Co., for Carnations; Mr. W. Wall, for Carnations; Mr. C. F. Waters, for Carnations.

Silver Flora Medals.—Messrs. Dicksons, for hardy cut flowers; Messrs. W. H. Simpson & Sons, for Sweet Peas and Antirrhinums; Mr. T. Jones, for Sweet Peas; Messrs. Aldersey & Marsden Jones, for Sweet Peas; Messrs. Gunn & Sons, for hardy flowers; Mr. W. Lowe, Beeston, for Roses.

Silver Knightian Medals.—Hugh Andrews, Esq. (gr. Mr. J. R. Tooley), for vegetables; Mrs. E. W. Everitt, for fruit; Mr. G. C. Warr, for vegetables; Mr. G. H. Hawkins, for vegetables.

Silver-gilt Banksian Medal.—Alderman Holt, J.P. (gr. Mr. J. Fisher), for group of plants.

Silver Banksian Medal.—Frank Bouskell, Esq., for hardy herbaceous flowers.

Bronze Knightian Medals.—Mr. E. Deakin, for vegetables; Mr. T. Noon, jun., for vegetables.

HAARLEM BULB GROWERS'.

We are informed that the following awards have been made at recent meetings of the Floral Committee of the above Society. The descriptions are those of the Society's officials:—

First-class Certificates.

Iris "Anton Mauve."—The standards are blue-white and the falls white, with a yellow spot.

I. "Van Everdingen."—The standards are pearl-white and the falls light yellow, with a dark-yellow spot.

I. "Judith Lyster."—The standards are dark sky-blue and the falls light sky-blue, with a dark-yellow spot.

I. neglecta "Tamerlan."—A very large flower, of exquisite form, with clear-blue standards and purplish-blue falls.

I. hispanica "Empress of The Blues."—The standards are blue, and the falls blue, with yellow spot.

I. h. "Giant."—The standards and falls are of clear yellow.

Astilbe Ceres.—The green leaves have brown margins; the panicles of the flowers are bright lilac-rose.

Hemerocallis luteola major.—A strong-growing variety, which has round, golden-yellow flowers.

Lilium Thunbergianum "Peter Barr."—The flowers of this Japanese variety are bright orange-yellow, almost free from spots.

Awards of Merit.

Allium albo-pilosum.—A silvery-white lilac variety.

Anemone "Don Juan."—Fiery scarlet, flower extra, very floriferous, peduncle very long.

A. "Cornflower."—A very large flower, pure, raised from seed.

A. "Duke of Clarence."—Of a purplish-blue colour, and large in size.

A. "Feu brillant."—A single variety, with fiery-scarlet and orange-coloured flowers, paler in the centre.

Dodecatheon "Eveline."—Flowers white, shaded rose.

D. "James Cook" and *D. "Sir John Foxburgh."*—The flowers of these varieties are rose coloured.

Iris hispanica "Bucephalus."—The standards are light violet-blue, and the falls blue, with orange-yellow spot.

I. h. "Leonidas."—The standards are light blue, and the falls are dark blue, with yellow spot.

I. h. "General Gordon."—The standards and falls are dark blue.

I. h. "Pearson."—The standards are dark blue, and the falls a lighter shade of the same colour.

I. "Adriaan van Ostave."—The standards are light blue, and the falls white, with dark-yellow spot.

I. "Hackaert."—The standards are dark blue, and the falls light blue, with orange-yellow spot.

I. "Pieter de Hoog."—The standards are bluish-white, and the falls yellow, with dark-yellow spot.

I. hispanica "Glory of Overveen."—The standards are light blue, and the falls dark yellow with orange spot. A sweetly-scented variety.

I. h. "Sofus Jacobsen."—The standards are white and the falls light yellow, with darker spot.

Iris amoena "Rhein-Nixe."—The standards are nearly pure white, and the falls dark violet-blue.

I. squalens "Isolina."—The flowers of this variety are very large; they have silvery-rose standards, and falls of rich mauve.

I. s. "Nibelungen."—The standards are olive-coloured, and the falls dark purplish-violet; a very large-flowered variety.

I. s. "Prosper Laugier."—The standards are claret-coloured, and the falls dark velvety-brown.

I. "Joh. Bosboom."—The standards are white; falls very light blue with yellow spot.

I. "Rembrandt."—Standards dark blue; falls greyish-blue with dark yellow spot.

I. albicans "Riviera."—The flowers of this variety are pure white, and are larger in size than those of I. albicans.

Pyrethrum Excelsior.—A seedling variety with rose-coloured flowers.

Ranunculus Turbar Romano "Boule d'Or."—A pure yellow flower, the outer petals of which exhibit an orange shade.

Astilbe plumosa alba.—A good, pure-white, forcing variety.

A. Vesta.—The foliage is surmounted by large panicles of very bright, lilac-rose-coloured flowers.

A. Juno.—The large panicles of this variety are of a clear violet colour.

A. Kriemhilde.—The panicles are salmon-rose coloured.

A. Lachskonigin.—The flowers of this variety are also salmon-rose.

Kniphofia Goldfinch.—A golden-yellow variety.

K. Orange Queen.—An orange-yellow-coloured variety.

K. Prince of Orange.—The flowers of this variety are clear orange-red.

These Kniphofia are said to be hybrids from K. rufa × K. MacOwanii and corallina. The peduncles are smaller than those of K. MacOwanii, and the flowers more useful for decoration.

Phlox decussata Alphons Diepenbrock.—Clear rose, with carmine eye.

P. d. Bernard Tweers.—Soft lilac, with white eye.

Ranunculus (French) "Carnation."—A rose seedling, from the white R. Mathilda Christina.

Gladiolus nanus "The Queen."—The flowers of this variety are of a clear rose colour.

G. n. "La Traicheur."—The interior of the flowers is of a pale rose colour; the outer surfaces of the petals are dark rose.

G. ramosus "Prins Hendrik."—The petals of the orange-scarlet flowers are spotted with white.

G. Pink Progression.—The rosy-white flowers have a dark carmine spot; a seedling from G. Pink Beauty.

G. "Adeline Patty."—A violet-blue seedling.

G. "Belle Mauve."—The mauve flowers have creamy-yellow spots.

G. Cajanus.—The flowers are salmon-red, with cherry-red spots.

G. gandavensis "Empress of India."—The dark brown-red flowers have numerous darker spots.

G. "Ideal."—The salmon-red petals have red-brown spots.

G. gandavensis "La perle du Jardin."—A creamy-yellow-flowered variety.

G. "Queen of the Whites."—The very large, rose and white flowers are very freely produced.

KILLARNEY SWEET PEA.

JULY 25.—The second annual show under the auspices of the above society was held on this date, in the grounds of Killarney House, the residence of the Earl of Kenmare, from the terraces of which very beautiful views of the Killarney Lakes are obtained.

The various classes were well filled. Some of the collections of Sweet Peas were exceptionally good, and, combining, as they did, great size of bloom, length of stem, and brilliance of colour, showed cultivation of a very high order. There were excellent collections of annuals, hardy plants, groups of stove and greenhouse plants, vegetables and fruits.

The principal prize-winners in the various classes were the Earl of KENMARE (gr. Mr. A. J. Elgar); Mrs. A. VINCENT, Muchross Abbey (gr. Mr. Nelson); Mrs. LEAHY, R. COLLIS SANDES, Esq.; Mrs. MACSWEENY, who also won the special prize offered for the best amateur's exhibit in the show; Mrs. D. W. O'BRIEN, Mrs. PALMER, Mrs. BRITTEN, Mrs. MACGILLICUDDY, and Miss GODFREY. T. D. CROSBIE, Esq., showed the best vegetables.

Among the trade exhibits was one shown by Messrs. ALEX. DICKSON & SONS, of Newtownards and Dublin, of seeds in various stages of germination; this firm also staged a collection of Sweet Peas. Messrs. JONES, of Kildenny, staged a magnificent exhibit of Gladioli and border flowers; and Messrs. BAYLOR HARTLAND, of Cork, were represented by a stand comprising Orchids, Carnations, and Alpine plants.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JULY 11.—*Committee present:* Rev. J. Crombleholme (in the Chair); Messrs. R. Ashworth, H. Thorp, J. C. Cowan, D. McLeod, J. Bamber, C. Parker, Z. A. Ward, A. J. Keeling, W. Holmes, A. Warburton, and H. Arthur (secretary).

A large Silver Medal was awarded to R. ASHWORTH, Esq., Newchurch (gr. Mr. Gilden), for a mixed group of Odontoglossums in variety; Silver Medals to Col. J. RUTHERFORD, M.P., Blackburn (gr. Mr. Lupton), for a group of Cattleyas; J. MCCARTNEY, Esq., Bolton, who showed a group composed principally of Cattleyas; and a Bronze Medal to the Rev. J. CROMBLEHOLME, Clayton-le-Moors, for a group of Cypripediums.

Other exhibitors were R. LE DOUX, Esq., West Derby (gr. Mr. Fletcher); Messrs. CHARLESWORTH & Co., Haywards Heath; and Messrs. STUART LOW & Co., Enfield.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cattleya callistoglossa splendens "Marlfield variety."—A large, well-set flower, with brilliantly-coloured lip, exhibited by R. LE DOUX, Esq.

AWARDS OF MERIT.

Odontoglossum × Miss Arline King (parentage unknown) and *Lælio-Cattleya "Purple Queen" (L.-C. Iona × granulosa)*, both from R. LE DOUX, Esq.

Cattleya Gaskelliana "Delicata," from J. MCCARTNEY, Esq.

Sophro-Lælia "Leda" (L. pumila × Sophro-Lælia Gratrixæ), from Messrs. STUART LOW & Co.

TRADE NOTICE.

MESSRS. J. CARTER & CO.

DURING the past week several notable visitors have inspected Messrs. Carter's trial grounds at Raynes Park. These included M. de Keyser, Belgian Minister of Agriculture, also the Under Secretary of the French Board of Agriculture and Mr. Lloyd George and Miss George. *H.*

GARDENING APPOINTMENTS.

Mr. H. BEST, until recently Gardener to F. D. LEYLAND, Esq., and previously in the gardens at Bowood, Deepdene, and Sandbeck, as Gardener to W. VESTEY, Esq., Bessemer House, Denmark Hill, S.E.

Mr. J. W. CHAPMAN, for the past 2 years Gardener to H. PRATT, Esq., Cleethorpes, Grimsby, and previously Foreman at Emo Park Gardens, Portarlington, Queen's Co., as Gardener to Col. KEMMIS, Everton Grange, Lymington, Hampshire.

Mr. R. C. HARRIS, for 2 years Gardener to Lady Fox, Bigsweir House, Gloucestershire, as Gardener at Standish House, Stonehouse, Gloucestershire.

Mr. WM. EDWARDS, for 6 years Gardener to G. A. MCLEAN BUCKLEY, Esq., Worth Hall, Crawley, Sussex, as Manager of the Shuna Estate, Toberonochy, Argyllshire, for the same gentleman.

Mr. JOHN W. HART, late Instructor in Horticulture and Rural Science, County Intermediate Schools, Towyn, Merionethshire, as Horticultural Assistant to the Botanical Department, Bedford College, London.

Mr. G. HILLS, for 10 years Kitchen-garden Foreman at Eastwell Park, Kent, as Gardener to the Right Honourable LAURENCE HARDY, M.P., Sandling Park, Hythe, Kent. (Thanks for contribution to the R.G.O.F. box.—EDS.)

Mr. JAS. RICHARDSON, for nearly 6 years Gardener at Harefield, Romsey, as Gardener to Mrs. MOUNTGOMERY PATERSON, Eastley End, Thorpe, Surrey. (Thanks for 1s. for R.G.O.F. box.—EDS.)

Mr. G. H. TANSLEY, of Messrs. KENT & BRYDON'S Nurseries, Darlington, and previously Gardener to CHARLES BROOK, Esq., Kinmount, Annan, as Gardener to R. EATON WHITE, Esq., Boulge Hall, Woodbridge, Suffolk.

DEBATING SOCIETIES.

BRISTOL AND DISTRICT GARDENERS'.—A meeting of this association was held on July 25, at St. John's Parish Rooms, Clifton. Mr. Thoday presided. The evening was devoted to the asking and answering of questions on horticultural topics. There was also a competition for the best bouquet of Sweet Peas arranged at the meeting by under gardeners, for which prizes were offered by Mr. E. T. Parker. Mr. Coombs won the first prize, and Mr. Wiltshire the second prize. At the next meeting, to be held on the 29th inst., Mr. Rich will give a lecture on "Hardy Flowers."

CLEVEDON AND DISTRICT HORTICULTURAL.—The members of this association visited the Mendip Nurseries, at Langford, on the 12th ult., being the occasion of the annual outing.

MARKETS.

COVENT GARDEN, *July 31.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Achillia, per doz. bunches ...	1 6- 2 0
Alstroemeria ...	3 0- 4 0
Arums (Richardias)	2 0 —
Asters, white ...	1 0- 2 6
Bouvardia, per dz. bunches ...	6 0- 7 0
Carnations, p. doz. blooms, best American var.	0 6- 1 0
— smaller, per doz. blooms ...	0 4- 0 8
— Carola, crimson, extra large	1 6- 2 0
— Malmaisons, p. doz. blooms:	
— — pink ...	4 0- 8 0
— — blush ...	3 0- 4 0
— — red	3 0- 4 0
Centaurea, (sweet Sultan) mauve and white, per doz. bunches...	2 0- 3 0
— yellow	1 6- 2 0
Chrysanthemum maximum, per doz. bunches...	0 9- 1 0
Coreopsis, per doz. bunches ...	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches ...	0 6 -0 9
Gardenias, per box of 15 and 18 blooms... ...	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	1 0- 1 6
— Bride, white per dz. bnchs:	2 0- 4 0
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
— paniculata ...	3 0- 4 0
Lapagerias, white, per dozen ...	1 6- 2 0
Lilium auratum, per bunch ...	4 0- 5 0
— longiflorum, per doz., long	2 0 —
— — short ...	1 0 —
— lancifolium alba, long ...	1 6 —
— — short ...	1 6 —
— speciosum rubrum, p. dz., lng.	1 3- 1 6
Lilium speciosum rubrum, p. dz., short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0–18 0
— special... ...	10 0–12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches...	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	9 0–10 0
— Odontoglossum crispum ...	3 0- 4 0
Pancratiums, p. dz. blooms ...	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms,	
— Bridesmaid,	0 9- 1 0
— C. Mermet ...	0 9- 1 0
— Frau Karl Druschki ...	0 9- 1 0
— General Jacqueminot ...	0 9 —
— Liberty ...	0 9- 1 0
— Madame A. Chateney ...	0 9- 2 0
— Niphetos ...	1 0- 1 6
— Richmond ...	1 0- 2 6
— Sunburst ...	1 6- 2 0
— Sunrise ...	0 6- 0 9
— President Carnot	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegan	1 0- 1 6
— Kaiserine ...	0 9- 1 6
Scabious caucasica, per doz. bnchs.	2 0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, per dozen bunches:	
— mauve, ...	3 0- 4 0
— white & yellow	3 6- 4 6
Stephanotis (72 pips)	1 0- 1 6
Stock, per dozen bunches:	
— white	2 0- 3 0
Sweet Peas, pr. dz. bunches:	
— coloured ...	1 0- 2 0
Tuberoses, p. doz. blooms, long...	0 4 —
— — short ...	0 3 —
Violas, small blue, p. doz. bunches	0 9- 1 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0–18 0
— Sprengeri ...	10 0-12 0
Carnation foliage, doz. bunches...	4 0 —
Croton foliage, various, per dozen bunches ...	12 0–15 0
Cycas leaves, artificial, per doz.	3 0–12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, per gross ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0–21 0
Asparagus plumosus nanus, p.dz.	10 0–12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0–30 0
— variegated ...	30 0–60 0
Chrysanthemum coronarium, 48's, per dozen	3 0- 5 0
Cocos Weddeliana, per dozen:	
— 60's	6 0–12 0
— larger, each ...	2 6–10 6
Coleus, per doz. ...	3 0- 4 0
Croton, per dozen	18 0–30 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0–12 0
Ferns, in thumbs, per 100... ...	8 0–12 0
— in small and large 60's ...	12 0–20 0
— in 48's, doz. ...	6 0 —
— choicer sorts per doz. ...	8 0–12 0
— in 32's, per dozen	10 0–18 0

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Ficus elastica, per dozen	9 0-12 0
Fuchsias, per dozen	8 0- 9 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Heliotropes ...	6 0- 8 0
Hydrangeas white, 48's, per dozen	18 0 21 0
— pink	8 0-12 0
— blue, each ...	2 0- 5 0
— paniculata, per dozen	18 0-24 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen ...	15 0-18 0
— lancifolium alba	15 0-18 0
Lilium longiflorum, per dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
— yellow ...	10 0-12 0
Mignonette, 48's, per dozen ...	6 0- 8 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargoniums, per dozen	9 0-12 0
— Ivy-leaved ...	7 0 9 0
Phœnix rupicola, each	2 6-21 0
Rhodanthi, per dz. pots	5 0- 6 0
Saxifraga pyramidalis 48's, per dozen	15 0-18 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0
Verbenas, pink ...	6 0- 8 0
— scarlet... ...	8 0- 9 0
— white	8 0- 9 0
— blue	8 0- 9 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— English ½ bshl.	3 6- 5 6
— Cooking ...	2 6- 4 0
— Tasmanian per case ...	11 6-12 6
— Australian per case	11 6-12 6
Bananas, bunch:	
— Doubles ...	10 0 12 0
— No. 1	10 0 —
— Extra	13 0 —
— Giant	16 0 —
— Loose, p. doz.	0 6- 1 0
— Red coloured...	5 6- 6 6
— Jamaica Giants, per ton ...	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Cherries, English,	
— Morello, ½ bush.	8 0-10 0
— ,, ½ bushel	10 0-12 0
Currants:	
— (English), Black, pecks	4 0- 5 0
— Black, ½ bushl.	9 0-10 0
— Red, pr. ½ bshl.	6 0- 8 0
— Red, pecks ...	3 0- 4 6
Figs (Guernsey), per dozen ...	2 0- 5 0
— English ...	2 0- 5 0
Gooseberries:	
— Dessert, ½ bshl.	3 6- 6 0
— Large dessert, per peck ...	3 6- 6 6
Grape Fruit, case:	
— 96's	18 0-20 0
— 80's	
— 64's	
— 54's	
— English (new) per lb.	0 9- 2 6
— Canon Hall ...	1 6- 5 0
— Muscats ...	1 0- 5 0
— Gros Colmar...	1 6- 2 6
— Black Alicante	1 0- 2 6
— Madresfield Court	1 0- 2 6
— Gros Maroc ...	1 0- 2 0
Greengages, p. bx.	0 9- 1 0
— ½ sieve... ...	7 6-11 6
— Cooking ...	5 0- 6 0
Lemons:	
— Messina, per case	20 0-22 6
Lemons, ordinary, per case ...	17 0-25 0
— Naples ...	28 0-45 0
Limes, per case ...	6 0 —
Melons (Guernsey)	1 6- 3 0
— (English) ...	1 0- 3 0
— Canteloupe ...	1 6- 5 0
Nectarines, per dozen:	
— selected ...	10 0-18 0
— best	8 0-12 0
— seconds ...	4 0- 6 0
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Chestnuts, per bag	3 6-19 0
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 3 —
— Walnuts (Naples), kiln dried, cwt. cases	54 0 —
Oranges	
— Italian per case	20 0-22 6
— Cape, per case	20 0-25 0
— Naartjees, per box	4 0- 4 6
Peaches:	
— French, boxes	5 6- 7 6
— English, dozen:	
— selected ...	10 0-18 0
— best	6 0- 8 0
— seconds ...	3 0- 6 0
Pears:	
— French, per case	3 0- 4 6
— English, ½ bushel	2 6 —
Pineapples, St. Michael ...	2 6- 5 0
— Californian, per case	6 0- 7 0
Plums, French, ½ sieve	5 6- 7 6
— Cherry, p. peck	2 0- 2 6
— English, ½ sieve	5 0- 7 0
Raspberries:	
— punnets, per dozen	6 0-10 0
— chips	2 0- 2

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen ...	2 0- 3 0
Aubergines, per dozen	2 6- 3 0
Beans:	
— Scarlet Runners, per bushl.	4 0- 5 0
— Broad, per bushel	1 6- 2 0
— French, p. pad	3 0- 4 0
Beetroot, per ½ bushel ...	2 0- 2 6
Cabbages, p. tally	5 0- 7 0
Carrots (English), pr. doz. bun....	2 0- 3 0
— (French) per dozen bunches	4 0- 6 0
Cauliflowers, per dozen	3 6- 4 0
Chicory, per lb. ...	0 4 —
Cucumbers, per flat	6 0- 8 0
Celery, bundle ...	1 0- 1 6
Endive, per dozen	2 6- 3 0
Greens, p. bushel	1 6- 2 0
Herbs (sweet), pkts., p. gross	7 0 —
Horseradish, 12 bundles ...	12 0-15 0
Leeks, per doz. ...	2 6- 3 0
Lettuce (English), Cos, per box ...	2 6- 3 0
Lettuce (English), Cabbage, p. bx.	2 6- 3 0
Marrows, per tally	2 0- 4 0
Mint, per dozen bunches ...	2 0 —
Mushrooms, cultivated, per lb.	2 0- 2 6
Mustard and Cress, p. dz. punnets	1 0 —
Onions (Egyptian)	7 6 —
— (Spanish) ...	7 6 —
— (Spring), per doz bunches	1 6- 2 0
Parsley, ½ sieve ...	2 0- 3 0
— per doz. bun.	2 0 —
Peas (English), per bushel	3 6- 5 0
— bags	6 0- 9 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen ...	0 10- 1 6
Spinach, pr. bshl.	1 6 —
Tomatos, per doz. lbs.:	
— (Guernsey), ...	3 0- 3 6
— (English), ...	3 0- 3 6
— seconds ...	1 0- 1 6
Turnips (English), per dz. bunches	2 6- 3 0
— French, crates	3 6 —
Watercress, p. dz. bunches ...	0 6 —

Remarks.—English Apples include plentiful supplies of dessert varieties. Of culinary varieties, Lord Suffield, Keswick Codlin and Lord Grosvenor form the bulk. Sturmer Pippin is the only Australian variety obtainable. English Pears include the following varieties, Hessle, "Chalks" and Jargonelle. Hessle or Hazel Pears are a very heavy crop. Continental (French) boxes of Williams's Bon Chrètien containing 36 and 48 fruits are arriving daily. It is reported that the crop of French Pears will not be so heavy as in some previous seasons. Grapes from all sources are an abundant supply; some of the bunches are exceptionally fine. The supply of Peaches and Nectarines appears to be about equal to the demand. Figs and Melons are plentiful. The supply of Cherries from the Continent is exhausted, and consignments from English growers are very limited; the crop is expected to finish this week or next. Plums, Early Rivers and Czar, are plentiful, and the fruits are meeting with a good demand. French and Spanish Gages and Plums are also plentiful. A heavy crop of Cobnuts is anticipated, several growers reporting as many as three tons to the acre, a wonderful crop when compared with an ordinary season, which averages about 15 cwts. to the acre. Many sales are being made at from 2d. to 2½d. per lb. Tomatos are a good supply from all sources and there is a brisk demand, especially from country buyers. With the approach of the holiday season there is, as usual, a general depreciation in prices. The vegetable trade is generally good for the present season of the year. *E. H. R., Covent Garden, July 31, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per cwt. s.d. s.d.
Bedfords	3 6- 4 0	Blacklands ...	3 0- 3 6
Kents	4 0- 4 6	Lincolns	3 3- 4 0

Remarks.—Trade is very slow and prices are low. Large consignments have been received from Lincolnshire, Cambridgeshire, and Kent. We hear bad reports of the blight in Lincolnshire. *Edward J. Newborn, Covent Garden and St. Pancras, July 31, 1912.*

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending July 27, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—Fair and dry over Scotland during the first few days of the period, and also over the south and east of England generally, after the middle of the week, but with these exceptions the conditions over the United Kingdom were mostly unsettled and rainy. Thunderstorms occurred in all districts, and generally they were of daily occurrence.

The *temperature* was slightly above the average over the greater part of England and in Scotland N. and W., below it elsewhere. The largest excess, 2½°, was in England E., and the largest deficit, 1½°, in Scotland E. The highest readings occurred on the 24th over the southern half of the country (79° at Kew and Margate), and on various dates later in the week in other districts. The lowest of the minima were registered on several days; the actual lowest were 31° at Balmoral, 35° at Glencarron, and 37° at Wick. The mean temperature of the soil at a depth of 1 foot and also at 4 feet was mostly above the average, but the difference was slight.

The *mean temperature of the sea* was rather above the average generally, slightly below it at a few northern and north-western stations. In nearly all cases the water was cooler than in the corresponding week of last year.

The *rainfall.*—Deficient in England S.E. and Scotland W. and N., but in all other districts there was an excess, that in Ireland N. being double, and in Ireland S. nearly four times the average. The largest total for the week was nearly 4 inches at Cahir, and the smallest, less than 0·1 inch at Wisley. Roche's Point received nearly 5½ times the normal quantity for the week. Measurements of over an inch were recorded at a large number of stations in Ireland and the western districts of England on the 27th.

The *bright sunshine.*—Everywhere below the average. The percentage of the possible duration ranged from 10 in Ireland N. and 12 in England N.E. to 31 in England E. and 33 in England S.E.

THE WEATHER IN WEST HERTS.

Week ending July 31.

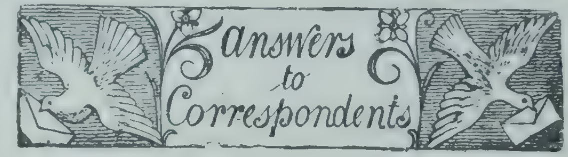
Frequent showers. The days proved as a rule cold, while the nights were, on the other hand, nearly all warm for the time of year. On the coldest day the temperature in the thermometer screen never rose higher than 58°, which is about 12° colder than is usual at the end of July. The ground is at the present time 1° colder at 2 feet deep, and 3° colder at 1 foot deep, than is seasonable. Some rain fell on each of the last five days, and on several occasions for a short time rather heavily. The total fall for the week, however, was less than half an inch. Only a few drops of rain-water have each day come through the bare soil percolation gauge during the last four days. The sun shone on an average for 4¾ hours a day, which is 1½ hours a day short of the mean daily duration for the same period of the month. The winds were as a rule rather high, but in no hour did the mean velocity exceed 12 miles. The direction of the wind has been almost exclusively some point between south and west. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by as much as 11 per cent. *E. M., Berkhamsted, July 31, 1912.*

Obituary.

Herbert Dowding.—We regret to record the death, on the 27th ult., of Mr. Herbert Dowding, for more than 20 years gardener to the Bishops of Winchester at Farnham Castle. Deceased, who was 58 years of age, was, at one time, gardener to the late Dean Hole, of Rochester. The Bishop of Winchester, referring to deceased at Farnham Parish Church, said he had served under four Bishops and he had won the confidence of each. He had been to them a familiar example of a good and faithful servant. Farnham had lost a good citizen and the Church a faithful member and worshipper.

ENQUIRY.

Does any reader know if Rubus japonicus tricolor is still in cultivation? I have had it in abundance and have given it away to many, but it seems now to have entirely disappeared. *H. N. Ellacombe, Bitton Vicarage, Bristol.*



Answers to Correspondents

*** *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

Apiary: *E. Cross.* Bumble bees are not regarded as robbers of honey. They cannot enter the hives if the entrances are as small as they should be, namely, not more than ⅜ inch deep, and this may easily be settled by measuring the entrance.

Apple Beauty of Bath: *Jaybee.* Beauty of Bath does not bear all its fruits at the ends of the branches; it is, however, one of those varieties that require careful attention in summer and winter pruning. It will easily form spurs. The shoots that must not be pruned either during summer or winter are those of a short, stubby growth, which are easily recognised by having their leaves disposed almost in a circle with a blossom bud in the centre. Such growths seldom extend more than 6 or 8 inches. All other shoots that are longer, except the leading ones should be shortened to about the third good leaf. Under this treatment, spurs will form freely. The leading shoots should be cut back about one-third their length in winter, according to the space available. Beauty of Bath is a variety that repays good culture.

Apple, Stirling Castle: *Dun.* A destructive fungus—Sphaeropsis malorum—is present. It is too late to spray now, but next spring, when the leaves are unfolding, use the Bordeaux mixture at half the usual strength.

Begonia Leaves: *Ensign.* The leaves are not affected with a fungus disease. The trouble is due to excessive atmospheric moisture and insufficient ventilation.

Best-flavoured Grapes: *C.* It is as impossible to enumerate the 12 best-flavoured Grapes as it is to give a list of the best books; but we fancy most people qualified to express an opinion on the point would select the following varieties: Muscat of Alexandria, Muscat Hamburgh, Chasselas Musqué, Canon Hall Muscat, Grizzly Frontignan, Madresfield Court, Mrs. Pearson, Muscat Champion, Chasselas Vibert, Black Hamburgh, Ferdinand de Lesseps, and Mill Hill Hamburgh. Paper bags, such as you require, may be obtained from Messrs. W. Wood & Sons, Wood Green, London.

Black Alicante Grapes: *F. B. H.* The Grapes are scorched. This condition is due to insufficient ventilation in the house, or, perhaps, failure to open the top ventilators sufficiently early in the morning. When this is done at the proper time the leaves and berries become dry before the sun becomes powerful enough to cause scorching.

Blue Hydrangea: *Hortensia.* A reply to a similar question was published in the issue for June 22, page 422. Watering the plants twice weekly with a solution of ammonia alum (½ ounce in 1 gallon of water) is recommended. It is desirable to water with this solution in the autumn until the plants pass into their resting stage. During their flowering period the plants should not be grown in the full sun, or the blue colour will become blotchy. Other cultivators have obtained similar results by the use of such substances as alum, iron, and slate chippings mixed with the soil.

Boronia megastigma and Pæony from Seed: *C. N. Knox-Davies, Johannesburg.* We have never before heard of anyone having continual failure in raising Boronia megastigma from seed. Probably the cause of your failure lies in the conditions in which the seeds have been sown. Too much or too little moisture just as the seeds are about to germinate would be sufficient to cause failure. Perhaps you have buried the seeds too deeply: a common mistake. A useful rule is to cover seeds the same depth as their narrowest diameter, which, in the case of fine seeds, means to sow them thinly on the surface, pressing them lightly with a flat piece of wood. The Pæony seed has probably received a check, either by drought or too low a temperature. All seeds, when germinating, are easily injured by excess of moisture, drought, or sudden fluctuations in the temperature.

Carnations Diseased: *P. W. E.* The injury has been caused by a fungus (Septoria dianthi). All diseased parts should be removed, and the plants sprayed with a solution of liver of sulphur, using 2 ounces in 3 gallons of water.

Chrysanthemums: *J. E. Hatton.* A fungus, Sclerotinia, is present on the collar of the plants, and is ascending the stem. Infection has probably resulted from the soil. Your best plan is to water the plants with a solution of sulphate of potash; sterilise the soil when the plants are removed.

Employment in the London Parks: *J. T.* In the case of the parks and gardens under the control of the London County Council, application should be made to the Chief Officer, 11, Regent Street, London. If you wish to enter the Royal Parks, which include Hyde Park and Regent's Park, application should be made to the respective superintendents.

Flag Irises: *C.* As a manure for your soil, which is deficient in lime, basic slag would be preferable to superphosphate.

Grapes Unhealthy: *A. M. S.* There is no fungus disease present. The injury is due to some wrong conditions at the roots.

Grapes: *W. G. L.* Spray the vines twice a week with liver of sulphur, using 2 ounces in 3 gallons of water; also spray them again next spring before the disease appears. Soak every part of the house thoroughly when the plants are resting during the winter, with a solution of 1 lb. of sulphate of copper in 25 gallons of water. This specific must only be used when the vines are bare of leaves.

Iron as a Manure: *B. M. W.* It by no means follows that the yellow appearance of the leaves of your Pear trees is due to a lack of iron: it may arise through a deficiency of nitrogen. Iron sulphate should be added if you are certain that the soil is deficient in iron, but not more than 1 ounce to each square yard of ground. Light, chalky soils require liberal supplies of nitrogenous manures.

Ivy-leaved Pelargoniums: *C. W.* If you send a specimen of the affected plants we will endeavour to assist you.

Melons Unhealthy: *A. D.* and *W. L.* Eelworm is present. This is a very difficult pest to eradicate and insecticides are of very little avail. The best plan is to burn the plants and remove the soil in which they have been grown, either sterilising it by baking or burying it in some out-of-the-way part of the garden. The house should then be cleaned thoroughly with carbolic in solution, washing the woodwork with soft soap and carbolic acid in warm water. A correspondent in *Gardeners' Chronicle*, July 8, 1911, page 7, recommends top-dressing pot plants with rape dust, which acts as an exterminator of eelworms and as a fertiliser of the soil at the same time. See also an article in the issue for July 13 last, page 30.

Names of Fruits: *F. E. C.* All the specimens were decayed. Send fresh samples not so ripe, and pack them better.

Names of Plants: *W. D.* 1, Indigofera Gerardiana; 2, Chimonanthus fragrans; 3, Rhus Cotinus; 4, Colutea arborescens.—*W. Lodge.* Buddleia variabilis var. Veitchiana.—*E. Humphrey.* 1, Cassinia fulvida; 2, Cupressus pisifera plumosa aurea; 3, Spiræa species; 4, Sambucus racemosa laciniata; 5, Phillyræa media; 6, Cupressus Lawsoniana erecta; 7, Please send a better specimen; 8, Nepeta Mussinii; 9, Polygonum amplexicaule; 10, Sedum oppositifolium; 11, Rhodotypos kerrioides; 12, Berberis Wallichiana.—*E. T. W.* Astilbe simplicifolia (see *Gardeners' Chronicle*, Oct. 22, 1910, p. 294, fig. 122).—*Anxious.* 1, Santolina chamæcyparissus; 2, Tunica Saxifraga; 3, Hypericum elatum.—*Cicester.* 1, Calamagrostis epigeios; 2, Apera Spica-venti; 3, Stachys betonica; 4, Œnothera fruticosa.—*Journeyman.* 1, Dactylis glomerata variegata; 2, cannot name without flowers; 3, Funkia Sieboldiana; 4, 5, 6, forms of F. ovata; 7, Berberis vulgaris foliis-purpureis; 8, Cornus alba.—*Esor.* 1, Ligustrum lucidum; 2, Spiræa japonica; 3, Lythrum salicaria; 4, Neillia opulifolia; 5, Veronica longifolia; 6, Ligustrum vulgare aureum. — *Constant Reader.* 1, Anthemis tinctoria; 2, Phlomis fruticosa; 3, Anaphalis margaritacea; 4, Nepeta Mussinii.—*Anxious.* Lotus siliquosus and Matricaria Chamomilla.—*M. S. P.* A, Caladium argyrites; b, Helxine Solierolii; c, Sedum Sieboldii variegatum; d, specimen too scrappy to identify; e, Rhœo discolor; f, Nepeta Glechoma variegata; g, Begonia semperflorens.—*X. Y.* 1, Bulbophyllum calamaria; 2, Pleurothallis picta; 3, Masdevallia simula; 4, Octomeria diaphana; 5, Oncidium barbatum; 6, Maxillaria rufescens.—*T. H.* 1, Selaginella Mertensii; 2, Pteris longifolia; 3, Begonia manicata.—*W. J. P.* Lygodium scandens, a climbing Fern.

Nicotine Extract: *Nicotine.* You will require a special permit from the Board of Inland Revenue before you are allowed to undertake the extraction of nicotine from your Tobacco plants. See *Gard. Chron.*, April 20, 1912, p. 260.

Nymphæas Damaged: *W. E.* It is somewhat difficult to account for the injury to the Nymphæa leaves. It is probably due to insect pests, which may be water snails or other insects that abound in the water, or that have alighted upon the leaves. Water beetles are sometimes a source of trouble. There is also an aphis which infests both the flowers and foliage of hardy Nymphæas. This pest may be found upon flowers only one day old. It is also found on the lower and upper sides of the leaves, which seems to point to its being of an amphibious character. It is advisable to thoroughly spray the plants three times a week with a strong solution of quassia and soft-soap. This should be applied to the under as well as the upper surfaces of the leaves. To do this the syringe should be held about 1 foot below the water, then the insecticide will, to a great extent, rise to the under-surfaces of the leaves. At the same time force the insecticide downwards in the direction of the crown itself. If the presence of water snails is suspected, some finely-ground lime should be shaken under the leaves, so that some may sink towards the crown; some rising to the surface will reach the under sides of the leaves. Ground lime is much better for this purpose than slaked lime, the latter being too buoyant. It is advisable to remove all damaged and decaying foliage where the same is in any way dense and likely to impart disease to healthy growth. If waterfowl are kept on the lake these may account for the injury to the crowns. It has been proved beyond question that both swans, with their long necks, and ducks that dive, do irreparable harm to the crowns by pecking out the centre of the plant, thus causing premature decay.

Peach Leaves Dropping: *Subor.* There is no disease present. The marks are caused by the use of too strong an insecticide which has caused the leaves to fall. To destroy red spider use equal quantities of liver of sulphur —2 ounces in 3 gallons of water—and ordinary quassia wash. This wash should be applied with some force; repeat the spraying next spring before the pest appears.

Peach Tree: *I. S. E.* There is no disease present. The wounds and rusty spots are caused by excessive growth of the shoot.

Pears: *W. P.* The injury is caused by thrips puncturing the fruit when very young. The thrips cannot be destroyed by spraying, but as they pass part of their time in the soil, a dressing of some ground insecticide, such as vaporite, may do good.

Plums Diseased: *F. E. C.* The Plums are attacked by gumming or gummosis, which occurs in trees that have been worked on unsuitable stocks and in specimens growing in unsuitable or badly-drained soils, and sometimes in rich soils that cause them to make strong growths, which later have to be cut back. The cause of gummosis is not yet known, but it has been attributed to a fungus or bacterium, and is a common result of injury. A preventive is to afford the trees proper cultivation and to maintain a well-balanced growth in them, preventing any rupture of the bark. Remove all diseased leaves, and spray the shoots with self-boiled lime and sulphur wash. The other fruits were crushed in the post.

Rose Crimson Rambler: *A. C. M.* This Rose was introduced from Japan by a Mr. Jenner, of Edinburgh. It was first named "Engineer," and afterwards "paniculata," before it appeared as Crimson Rambler.

Tennis Court: *J. M.* You do not read your *Chronicle!* The measurements of a tennis court were given on p. 40 of our issue for July 13 last.

Tomato Fruits: *Amateur.* The failure of your Tomato fruits to set is due to imperfect fertilisation. Tomato flowers rarely set unless they are well exposed to the light, which accounts for the bottom trusses often dropping. Being near to the damp soil, the conditions are not dry enough for the pollen to disperse, and, in the early stages, there are few insects abroad to effect pollination. You will find that, as the season advances, the upper trusses will set satisfactorily. Maintain fairly dry conditions, and tap the rods during the brightest part of the day to disperse the pollen.

Tomato Growing for Profit: *O. S., London.* A glasshouse, 200 feet long, of ordinary width, would not yield 8 tons of saleable Tomatos in one season. Indeed it is doubtful whether the 4 glasshouses would together yield a crop of 8 tons of marketable fruit. It is also doubtful whether Tomatos would realise £35 per ton, say, during the months of July, August, October, and November. This figure works out at 3¾d. per lb. or 3s. 9d. per peck of 12 lbs. This price is above the figure returned by the salesmen for one ton of graded Tomatos, including firsts, seconds, and thirds. A successful grower of Tomatos for the London Market once obtained 13 tons of Tomatos from plants growing in 12 houses, each 150 feet long and 15 feet wide, but he has never since been able under the same management to secure a similar weight of crop from the same number of houses. Two skilled men would be sufficient to attend to the cultural requirements of the Tomato plants growing in the 4 houses. The success or failure which would be likely to attend the purchase and working of the proposed acreage of land would depend on many circumstances.

Wooden Labels: *Wholesale Buyer.* Write to either Messrs. William Wood & Son, North British Wharf, Wood Green, London, or Messrs. Corry & Co., Ltd., 13, Finsbury Street, London.

Communications Received.—A. H.—E. A. B.—M. B.—Miss P.—S. H. K., Cambridge—A. H. P.—A. H. S.—J. B.—R. J. W.—J. G. F.—G. F.—H. von F., Sweden—C. R.—G. D. G.—J. T. R.—J. L.—R. O. F.—J. E. T.—G. T., Versailles—P. S. K., India—G. E.—A. T. B.—W. R.—B. C.—Yorkshire Gardener—T. S.—J. W.—A. H., Kildare—C. H. P.—W. G. L.—Hibernicus—W. B.—C. A. M., Bray—W. W. W.—H. A.—J. H.—H. G.—Old Subscriber—T. J. M., Cheshire—D. C.—J. H., Axbridge—W. A. B.—F. D. Herault—Enquirer—F. E. C.—C. W.

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Gardeners' Chronicle
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SEEDING OF GERBERA.

I FREQUENTLY hear of failure to obtain seeds of Gerbera, notwithstanding careful efforts on the part of cultivators who have written me on the matter. The difficulty probably arises from a misunderstanding of the nature of the plant. In the first place it must be remembered that Gerbera, so far as many experiments have shown, is invariably self-sterile, just like the garden Cineraria. From one single plant of either alone it is impossible to obtain seeds, although pollen and stigmas may be in the best possible condition. Two individual plants in the case of many of the Compositæ are essential, and, given the two plants, seeds may be obtained upon both. In the second place, good pollen must be applied at the stage when the stigmas are in the right condition, which occurs in Gerbera almost immediately after the flower-head opens. This female condition, as it is called, gives way in two or three days to the male condition or pollen-producing stage. The styles have then disappeared, and pollen is produced within the anther cylinder. The anthers are syngenesious, i.e., they cohere in a ring. Usually the pollen is found issuing from the anther cylinder, but if scarce it can often be obtained by gently drawing up the anther cylinder between the two thumb-nails. Pollen may then be conveyed direct from the thumb-nails to the stigmas, which readily pick up every grain from any surface. I never find any difficulty in getting all the seed I require, and if the foregoing points are attended to, heads of seed ought to be obtained in nine cases out of ten, or it may be said, in every case. Healthy flower-heads are capable of producing seed, and it is unnecessary to consider whether the weather is sunny or dull at the time of pollination. Much more than has yet been done should be carried out in the crossing of Gerberas. I am sure that, if the same colours were crossed together, it would be possible to obtain a couple of dozen of the best shades true from seed, and, in order, therefore, to stimulate the activity of those who have time and means, I may say that some of the best and most charming colours are very rarely seen. It is probable that the necessary measures are not taken to secure them. From purest whites there should be shades of palest tints in pinks, salmon, and yellow to deep purple, orange and red, as many as are desired. Hybrid Gerberas are very easily grown in an intermediate house, or they may be planted out-of-doors close to a warm wall, but the delicate colours are not nearly so good when exposed to weather. Seed may be sown whenever it is ripe, but it is most conveniently sown, I think, in June. Sow as Nature seems to intend the seed to be sown, namely, stuck upright in the soil with the pappus and its stalk above ground. The young plants then grow straight up without having to bend from the horizontal to vertical. They must be grown on without check, either from drought or other cause, and they will then produce fine flowers in the following spring. The seedlings must be potted arranging the size of the receptacles so as to get the plants by two shifts into 5-inch pots for flowering. They should not be pricked off, because it involves an unnecessary disturbance of the roots in putting them into pots afterwards. Over-potting is worse than under-potting, and there is less danger in over-watering, perhaps, than there is in that care which arises from the knowledge that the plant comes from a country that is sometimes dry. The plants should be kept growing, as already remarked, without check, until they flower. The Begonia mite is a great danger to Gerberas, and must be guarded against. Fumigation before its effects can be seen is good, but dipping is also effective. *R. Irwin Lynch.*

THE MARKET FRUIT GARDEN.

Extraordinary differences in the weather of July were experienced in various parts of the country. My own register of rainfall for the month is just 1 inch, which fell in driblets on 15 days, three-fourths of the quantity being registered in the first three and the last five days. The intermediate portion of the month was a period of almost uninterrupted drought, during which time the land was extremely hard for hoeing, while the swelling of Plums and Apples must have been checked. On the other hand, heavy storms occurred in the Midlands, the north-eastern counties, and parts of the north and west of England, and the weather was persistently rainy in some districts, including Evesham, in the latter half of the month, complaints of the splitting of Plums having been current in Evesham and Pershore. One or more of the heavy storms yielded in a few hours more than double my rainfall for the whole month. On July 28 a gale from the south-west set in, lasting, as usual, for three days, on the second of which the wind was most violent. The result was that in the Apple plantations the land was strewn with fruit, some trees of early varieties having lost one-third of their crops, which had to be sold at windfall prices. The gale appears to have been general throughout the greater part of England, and the loss from the meagre Apple crop must have been very serious. Late Apples were thin enough on the trees before the gale occurred, and now, of course, they are still thinner. At the time of writing, moreover, half a gale of wind is blowing, and this cannot fail to further reduce the Apple crop.

The American Apple Crop.

When high prices result from small production there is a measure of compensation to growers. This, however, is not likely to be the case in the present season, as the American Apple crop is reported to be one of the greatest ever grown. It is not secured yet, and results may disappoint expectations; but it is almost certain that our imports will be sufficient to secure cheap fruit for consumers at the expense of home producers.

The Plum Trade.

Prices for Plums started well, though not at prices higher than Early Prolifics have often commanded when the crop was at least double the very small one of this season. The fruit was generally undersized, while the weather was too cold to induce a full consumption of fruit. Still, at such early prices as 5s. to 5s. 6d. per half-sieve, growers who had even a quarter of an average crop might hope to pay expenses. But in the week ended on July 27 a tremendous supply of French and Spanish Plums—75,000 baskets, it was said—brought London prices down to 2s. 6d. to 3s. 6d. when Czars were in the markets. Growers, at the time of writing, are expecting a recovery in prices now that the French supply is nearly exhausted, as the home crop of Victorias is not a good one.

Continued Apple Dropping.

From all parts of the country complaints of the profuse dropping of Apples, even when the wind is light, continue to be current. In my own case, Duchess of Oldenburgh, which was a good crop, was gathered on the last day of July, because the fruits dropped daily. Such mid-season Apples as Lord Derby, Warner's King, and Worcester Pearmain are also falling from the trees more or less, while a moderate wind brings down late fruits. Many observers continue to attribute this dropping to the effect of the frost which occurred in most parts of the country when Apples were in blossom. But the evil could not well be worse than it is here, and no frost 4 feet above the ground level was registered by me after Apple blossom was expanded. In my opinion, the severe drought in May and the partial one in July should be held accountable for the misfortune. Allusion was made last month to Beauty of Bath as a variety peculiarly liable to dropping in any year, and doubt was expressed as to any fruit reaching full size this season. This fear was only too fully realized. Even when every coloured or striped fruit was gathered at frequent intervals, the ground under the trees was found strewn with fruit on the morning succeeding each partial picking, and at last the trees were relieved of the crops before any fruit had attained its full size. A portion of one orchard devoted to Beauty of Bath brought in over £48 last year, the trees being then 11 years old from the planting. This season, although more Apples than in 1911 set on the trees, the return was less than £13. From younger trees it was a mere trifle. On the other hand, The Gladstone and Irish Peach remained on the trees well, and the former was very fine fruit. Irish Peach was fine also on old trees, but half spoilt by scab and aphis on young trees. This variety is one of the worst for scab, and needs spraying for that disease two or three times. Duchess of Oldenburgh is also very subject to scab, and, although a great and regular bearer, it is not worth planting, partly on account of its liability to scab, and further because it is not big enough for cooking and not sweet enough for dessert.

Injury from Aphis.

The loss of value in the Apple crop due to aphis is probably even greater than that caused by dropping. Large proportions of my crops of Beauty of Bath, Irish Peach, Worcester Pearmain, Lord Grosvenor, and two or three other varieties less extensively grown were nothing better than what are termed "scrimps," and worth next to nothing for sale. As for the damage to young trees, it is pitiful. The trees have been gone over in my young plantations in order to thin out or spur superfluous shoots, and where shoots needed for permanent branches were found twisted and densely covered with leaves and spurs—common results of aphis attack—they have been cut back just below the twist, or at the bottom of it, and will be cut back to a sound wood bud on an untwisted part in the winter pruning. Many of the young trees of Worcester Pearmain and Beauty of Bath will need to be cut back to within a few inches of the trunks, if they are to have any chance of growing into trees of even fair size. This policy was pursued on the last occasion when there was a very severe attack of aphis, and the results were satisfactory. If the mutilated portions of trees are left to grow, the trees will never approach their proper sizes at maturity, while their shapes will be unsatisfactory.

Trees Stunted by Overcropping

Last autumn it was found that a number of Domino Apple trees, six years from the planting, were in danger of becoming permanently stunted in consequence of having fruited too profusely in three seasons. It was decided, therefore, to cut them back severely. Young shoots in the inside parts of the trees (Domino being liable to a great profusion of lateral growth) were cut out entirely or back to fruit buds, while those needed for extension growth were pruned just above the first or second wood, but from a main branch. The result exceeds expectations, though it must be mentioned that the trees had a liberal dressing of rotten cow manure. Vigorous young shoots have grown out this season, and the trees, or most of them, are bearing a moderate crop of very fine fruits after severe thinning. Some years ago a much more severe treatment of stunted Apple trees gave good results, in spite of the disadvantage of transplanting them. They were removed from the orchard in which they had been growing for four or five years, because it was believed that they were stunted beyond recovery, and they were planted thickly in the corner of another field on the chance of their bearing enough fruit to render them profitable. After being planted, or, rather, in the following spring, the trees were cut back to little more than stumps, and in many cases to wood buds so thoroughly dormant as to seem hopeless as sources of extension growth. The results exceeded the most sanguine expectations. Thickly planted as they were, the trees have had to be pruned somewhat severely to keep them from growing into each other. Otherwise they have had hardly any attention, and until this year they received no manure, while grass was allowed to grow around them three or four years after the transplanting. Yet, in proportion to area, this corner of once-despised trees has cropped as well as any other part of the fruit farm.

Suggested Meddling and Muddling.

Alarmed by the statement in the *Gardeners' Chronicle* of August 3 to the effect that the Board of Agriculture had made enquiries respecting a suggestion that Apples should be purchased only in ½ cwt. boxes, and that retailers should confine their purchases of cooking and eating Apples to a certain number of specified varieties, in order to make grading practicable, I wrote to the Board on the subject. The reply is to the effect that the Board did not recommend the proceedings referred to, but only made enquiries in order to ascertain whether they were desirable or not, which resulted in a general verdict against any such intolerable meddling and muddling. Growers would certainly resist any attempt to compel them to pay 6d. for a box, instead of ¼d. or ½d. for rail carriage or salesmen's baskets, in which to pack Apples worth, perhaps, only 2s. to 3s., the net prices per bushel received for great quantities of cooking Apples in many seasons. The boxes, it is to be borne in mind, are non-returnable, so that the grower, by using them for cooking Apples, would lose one-fourth to one-sixth of his return. The extra weight of boxes over that of wicker baskets would make his extra rail carriage about equal to the trifling reduction in salemen's commission. The uniform testimony of the salesmen whom I have consulted is that a given lot of Apples will not make a halfpenny more in a box than in a wicker sieve or half-sieve. Indeed, they say that retailers, as a rule, prefer the wicker baskets. This fad for packing in boxes is an imitation of American and Colonial examples. For ocean transport of thousands of miles a rigid package is absolutely necessary, whereas for home transport of 5 to 50 miles, or even 100 to 200 miles, it is not necessary, and it would be a waste of money to adopt it in this country. Packing choice dessert Apples and Pears tastefully in boxes holding one dozen or two dozen fruits is a very different matter. As for the suggestion that retailers should boycott all but a small number of varieties of Apples, it is, fortunately, impracticable. If such a boycott could be established and sustained, it would necessitate the grubbing-up of thousands of acres of fine trees not in the list of selected varieties.

Uniform Grading.

We do not want uniform grading of fruit in this country any more than we need the like grading of Wheat. We grow too many varieties of Wheat here for grading to be practicable, as is universally admitted, and to grade Apples by size alone, firsts being such as would not pass through a ring of specified size, and seconds such as would be classed by means of a ring of a smaller size, would be equally unsuitable to our circumstances. Here, again, the demand for a strict system is an imitation of American and Colonial methods, without regard to circumstances. When dealers have to buy large quantities of Wheat or fruit unseen they must have precise grades to guide them. But in this country Wheat is bought by sample and fruit by bulk on sight, so that strict grading is not necessary. It is undesirable, because an Apple of medium size, if free from blemish, is a much better "first" than a bigger but imperfect Apple. No excuse is made for the unfair packing known as "topping." My own practice is to pack equally all through, but not with such strict uniformity as the tedious use of rings would involve. Moreover, I have not found it profitable to be too strict as to size, for on many occasions lots of fruit, all good enough for exhibition have realized no more than other lots less carefully selected. This applies to cooking Apples particularly, as buyers as a rule will not go beyond a certain price, even when every Apple is a fine specimen. When selling by the pound, retailers find it a convenience to have a few Apples of less than full size to make exact weight. *Southern Grower.*

GAULTHERIA OPPOSITIFOLIA.*

Although nearly 60 years have passed since this beautiful evergreen was first described by Sir Joseph Hooker, it is still very rarely seen in gardens. We are indebted to Mr. T. Smith, of Newry, for the opportunity of illustrating the flowering spray shown in fig. 43. The species is found in mountainous situations in the northern island of New Zealand, and is only likely to be hardy in the milder parts of the British Isles, where it thrives in a soil and climate that suit the more tender Rhododendrons.

It is an evergreen shrub of dense, sturdy habit, found sometimes up to 8 feet high in its native habitat. From the other New Zealand Gaultherias it is distinct in having opposite leaves, which are sessile, heart-shaped, 1½ to 2½ inches long, concave, bluntly and sometimes doubly toothed. It may be added that, whilst the leaves are opposite on most of the shoots, they appear sometimes in whorls of three on the stronger, flowering growths. The flowers are white, urn-shaped, ⅙ inch long, very abundantly produced in a terminal panicle supplemented by axillary racemes, the whole forming a pyramidal inflorescence 3 to 4 inches long, and as much through. The fruit is a dry capsule.

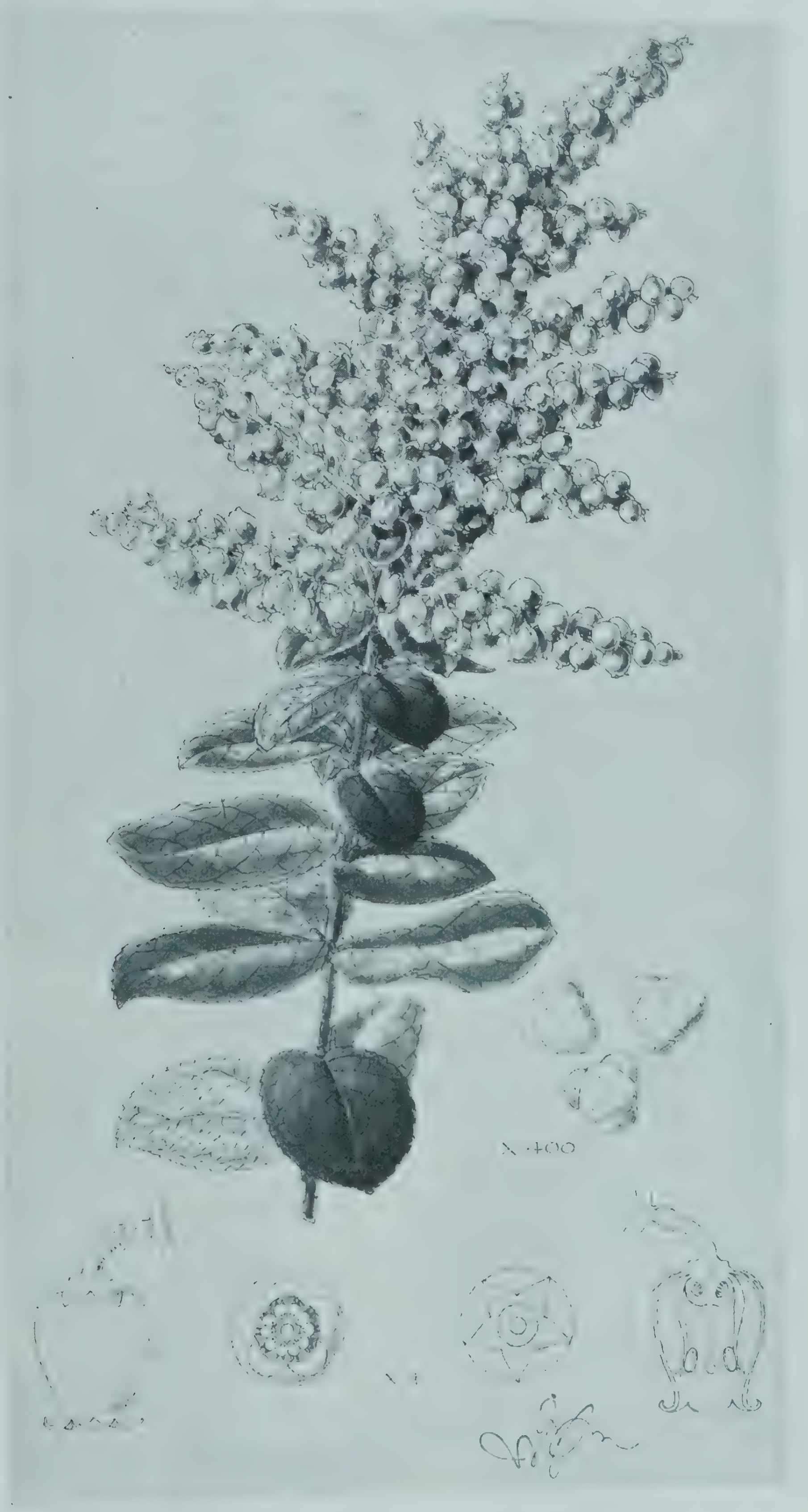

Fig. 43.—Gaultheria oppositifolia: flowers white.

RURAL DEPOPULATION AND ITS ARREST IN ENGLAND AND WALES.*

Although in England and Wales the tendency of the population of the rural districts to migrate into the towns or to emigrate abroad presented a serious problem during the latter part of the 19th century, the expression "rural depopulation" can only be applied to this movement in a relative sense. The population of the rural districts did not actually decrease, though it grew very slowly as compared with the urban population. Thus in 112 registration districts, which in 1901 were purely rural, there were 932,364 inhabitants in 1801, 1,324,528 in 1851, and 1,330,319 in 1901. Making a similar comparison for 105 of these districts which were still purely rural in 1911, we find that the population rose from 852,313 in 1801 to 1,212,548 in 1851, and 1,306,565 in 1911.

Meanwhile the population of England and Wales as a whole was growing with great rapidity, and, consequently, the proportion of the population living in towns was steadily becoming higher. In 1881 this proportion had already reached 67.9 per cent., and it rose to 72 per cent. in 1891, 77 per cent. in 1901, and 78 per cent. in 1911. It will be noticed that the increase in this proportion between 1901 and 1911 was only an additional 1 per cent., as compared with much larger increases in the two previous decades. It is apparent, therefore, that during the period 1901-11 the rate of increase in the rural districts can only have been slightly less than the rate of increase in the urban districts. The change which had taken place is, indeed, somewhat remarkable. Between 1891 and 1901 the population of the rural districts increased by 2.9 per cent., while the urban population increased by 15.2 per cent. Between 1901 and 1911 the rural population increased by 10.2 per cent., while the rate of increase of the urban population declined to 11.1 per cent. The rural depopulation had been arrested.

The significance of the foregoing facts is discussed in an article of which the first part appeared in the May issue of the *Bulletin of Economic and Social Intelligence*, published by the International Institute of Agriculture. The first part of the article endeavours to trace the causes of the slow growth of the rural population in the 19th century; the second part will discuss why the growth has been accelerated in the present century.

It was not on account of any diminution in the natural increase that the rural population grew so slowly, since the birth-rate is higher and the mortality lower in the country than in the towns. There was an actual exodus, a strong movement of population from the country to the towns or abroad.

The beginnings of this exodus are to be found in the "Enclosures" which took place in the 18th and early 19th century and completely revolutionised the agrarian system in England. Separate enclosed holdings were substituted for the old system of open fields divided into strips and common lands upon which all the villagers enjoyed rights of grazing cattle. The process was greatly accelerated by the introduction of improved agricultural methods—which could not have been successfully adopted on the scattered strips—and by the high prices which prevailed during the period of the Napoleonic wars. When lands were enclosed, many villagers were deprived of grazing rights of which they could not adduce legal proof, and others were obliged, for want of capital or tempted by the high price of land, to sell the holdings allotted to them. As a result, a large proportion of those who had previously had rights in the land became mere wage-earning labourers.

It was from this class that the rising industries of the towns drew their supply of labour, and though, as long as the prices of corn remained high, there was a large demand for agricultural labour, a movement towards the towns set in. When, at the close of the Napoleonic wars, the price of Corn fell, the industrial development became even more rapid. At the same time the demand for agricultural labour tended to decrease, since meat-production became more remunerative than Cereal-growing, and much land was laid down to grass.

It was not, however, until towards 1875 that the prices of Corn began to fall very seriously. About this time, owing to the development of the means of transport, the United States and other great Corn-producing countries began to send enormous quantities of Grain to England,

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* Hooker fil. in *Flora of New Zealand*, i, p. 162.

* Summarised from the *Bulletin of Economic and Social Intelligence*, published by the International Institute of Agriculture, 1912.

and prices rapidly dropped. The conversion of arable land into pasture became accelerated and, in the cultivation of Cereals, machinery or seasonal labour was largely substituted for the employment of regular labourers. Following upon foreign competition in Corn, came the importation of frozen or chilled meat, and an agricultural crisis resulted, in which much land went out of cultivation altogether.

The fluctuations in the fortunes of agriculture inevitably reacted on the rural population, but other causes were also at work to check its growth. Amongst these the article mentions the disappearance of manufactures from the rural districts owing to the centralisation of industry in the towns, and the decline of milling and other industries subsidiary to agriculture. The rise in wages tended to reduce the amount of labour which the farmers could profitably employ, while the spread of education and the general rise in the standard of living produced a discontent with rural conditions, which was aggravated by the dulness of rural life and the superior attractions of the towns. Yet another cause of the exodus has been a serious want of proper housing accommodation in the country districts.

FACTS AND FANCIES RESPECTING EARTH-WORMS.

MUCH attention has been paid to the study of the earth-worm during recent years. This is in part due to the interest aroused by Darwin's work on *Vegetable Mould*; in part also to the wonderful fillip which has of late been given to nature study. One of the old fancies which has given way before the march of science relates to the number of species. A few years ago it was popularly imagined that all earth-worms belonged to one species. This was called the earth-worm, the lob-worm or the dew-worm, and was entered by the learned in the up-to-date text-books as Lumbricus terrestris. It would surprise our grandfathers if they looked round our gardens today and heard us speaking, not of Lumbricus only, but of Allolobophora, of Octolasium also, and Eisenia, of Dendrobæna and Aporrectodea; while they would probably regard the statement that British earth-worms number no fewer than 40 species with open-eyed incredulity.

It is still popularly supposed by many people that, when a worm is found which has a swollen part near the mid-region, it is an indication that the creature has grown together after having been cut in two. We now know that this swelling is composed of special cells, and has as its function the secreting of a chitinous substance which forms the egg capsule or cocoon. We call it the girdle, or clitellum, and the position it occupies, the number of segments it covers, together with the presence or absence of tubercula on the ventral surface, are among the most reliable means of enabling the student to determine the genus and species. In each of our four species of Lumbricus, as well as in the genus Octolasium, the girdle always covers six segments, and has a band on each side ventrally.

Some of the most curious facts which have come under my notice relate to the variations and abnormalities to which worms are liable. The variations are frequently of value as suggesting how different species may have arisen; and it is curious to observe the stability of some of the species as contrasted with the instability of others. Some of our annelids are still in such an unstable condition that it is very difficult to draw up a satisfactory list of characters, while others, once seen, may be infallibly relied upon to turn up again true to type.

Sometimes one finds that the rings undergo fission. If the brandling—well known on account of its brown and yellow bands—is examined, it will be pretty sure to show one or more of the rings forking (fig. 47). I have found a specimen in which no fewer than four of the bands had the form of the letter Y. Equally liable to variation with the brandling is the green worm (Allolobophora chlorotica). In colour, shape, size, activity or sluggishness, and other particulars it is one of our most protean species. In addition to the more patent variations, there are others relating to the internal organs and the external tubercula on the girdle. Twenty years ago Woodward published some papers on the subject in the *Proceedings* of the Zoological Society of London, in one of which he gives the following list of species studied:—

Allolobophora longa Ude, 23 specimens: 17 normal, 6 abnormal. Allolobophora turgida Eisen, 13 specimens: 9 normal, 4 abnormal. Lumbricus terrestris Linn., 8 specimens: 6 normal, 2 abnormal. Lumbricus rubellus Hoffm., 4 specimens: 2 normal, 2 abnormal.

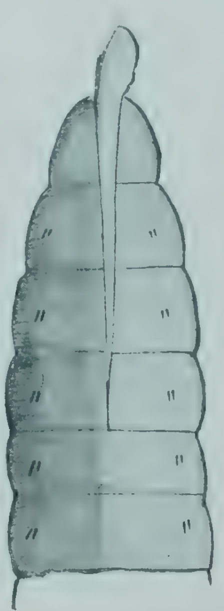


FIG. 44.—"HARE-LIP" IN ALLOLOBOPHORA CHLOROTICA.

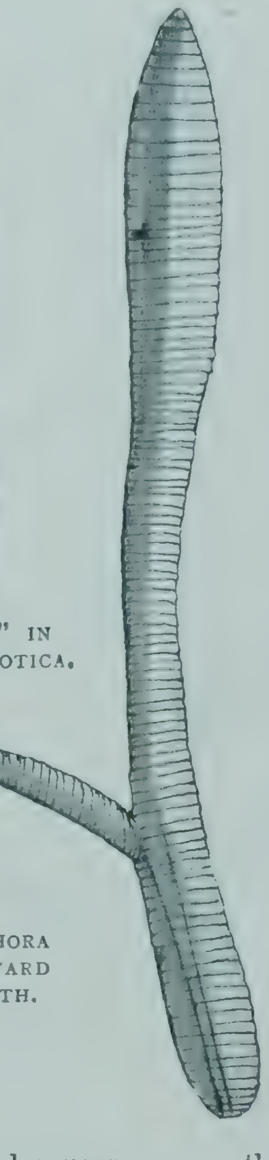


FIG. 45.—ALLOLOBOPHORA LONGA, WITH FORWARD POINTING OUT-GROWTH.

It is possible that some of the variations are induced by the action of parasites, of which a large number of different kinds are now known to infest all the various species of annelids.

Some years ago I discovered a specimen of the green worm which showed a peculiarity, whose character is best expressed possibly by the term "hare-lip" (see fig. 44). But perhaps the form of abnormality which most frequently occurs is that of the double-tail, or bifurcation. From the letters which I have received, the observations I have made, and the papers to which I have had access, I should say that one or other of these anomalous forms is not excessively rare. So long ago as 1779 Dr. Bonnet drew attention to such peculiarities, and from that time till this frequent allusions have been made thereto in English, Continental, and American literature. In 1888 Mr. Broom, of the Glasgow University, wrote an article on a *Monstrosity of the Common Earth-worm.* Like a good many other students in those times he confused Allolobophora longa with Lumbricus terrestris, but his details clearly indicate that it was not the latter. He alludes to a paper by Prof. Jeffrey Bell, relating to two specimens of earth-worms with bifid hinder ends, published in 1885, and a *Note on a Double Earth-worm*, by Mr. C. Robertson, which appeared in 1867, together with other similar notices.

But perhaps the most exhaustive account of bifurcated annelids that has ever been published is that by Mr. E. A. Andrews, which appeared in 1892 in the *American Naturalist.* His list of authors, which is far from complete, contains 15 items, and since that time the list has been greatly extended. The illustrations which accompany the article show twin heads as well as forked tails, and further illustrate the fact that the abnormalities are to be found among water-worms as well as among earth-worms, and among marine polychæts as well as terrestrial oligochæts. Broom and Andrews both attempt an explanation of the phenomena, but many points still remain obscure, and it is much to be hoped that our readers who may have the good fortune to find peculiar specimens will forward them to some expert for record, examination, and preservation. The bifurcations assume various forms, suggesting that the causes which underlie their formation are also various. Sometimes both tails point backwards (fig. 46); at other times one has the appearance of a forward-pointing branch (fig. 45). Most usually the two ends are of similar length, but occasionally they are not paired. This may be best understood by means of the illustrations.

Up till the present I have never met with a case in which the abnormal worm has reached maturity, which is determined by the presence of a girdle. This would seem to suggest that twin forms are not the best for success in life. It is easy to see that in most cases the double tail would be a serious handicap, and expose the animal to unusual perils. Hence we may assume that only a small percentage of abnormal forms come under the observation of gardeners and others, since their span of existence is usually much shortened.

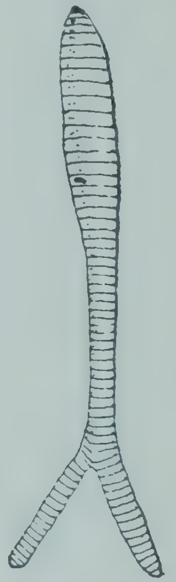


FIG. 46.—BIFURCATED ANNELID.

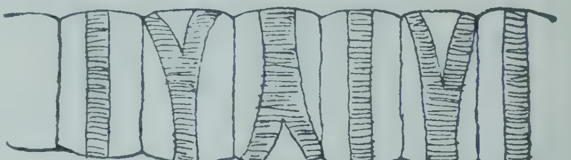


FIG. 47.—BIFURCATED BANDS IN BRANDLING.

As I have indicated, the subject is not without its value to the physiologist and others, and I will again express the hope that those whose attention is arrested by the sight of unusual forms will help us to make the study complete. It would be well to place specimens direct into wide-mouth bottles with strong methylated spirits, or a five per cent. solution of formalin. *Hilderic Friend.*

TREES AND SHRUBS.

XANTHOCERAS SORBIFOLIA.

An exceptionally fine specimen of this tree, 22 feet in height with a bole of 16½ inches in circumference, may be seen in the Cambridge Botanic Garden on a wall of the Curator's house. It is, perhaps, the tallest specimen to be seen anywhere. Mr. Meyer, who has had a wide experience in plant collecting in Mongolia and Northern China, was greatly surprised at the height of this specimen, and told me that in its native country, namely, Mongolia, although it is often seen with a larger bole than the Cambridge specimen, it never becomes anything more than a stunted tree. When grown in the open ground in this country it generally forms a bush.

It is a valuable spring-flowering shrub, besides being a very handsome foliage plant throughout the summer. In April it produces a profusion of lateral racemes 8-10 inches long. The flowers are white, 1 inch in diameter, and the petals have a reddish tinge at the base. The leaves are of a fresh green colour, 12 inches long, opposite, pinnate, and the leaflets deeply serrated.

The species was first discovered by Dr. Bunge about 1827. It was not, however, until 1867 that the plant was introduced, when Abbé David sent plants to the Jardin des Plantes, Paris. In its native habitat it is found growing with Koelreuteria paniculata.

On account of its hardiness and free-flowering properties it is a very valuable plant for forcing. Small, sturdy plants 2-3 feet high may be lifted from the open ground in the autumn, potted up, and brought into the forcing house, and will be found very useful for decorative purposes during the early months of the following year.

Propagation may be effected by means of root cuttings or by seeds; the latter, however, are very scarce in this country. Stem cuttings are seldom successful.

Xanthoceras sorbifolia apparently is no more particular about soil than a Wistaria. The specimen at Cambridge flourishes with its roots beneath a gravel path. *R. Stewart Lynch.*

ABUTILON VITIFOLIUM.

There is something especially attractive about this handsome Abutilon (see fig. in *Gard. Chron.*, Sept. 29, 1894, p. 373), with its elegant habit of growth and the graceful manner in which its lovely lavender or lilac-coloured flowers depend from the branches. It is of doubtful hardiness in many places, and even in the south of Scotland it can only be planted in favoured districts and specially-selected positions. There is a well-grown specimen of great beauty in the gardens of Sir D. Carrick-Buchanan, at Corsewall, Stranraer, where many reputedly tender shrubs and trees grow to perfection. When in bloom it was very beautiful with its profusion of softly-coloured flowers. Personally, I prefer the type to the variety with white flowers, and, though I have failed to establish it in my own garden, which is not so favourably situated as Corsewall, I was delighted to see it flourishing so well there.

DESFONTAINIA SPINOSA.

The congenial character of the climate of a considerable part of the west of Scotland is particularly evident in the south-west, especially along the coast line, and in Wigtownshire there are many gardens which reveal this mildness of climate very strongly. For example, in the gardens of Corsewall House there are some fine plants of Desfontainia spinosa. The plant flowers

THE ROSARY.

ROSE LADY WATERLOW.

Lady Waterlow, while one of the most beautiful, is also quite one of the most distinct of the perpetual-flowering climbing Roses. It is an H.T., said to have been raised as a seedling from La France de '89.

The foliage is a light shade of green, as also are the young stems; hardy, most attractive and unlike that of any other Rose. The buds are specially beautiful, of a very striking colour, which may perhaps be described as a brilliant mixture of orange and cherry colour; this changes entirely as the flowers open to a soft salmon blush edged and tinted with carmine. The flowers look very fresh, but are best before they are fully open, as they are only semi-double and when fully expanded are rather wanting in form.

It is one of the earliest of garden Roses, the first crop of bloom appearing usually about the last week in May and lasting till the third week in June. The second crop comes into flower in the middle of July, and a third crop of flowers is produced early in September. Its normal periods of flowering just miss the usual dates of Rose shows, and consequently it is seldom seen, but this year has proved to be an exception to the general rule. My first crop of flowers began to appear on May 11 and the second crop the end of the first week in July. In consequence of the early season the flowers became available for the July shows, and so I was able to notice a good many fine bunches of this beautiful Rose in the decorative classes.

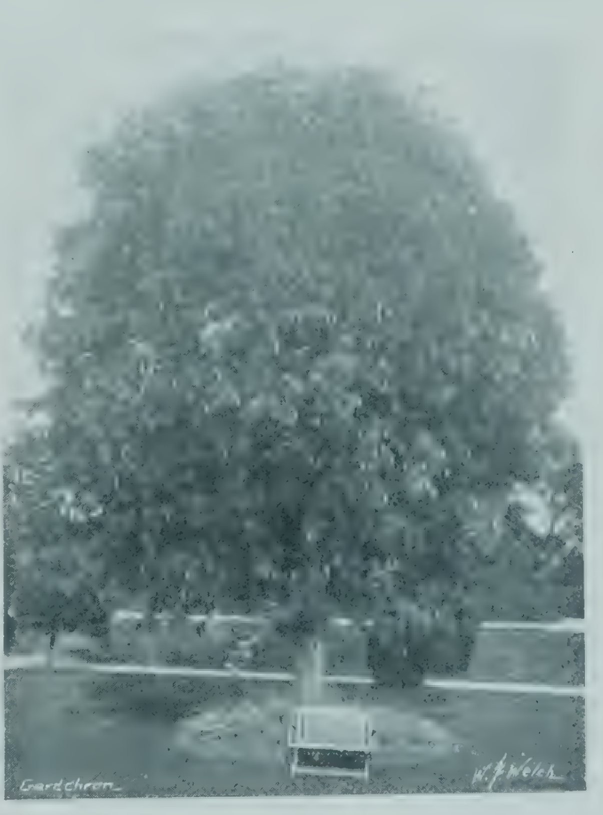


Fig. 48.—EUCALYPTUS GLOBULUS AT TORQUAY. (Height 32½ feet.)

Lady Waterlow was distributed by Nabonnand as long ago as 1903, but has not become nearly so well known as it deserves. No doubt this is in part owing to its period of flowering, which is adverse to its being often seen by the public who frequent Rose shows, and partly to the fact that it never looks its best in a bunch. I think, in order to appreciate it at the exhibition one must have the memory of the charming combination of flower and foliage to be found upon the plant. Be this as it may, it certainly deserves a good place in the garden were it only for its freedom from diseases and pests. A French writer recently stated that it is happy in the sun and does not fear the shade, and, while quite exempt from disease, "whether white or red," its foliage is the first to come and the last to fall, and that even insects do not trouble it and neither aphis nor caterpillar will touch either leaf or flower. So far as my author goes I am with him, for I have never found Lady Waterlow to suffer much from mildew or rust, and though I should not like to speak positively about the caterpillars I certainly have noticed it is wonderfully free from aphis. But though proof against white or red disease, I must regretfully admit that it is not incapable of attack from the black one. Black spot is one of the worst and most infectious diseases that trouble the rosarian, and I have occasionally found it even on the variety Lady Waterlow.

On their recent visit to this country, some of our American friends told us the ravages of this fell disease were so great in their country that they had been driven to growing their Roses principally under glass. The English rosarian should take warning and lose no opportunity of combating this insidious and disfiguring enemy.

But though not immune, Lady Waterlow is not badly subject even to this disease, while its record in other respects is almost unique. Beside this it is wonderfully hardy. My French friend mentions that he grows 30 trees of this Rose in a garden fully exposed to the north, and has never lost a plant. It is equally hardy in this country, and I have never found any of my plants the least troubled by the harder winters. Then it is not at all particular as to soil. I have it growing excellently in a fairly rich south border against a low wall, and in an abnormally dry and poor soil against a west fence a young plant is making fair growth and holding its own among the roots of fruit trees, and, again, it will do well on an open pillar. I think it is best, however, where it can be managed, if the plant is trained more or less fan-wise. By this method the wood is better ripened and more flowers are produced from the joints than is the case when it is tied to a stake. But this is of comparatively little importance: it matters less where you grow it than whether you grow it, for it is very fairly accommodating.

In common with nearly all Roses of this soft pink colouring, Lady Waterlow is somewhat readily spoilt by rain. But it never balls, its thin flower prevents this, nor are the buds much damaged, and if the injured flowers are cut off the numerous buds soon supply their places, and curiously enough it is the early and late flowers which are best, not the summer flowers, when fine weather is most to be expected.

It may be thought strange that a Rose with the good qualities and beauty I have referred to should have found no place in the Nickerson awards, but it is to be remembered that from the conditions in which these were determined they necessarily went to well-known Roses which have proved their value beyond dispute, and that is perhaps not the case with Lady Waterlow.

To sum up, the strong points of this Rose are its fine and attractive foliage and the beautiful colouring of bud and flower, specially lovely when contrasted with their own foliage; and its hardiness and freedom from pests and diseases. The weak ones lie in the want of form in the expanded flower and its liability to damage by rain. *White Rose.*

EUCALYPTUS GLOBULUS IN THE OPEN.

The large specimen of Eucalyptus Globulus illustrated in fig. 48 is growing in the gardens at Manor House, Torquay, the residence of Sir Francis Layland Barratt. We are indebted to Mr. George Paul for the opportunity of figuring the plant, also for the following particulars:—"The circumference of the trunk at 2 feet from the ground is 4 feet 6 inches; the height is 32 feet 6 inches, and the diameter of the head 25 feet 6 inches. The tree would grow much higher if the top branches were not broken periodically by the wind, as the situation is an exposed one. I understand that the tree was planted more than 25 years ago."

THE FORESTS OF PROVENCE.

(Continued from p. 90.)

Quercus suber, the Cork Oak, not only occurs as isolated trees among the maritime Pines, but also forms pure woods which are regularly exploited for their bark, and the preparation of bottle corks and sheet cork forms the staple industry of such towns as Collobrières, Grimaud, and La Garde Freinet in the Maures. I have seen no Cork Oak tree either in the Maures or the Esterel which was not exploited for its bark. The Cork Oak is apparently strictly confined to the siliceous tracts.

Just as "garigue" corresponds with Aleppo Pine-woods, so does "mâquis" (in which Erica arborea is frequently dominant, but which is often a mixed association of many shrubs) correspond with the woods of maritime Pine and Cork Oak. On some of the drier hillsides the "mâquis," like the "garigue," does not form a close scrub, but has its constituent bushes growing separately with bare soil or rock between. Where the soil conditions are better, however, the scrub is often thick, though never so high and luxuriant on the coast of Provence as it is said to be in Corsica and other Mediterranean islands. Calluna vulgaris is quite abundant in the mâquis and the more open woods in many places.

Pinus maritima is not confined to siliceous soils in Provence, though it is often stated to be one of the most pronounced of "calcifuges," and Fliche and Grandeau confirmed by experiment the antagonism of the tree to calcareous soils. Nevertheless, in eastern Provence at a certain height above the sea, near the altitudinal limit of P halepensis, on limestone soils giving a strong calcareous reaction, P. maritima flourishes in considerable numbers, forming woods sometimes pure, sometimes mixed with P. halepensis. This fact has been observed repeatedly, though what its significance may be I am unable to suggest.

I do not know if hybrids between the two closely-allied Pines, P. maritima and P. halepensis, have been recorded. I have repeatedly examined the trees where the two species grow together, e.g., on the siliceous soil of the island of Porquerolles off Hyères, and on the limestone hills just mentioned, but apart from one or two obscure cases I have been unable to find any trees with a clear mixture of characters. It is true that P. halepensis flowers earlier than P. maritima : thus near the coast the former flowers in the middle of March, and by the end of the month this year (1912) the male cones were dry and shrivelled, while in similar situations on siliceous soil the cones of P. maritima were not yet ripe. At the end of the first week in April, however, at six or seven miles from the coast and at an altitude of 300 to 400 metres, where the two species were growing together near Vence, the male cones of P. halepensis had not lost all their pollen, while those of P. maritima had just dehisced; and at 500 metres altitude, 15 miles from the coast, the pollen of the former species was still being distributed, and the male cones of the latter, though not open, were evidently on the point of opening, while the female cones were apparently receptive. Hence we may conclude that in these latter habitats at least there is a certain overlap in the period of flowering, and it would indeed be strange if two such closely-allied species did not cross.

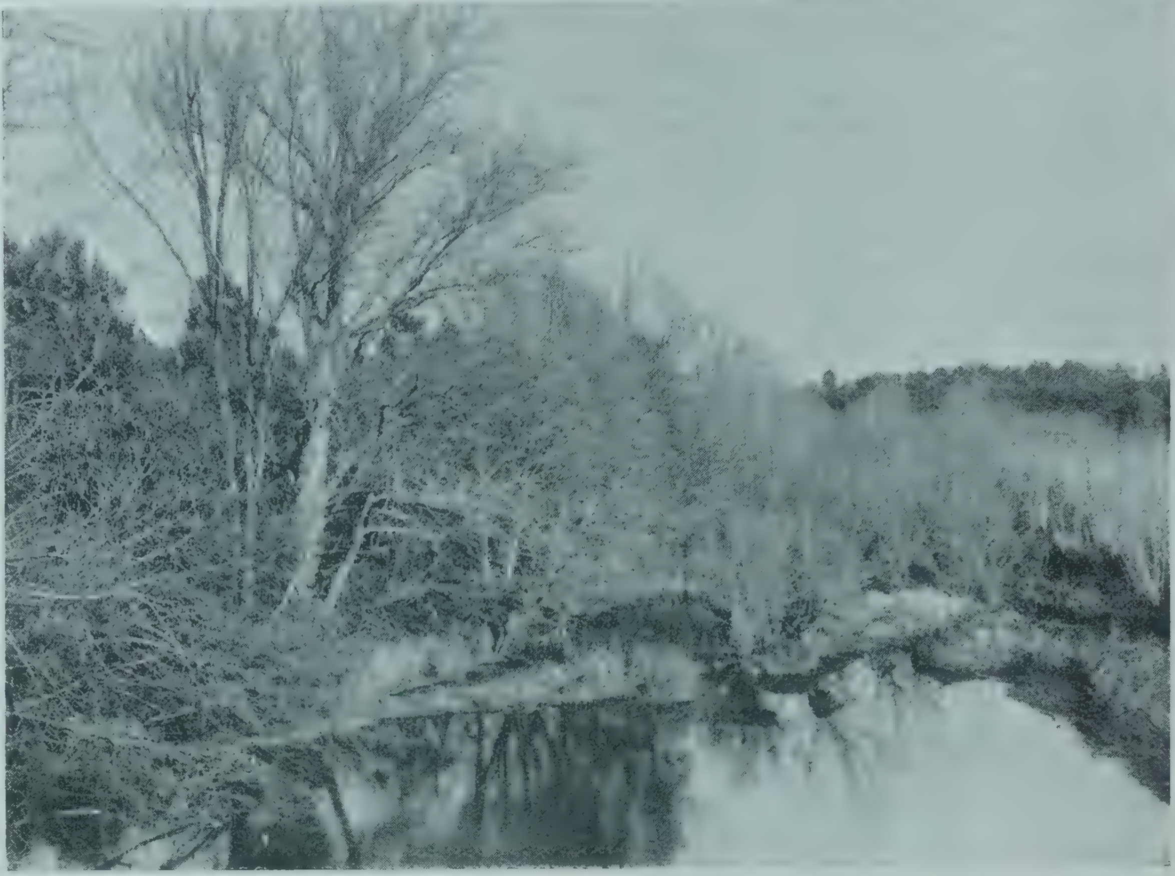


Fig. 50.—THE FORESTS OF PROVENCE.
Deciduous trees (Alders, Willows, &c.) along the banks of the Aille, with Pine wood on each side on the dry ground.

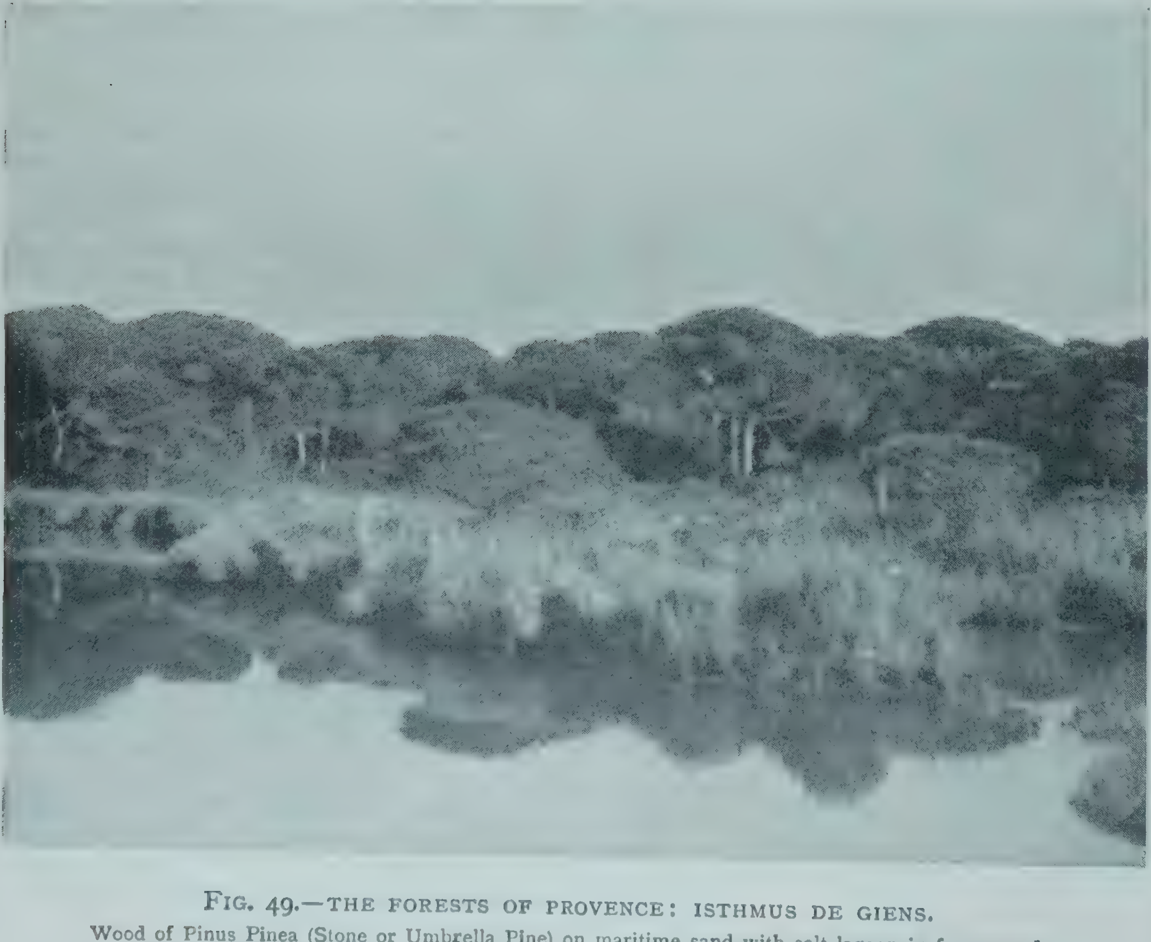


Fig. 49.—THE FORESTS OF PROVENCE: ISTHMUS DE GIENS.
Wood of Pinus Pinea (Stone or Umbrella Pine) on maritime sand with salt lagoon in foreground.

The third species of Pine which occurs wild on the coast of Provence is P. Pinea, the Stone or Umbrella Pine. This forms very characteristic woods (fig. 49) on the littoral sands at several places, e.g., at La Bocca and La Napoule west of Cannes, at La Foux (near St. Tropez) on the coast of the Maures, and at La Plage d'Hyères and on the neighbouring isthmus leading to the peninsula of Giens. The umbrella-shaped tops of these Pines cast a very dense shade, and little or nothing will grow beneath them. Both the other species, P. halepensis and P. maritima, also occur on the sands, often accompanied (e.g., on the Giens isthmus) by a luxuriant growth of the "mâquis" or "garigue" shrubs, e.g., Pistacia Lentiscus and Juniperus phœnicea, reaching a height of five metres, Spartium junceum, three metres, and so on. No doubt the maritime sands have some peculiar features in their vegetation, but I have only examined them in winter when the plants which perennate underground were not visible, and at that time the vegetation, with the exception of the conspicuous woods of Stone Pine, is much like that of the coastal hills. Pinus Pinea is not quite confined in Provence to the coastal sands. I have seen it apparently wild (at least in situations where it is unlikely to have been planted) on shales several miles inland, near Les Arcs and Le Muy in the valley of the Argens.

The banks of the rivers near the coast show a most striking difference in their vegetation from the coastal hills. Instead of forests of Pine and evergreen Oaks with evergreen shrubs they are lined with deciduous trees—Poplars, Willows, Elm, Ash, and Alder, just as in central and north-western Europe (see fig. 50).

If one ascends a hill 800 metres high a few miles only from the coast, the vegetation undergoes a certain change as the summit is approached. Some of the common Mediterranean shrubs become scarce and disappear, and alongside of those which persist other species appear. Thus while Juniperus oxycedrus remains, J. communis comes in. Rosemary and Cistus albidus remain, while C. salvifolius and C. monspeliensis disappear. Lavandula Stoëchas goes and is replaced by L. spica; and Genista cinerea and Cratægus appear. Thus a distinctly modified garigue in which northern types are represented is established. The appearance of Pinus maritima mixed with P. halepensis has already been mentioned. Sometimes, on the northern slopes, isolated trees of P. sylvestris occur, and it is rare for P. halepensis to co-exist with the northern species, though such co-existence does occur. The appearance of the former is usually the signal, so to speak, for the departure of the latter.

On such a hill, then, we have distinct indications of a zonation in many respects parallel to that which is developed on a large scale further inland as the general level of the country rises.

2.—The Deciduous Woods of the "Montane" Region.

Quercus pubescens, which has already been mentioned as an occasional tree of the typical Mediterranean forests, acquires a much greater vegetational importance as we pass inland. The low hills (circa 350 m.) to the south of Vence, about five miles from the sea, have this species freely mixed with Pinus halepensis, and in places pure woods of it are met with. The undergrowth is still purely Mediterranean. On northern slopes the Pine disappears, and mixed with the Oaks we have Ostrya carpinifolia in considerable quantity. Quercus Ilex is also associated in such situations. The same vegetation is met with on the sides of narrow ravines running north and south, such as the famous Gorge du Loup, Ostrya occupying the sites most protected from the sun. Further inland still and at higher altitudes Pinus halepensis disappears altogether, even on slopes with full south exposure, though it penetrates for some distance further along the sunny slopes of the larger valleys, such as that of the Var. Quercus pubescens is now the dominant tree, forming woods on the plateaux at 1,000 metres altitude, 10 miles from the coast. The true Mediterranean flora has practically disappeared, and the evergreen bushes are replaced by deciduous shrubs, such as Corylus Avellana, Prunus spinosa, Cratægus, Viburnum Lantana, Rosa and Rubus spp., with Lavandula spica, Helleborus fœtidus, Mercurialis perennis, Anemone hepatica, Primula veris, Potentilla verna, and Viola odorata on the ground.

On northern slopes at this level Beech is met with, and accompanying it Holly and Box, the latter being extremely abundant from this point northwards. The Beech forms local woods on these northern slopes, replacing Quercus pubescens, but its finest development belongs to a slightly higher zone, where on very steep northern slopes protected from the south by precipitous rocks it replaces Pinus sylvestris, as in the famous forest of Ste. Baume, not far from Marseilles. When denuded of timber a very characteristic plant association, a kind of modified garigue, occupies the rocky hillsides for many square miles. Ninety-nine per cent. of the low, shrubby vegetation, consisting of isolated bushes with bare rock between and rarely exceeding 2 or 3 feet in height, is composed of three plants, Buxus sempervirens, Lavandula spica, and Genista cinerea (fig. 51). *A. G. Tansley.*

(To be concluded.)

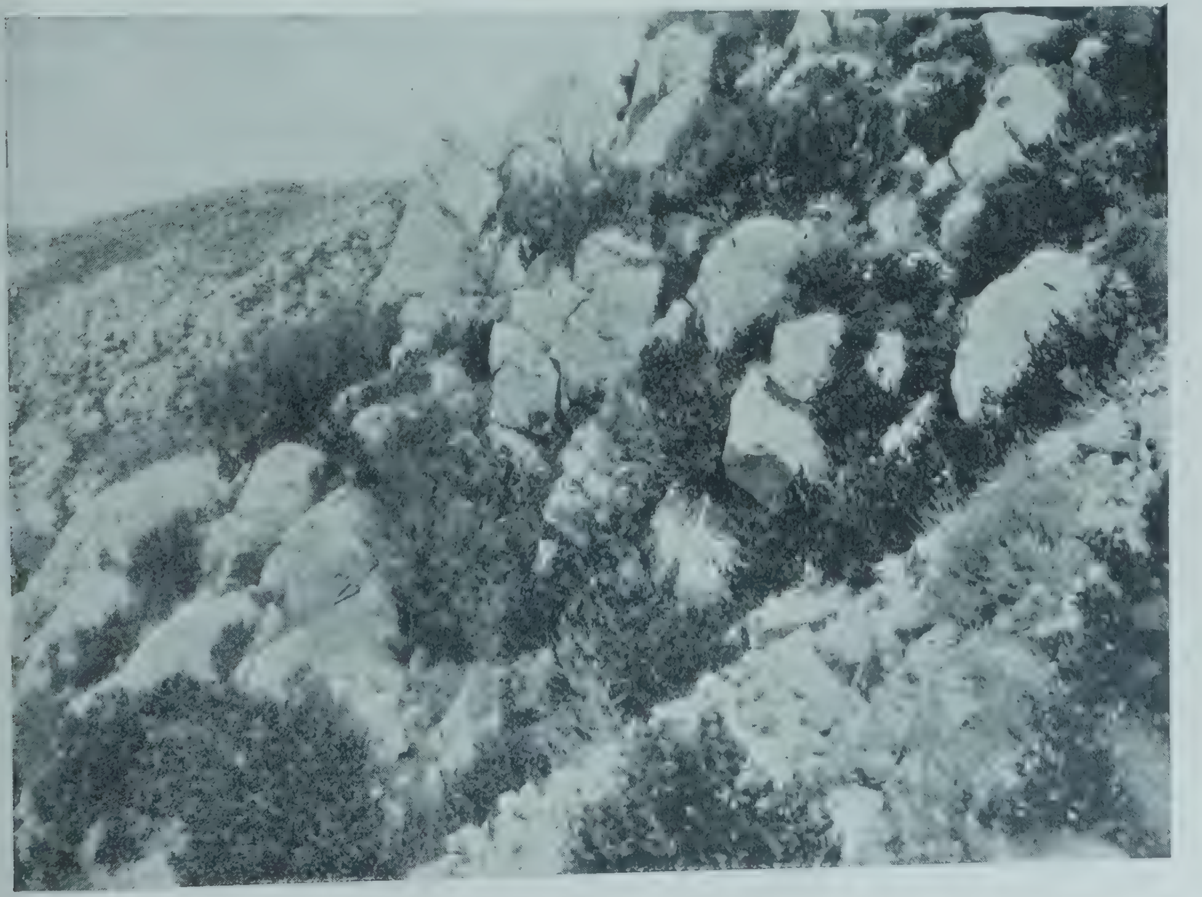


Fig. 51.—THE FORESTS OF PROVENCE.

Garigue of Box, Lavender, and Genista cinerea at 1,370 m. (South slope of Montagne de Cheiron.,

NOTES FROM LEONARDSLEE.

Amongst rare and uncommon plants in flower at Leonardslee Gardens, Horsham, Sussex, is Osteomeles anthyllidifolia. This interesting Chinese evergreen grows from 6 to 10 feet high, and bears graceful, pinnate foliage and white flowers, resembling those of the Hawthorn, but with a pink eye. The flowers are succeeded by berries, which turn a hoary-black colour when ripe. Philadelphus purpureo-maculatus, a cross between P. Fantaisie and P. Coulteri, has large, pure-white flowers with rosy-purple centres, being altogether a very distinct and pretty shrub.

Cornus Kousa is bearing a mass of its lovely white, four-petalled flowers. A tree in the neighbouring garden at South Lodge, from 15 to 18 feet in height, is a beautiful sight.

Cornus florida rubra has been extremely beautiful this season, and, when gently shaken by the wind, the blooms look like so many pink butterflies. Several trees have bloomed finely in these gardens this season.

Chionanthus virginica, the North American Fringe Tree, is very pretty with its long, pendant clusters of pure-white flowers. The plant requires partial shade. Styrax Obassia is one of the finest flowering trees of Japan. It forms a tree of roundish shape from 10 to 15 feet high, and bears waxy-white Snowdrop-like flowers in long, dropping racemes. The blossoms are very fragrant and freely-produced, being set off by the large, lustrous-green leaves 6 to 8 inches across. It forms a beautiful shrub or tree for the background of a large border, and is apparently quite hardy; it does well planted in loamy soil. Styrax japonica is a dazzling mass of bloom; one specimen, 15 to 18 feet high, has many thousands of flowers, like pendant Snowdrops. The plant flowers when quite young.

Fremontia californica, against a wall, is flowering profusely nearly 20 feet high. The bright yellow, wax-like flowers are cup-shaped, being 2 to 3 inches across. The shrub remains in bloom for a long time.

Plants of Viburnum tomentosum Mariesii have been very full of bloom. The branches grow horizontally, and the flowers vertically, so that a flowering specimen may be likened to a table of flowers. A plant of Crinodendron Hookeri growing in an exposed position is covered with its brilliant coral-red, wax-like flowers. It is planted on a fairly high and well-drained situation. The plant requires plenty of water at the roots, but resents a stagnant soil. Carmichælia flagelliformis is covered with its pretty, small, Pea-shaped flowers. The beautiful Plagianthus Lyallii forms a fine ornamental plant; the flowers are white and 2 inches across, with a tuft of golden stamens. The rare Californian shrub Dendromecon rigidus has bright, glaucous foliage and yellow, Poppy-like flowers. It does best when planted in poor loam against a south wall. Olearia Gunniana has been splendid, and O. macrodonta and O. myrsinoides are wonderfully well flowered. O. nitida has flowered profusely, whilst O. insignis, which requires a warm and sheltered position, is just opening its flowers. We have also O. Forsteri, O. purpuracea, O. Haastii, O. nummularifolia, O. stellulata, O. moschata, O. odorata, O. dentata, O. illicifolia, O. pannosa, O. argophylla, O. Traversii, and O. oleifolia. A tree of Stuartia grandifolia nearly 30 feet high is just opening myriads of large, waxy-white flowers.

Ozothamnus thyrsoides has flowered so abundantly as to hide the graceful, narrow foliage. The species is perfectly hardy, and can be propagated easily from cuttings. The New Zealand Celmisias, C. Munroi, C. holosericea, C. spectabilis, C. Mackayi, and C. hieracifolia, have survived two winters and flowered very well. The large, Daisy-like flowers are very attractive in suitable positions in the Alpine garden. The extreme dampness of our climate will, I think, prove harmful to the plants.

Hudsonia ericoides is flowering freely in the Alpine garden. The plant has a partial trailing habit, and produces pretty yellow flowers.

Hypericum fragilis is a very free-flowering species, but not too robust. H. Coris grows about 18 inches high and produces myriads of small, golden-yellow flowers. H. Moserianum, H. Henryi, and H. cernuum are other desirable St. John's Worts. Fabiana imbricata, a Chilian evergreen, Heath-like shrub, produces large, waxy-white, tubular flowers which are developed in clusters on every shoot. Specimens at Leonardslee, from 6 inches to 6 feet high, are all bearing flowers. *W. A. Cook, Leonardslee Gardens.*

The Week's Work.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote,
Eastwell Park, Kent.

Campanula pyramidalis. — Although the chimney Campanula is largely grown in pots for conservatory decoration, this old-fashioned biennial is also a valuable plant for the flower-borders. It is quite hardy, and will succeed in any good garden soil; but if a little rich loam is added to the soil at planting time the plants will grow more luxuriantly. Seedling plants of Campanula pyramidalis exhibit slightly different shades of blue, and have a long flowering season. C. pyramidalis alba is also a desirable border plant, and may well be grown in association with the blue varieties. There is a dwarfer form known as C. pyramidalis compacta; this variety is useful for placing at the front of borders, and in other situations where the taller varieties would be inappropriate. The flower-spikes should be secured to slender but firm stakes, or they will be in danger of being snapped off at the base during stormy weather. As they have no decorative value during the first year, it is advisable to grow the seedlings in the reserve garden where they should be encouraged to make strong plants for placing in the permanent positions in the autumn. Keep the ground clean, and occasionally dust the plants with soot during showery weather.

Monarda didyma (Bergamot). — This favourite plant is now very ornamental in the hardy flower border. A few good clumps add a warm note of colour, in deep contrast to the many plants with yellow or white flowers which often predominate at this season. The improved variety "Cambridge Scarlet" has larger heads of deeper-coloured flowers than those of the type. On cold and wet soils the Bergamot has sometimes a tendency to die during the winter. In such situations a reserve stock should be lifted in the autumn, planted in boxes, and placed in a cold frame during inclement weather. In the spring this reserve stock of plants should be divided into small pieces and replanted in the borders. Advantage should be taken of this opportunity to add some rich soil before planting, as the Bergamot readily responds to generous treatment.

Gladiolus.—The flower-spikes of Gladiolus should be secured to suitable stakes without delay. Hoe the ground at frequent intervals, and, if very dry weather is experienced, apply copious waterings whilst the spikes are still developing, drier conditions being desirable when the flowers are actually open. Let the watering be followed by a mulch of some light material to conserve the moisture in the soil. Good varieties to name are procurable at reasonable prices, and when these are arranged in groups towards the front of the mixed borders they have a very fine effect.

Hollyhocks.—For some years the cultivation of the Hollyhock was next to impossible owing to the rust fungus "Puccinia malvacearum," which seemed chiefly to attack the old stools. In many gardens it is now found that, by growing fresh stock each season, the plants are not so badly affected by the disease. Though fairly good results can be obtained by sowing early in spring, stronger plants are obtained for early planting by sowing in August or September. The seed should be sown in pans of light soil, and placed in a cool, shady frame till germination has taken place. Prick out the seedlings in boxes and grow them quite hardy; as soon as the plants are large enough pot them into 5 or 6-inch sized pots, so as to obtain strong plants for planting early in April of next year.

The Water Garden.—Frequent attention should be given to Nymphæas and other water plants, removing all decaying leaves and flowers at frequent intervals. Where strong-growing plants, such as the sweet flag, Acorus calamus, and Cyperus longus, are associated with

plants do not suffer from encroachment. Where space permits Arundo conspicua should be planted by the waterside, as this plant gives a fine effect long before the Pampas grass comes into flower.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme,
Warter Priory, Yorkshire.

Summer Pruning.—The work of summer pruning should be completed as soon as possible after this date, so that sun and light may have free access to all parts of the trees. If the directions given in previous articles have been carried out, little now remains to be done with the exception of removing any superfluous shoots which were overlooked at the time of pruning. Some of the trees will be found to be throwing out one or two extra strong extension shoots, and as these absorb a great deal of the sap they should be pinched back to above the sixth leaf, which will cause a more general diffusion of the sap and a proportionate extension of the trees: for if these grosser shoots are left to grow they destroy the balance of the tree. Cleanliness being essential to the health of the plants, thoroughly wash the trees with water from the hose at short intervals to rid them of insects.

Peaches and Nectarines.—It is necessary to frequently look over these trees and keep the lateral shoots persistently pinched in at the first leaf. The fruits should be fully exposed to the light and air by removing a few of the leaves covering them, or by fastening them back. Trees that are carrying heavy crops should be assisted occasionally with either liquid manure or applications of an approved artificial manure at short intervals after the fruits have been gathered, the best time to apply these stimulants being just before rain is expected. Carefully tie in all growths that are required for fruiting next season, and remove any other shoots that have been overlooked, in order to avoid overcrowding. The trees should be syringed every afternoon about 4 or 5 o'clock with soft water, and occasionally with an insecticide, to keep them free from the attacks of red spider, until the fruits have changed colour. The earliest varieties of Peaches require to be thinned freely in order to obtain good-sized fruits. In gathering the fruits these must be most carefully handled or they will suffer from bruising.

General Work. — The recent unsettled weather has been against the gathering of ripe fruits for preserving, and it is necessary that the fruit should be gathered for this purpose when dry. Extra help is needed when the weather is favourable, so that the fruit may be gathered quickly. All ripe and ripening fruits should be adequately protected from birds. A good washing with some approved insecticide should be afforded to sweet Cherries and other trees from which the fruit has been gathered, using an approved insecticide to destroy insects. Weeds have been very numerous this season, and much labour has been expended on hoeing to keep them in check. Examine all trees affected with American blight, and dress them as recommended in the calendar for July 27. It will be well to guard against earwigs on Apricot trees, as they are very destructive to ripening fruits. They may be trapped by means of pots and boxes filled with hay, examining the traps each morning to destroy the insects lodged in them.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge
House, Wantage, Berkshire.

Early Muscat Grapes. — When most of the Muscat Grapes have been consumed, the remaining bunches should be cut with a portion of the shoot and placed in bottles in a cool room, where they will keep in good condition quite as long as if left on the vines. The house can then be thrown wide open and the foliage subjected to vigorous syringing. If the leaves are affected with red spider or thrip, no effort should be spared to destroy these pests, it being important that the vines should retain their foliage as long as possible. Give the roots a good soaking with clear water, and follow this

Late Muscat Grapes.—During cold, wet weather the hot-water pipes must be kept fairly warm to encourage a buoyant atmosphere. The weather during the past month has been very unfavourable for late Muscat Grapes, and should it continue for any length of time, every means must be adopted to encourage the bunches to finish well by the end of September. Where the foliage is so dense as to exclude light from the bunches, it must be drawn aside so that they may be partially exposed to the sun's rays. All lateral growths must be removed before they become too large. Do not distribute excessive quantities of water in the house during sunless weather, nor open the ventilators without exercising extreme care. When the roots are in need of water, let this be afforded on a warm, sunny day, when the ventilators can be thrown wide open. Outside borders should receive some protection during heavy and continuous rains, especially if the natural soil is heavy and retentive.

Other Late Grapes.—There is not much difficulty in ripening such varieties as Black Alicante, Appley Towers, or Gros Maroc, but Lady Downe's Seedling, Gros Colmar, and Lady Hutt need a longer season in which to ripen their fruit. I have found Lady Hutt far more difficult to finish than Muscat of Alexandria, and it requires to be perfectly ripe in order to be capable of keeping over a long period; indeed, I have never known it to keep longer than the Muscat. It is inferior in every way, and cannot be recommended as a late, white Grape. Lady Downe's and Gros Colmar should be grown in houses by themselves. Gros Colmar will continue to ripen its bunches right up to the end of the year. Any outside borders should be covered, as recommended for Muscats.

The Orchard House.—Place the pot-trees out of doors in a sunny situation when the fruits have been gathered. Plunge the pots in ashes, to prevent damage by rough winds and to keep the roots cool and moist. All lateral growths may be shortened, and where the branches are becoming too thick they should be thinned, so that the young fruiting wood may get thoroughly ripened by proper exposure to the sunshine and air. During hot weather the trees must be syringed frequently, and the roots will need plenty of moisture; diluted liquid manure may be afforded about twice a week. Later trees on which the fruits are swelling will require an abundance of moisture at the roots. Stimulants also must be given frequently till the fruits are actually ripening; at this latter period encourage a free circulation of air in the house, discontinue syringing, and keep the atmosphere somewhat drier. During cold, wet weather, the hot water-pipes may be slightly heated to encourage a more buoyant atmosphere. Young trees which were potted up as maiden trees last season may be given weak stimulants now that the pots are filled with roots. These young trees may be expected to carry moderate crops of fruits next year.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs,
Aldenham House, Hertfordshire.

Cucumbers.—Seeds of Cucumber should be sown within the next ten days for raising plants to fruit in late autumn and winter. Sow the seeds singly in small pots, and place the pots in a hot house. For winter fruiting a free bearing variety that produces fruits of only moderate length should be chosen. After the young plants are once above the soil, every means should be taken to induce them to form a robust, sturdy habit of growth before they are planted in their final quarters. Immediately the pots have become full of roots, repot the plants into 6-inch pots, which should be well drained. Use a moderately light compost. Let the plants be afforded considerable heat, elevating them as near the glass as possible. They should be ready for planting out on well-prepared beds during the first half of September. Plants in full bearing should receive frequent surface dressings, and the young growths should be thinned and regulated frequently, whilst overcropping should be prevented. Damp the surfaces in the house and close the ventilators early in the day, in order to conserve all the sun heat possible.

is to be prolonged as far into the autumn as possible, thinning out the old growths to prevent overcrowding. Apply a surface dressing over the soil, using a compost of two parts light loam, one part decayed leaf-mould, and one part half-spent horse droppings. An abundance of tepid water should be applied to the roots during hot weather. Ventilate early in the morning and syringe and shut down early unless the weather is extremely hot. If cold weather should occur, the outside of the frames should be lined with stable litter, and the glass covered with mats or other suitable material at night.

Tomatos.—In order to ensure a good result during the winter months, similar attention must be given to the Tomatos as I have recommended for Cucumbers. Stout, sturdy growth is essential at this season of the year; the plants should now be in a good stocky condition and ready to be transferred to their fruiting pots. Maintain a moderate temperature and a fairly dry atmosphere, exposing the plants to all the possible light. By the middle of September they should be ready for transferring to an intermediate house where it is intended they should fruit. Late-sown plants are seldom useful for supplying fruit in mid-winter.

Mushrooms.—Where Mushrooms are in constant demand, large supplies of horse droppings should be reserved at this season. Place them together in an open shed and turn over the heap at regular intervals. It is not necessary to be too particular in removing the straw, for a proportion of this material is beneficial rather than otherwise. All vacancies in the Mushroom house should be filled up forthwith as the supply of material becomes ready. Beds that are in full bearing will be much assisted if good drenchings of diluted farmyard manure are given them on the first signs of exhaustion. Maintain a cool, humid atmosphere, damping the walls and paths at least twice daily.

Cauliflowers.—The autumn varieties of Cauliflowers will now be turning in for use. Down to the time of writing, these have not been so good in quality as usual, but there is every indication that the supply will improve. The surface soil should be stirred frequently with the draw hoe, in all the growing quarters, and to ensure fine, white heads those plants that are turning in should be supplied liberally with manure water from the farmyard. Tie the leaves together directly a plant shows signs of developing a curd, in order to have the heads white and of the best quality. When it is found that they are coming into use too fast, some of the plants should be taken up and placed in a cool building where they will keep good for many days.

Seeds.—In order to provide for winter supplies, sow seeds of Endive, Lettuces, Radishes, Parsley and Short Horn Carrots at intervals.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Cleansing Operations.—At the present season, when very little repotting requires to be done, all spare time should be devoted to cleansing the plants, pots, and general surroundings. Cattleyas, Lælias, and their hybrids should be overhauled. The leaves should be sponged, and any scale insects detected on the rhizomes removed by an approved insecticide applied with a moderately stiff painter's brush, taking care not to injure the dormant eyes and rhizomes. Much damage may easily be done in this way by an inexperienced operator, but such injury may not become apparent until later when the buds are lost and the rhizomes turn black and decay. Where insects are not present the plants should be sponged with a weak solution of soft soap dissolved in tepid rain water; this is the safest and best wash for general purposes. Occasional fumigation of the houses should be carried out as a preventive measure. Periodical sprayings overhead with a solution of quassia extract at the rate of half-a-pint to 5 gallons of tepid rain water will, in most cases, keep insects in check. These sprayings should be done on fine afternoons when evaporation is likely to be quick, so that harm is not caused by any quassia water remaining too long in the partly developed growths. The above treatment applies to all Orchids. a large number of young shoots are in various stages of development; support should be given to any that are likely to bend over by loosely tying them to small, neat stakes, which may be removed after the growths have attained their proper size and strength.

Matters of Watering and Ventilation.—At this season plants that are in full growth and well-rooted into the compost, require more liberal supplies of water at the roots than at any other period. This more especially applies to such subjects as Cypripediums, Calanthes, Angræcums, Vandas, Aërides, Saccolabiums, Renantheras, Bulbophyllums, Cirrhopetalums, Megacliniums, Bolleas, Pescatoreas, Phaius and Cymbidiums. Although the atmosphere must be moist, a little ventilation should be given to the warmest houses on all favourable occasions.

The Heating Apparatus.—During the early part of August is a favourable time for the overhauling of the hot-water system, as the fire heat may be dispensed with for a few nights even in the warmest houses. During this time the damping down might be lessened, the plants kept drier at the roots, and the blinds drawn up an hour or so earlier in the day than usual. Any points in which the heating arrangements have proved unsatisfactory, such as the water not circulating properly or an insufficient number of pipes, must be remedied. The boilers and pipes should be emptied and cleared of all sediment. If a new boiler is needed, select one larger than is recommended for the quantity of piping to be heated. This prevents the necessity of having to drive the fire at high pressure during frosty weather. Of the many types of boilers now on the market, I prefer one of the sectional kinds for heating Orchid houses. They are easy to clean, very economical, and quick in action. Give all flues and chimneys a thorough cleansing, and see that everything is put in working order ready for the winter season. Towards the end of the month a great many plants, such as Odontoglossums and others, will require repotting. Sufficient quantities of potting materials should be prepared ready for mixing.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq Woburn Place, Addlestone, Surrey.

Mignonette.—Sow a batch of Mignonette for flowering early in spring, and if a succession is desired, it will be necessary to make a further sowing after two or three weeks. I prefer to sow the seeds in 3-inch pots, and later shift the seedlings into 6-inch pots to flower.

Schizanthus.—Seeds of Schizanthus should be sown at the present time, and another sowing may be made early in September, in order to obtain two distinct batches of plants which will flower successively in the spring. There are very many strains to choose from, but for ordinary decorative purposes the "pinnatus" type of flower is most useful, while for dwarfer plants "retusus roseus" is to be recommended. Schizanthuses require a cool treatment, and for a month or so after germination the seedlings should be given partial shade.

Roman Hyacinths and Paper-white Narcissus.—A number of bulbs should be potted up at the present time for very early forcing, and others may be kept for another month or six weeks, to provide a long season of bloom. After potting, plunge the pots in ashes in a cool position, taking care first to soak the soil with water, especially if the soil is on the dry side at the time of potting. If Narcissi are desired very early, pot up a few hundred bulbs of the varieties Golden Spur, General Gordon, and Van Sion, or any other of the well-known early varieties, as soon as they can be procured. These subjects are especially welcome for decorative purposes early in the year, when it is a difficult matter to obtain flowers with fairly long stems.

Zonal Pelargoniums.—Plants of Zonal Pelargonium for winter blooming should now be well established in their flowering pots. Following upon the hot weather recently experienced, it may be desirable to give them a little soot-water, but do not give the roots much in the way of manure at the present season. The strongest shoots may be stopped to keep the plants shapely and bushy, but general pinching should now be discontinued if the plants are required to commence blooming in October.

Salvia splendens.—The early dwarf varieties, such as Gloire de Zurich and Boule de Feu, should be allowed to flower at will, but the later varieties should still be pinched over a time or two, treating the various batches at different dates, in order to make sure of having a good succession. These plants are particularly effective in the winter garden or conservatory during the autumn months. If the plants are thoroughly well rooted in their flowering pots, they must be well cared for in regard both to water and manure, and treated the same as Chrysanthemums.

Codiæum (Croton).—If small but brightly-coloured plants are required in autumn and winter, the present is a suitable time for propagating a batch of Crotons by means of cuttings. Select young growths and insert them in sandy soil in a propagating case in the stove. They will soon make roots, and may then be hardened gradually to the air of the house, placing them on a shelf for a month or two. These will form serviceable little plants that may be used for small vases on the dinner-table or on any other arrangement where a little bright colouring is desired.

Coleus.—Cuttings of Coleus may also be rooted at this date, some singly, in 3-inch pots, and others three in a pot. The plants, if given plenty of light after rooting, will develop fine colour, and if a little grouping is anticipated in the autumn months, whether at home, in the conservatory, or at exhibitions, they will be found to be invaluable, as the quaint colouring of the leaves associates well with many varieties of Chrysanthemums.

Winter-blooming Carnations.—The perpetual or winter-flowering Carnations are now growing apace, and if they are not already staked, this work should be done as time permits. Light bamboo stakes are probably the best to use, and these should be chosen from 2 to 3 feet in length, so that they will last the whole time the plant is growing. Lightly loop up all the leading growths sufficiently to keep the plant shapely, and in making the ties keep them below the point where the stems are likely to be cut, otherwise the process of cutting the blooms will be hindered. There are various wire arrangements on the market for attaching the plants to the stakes which save labour and last many years.

Chrysanthemum.—Cultivators of large blooms should now select the necessary buds as they appear, removing all others. This will ensure a good display of flowers from the second week in October onwards.

THE APIARY.

By Chloris.

The Show.—Observatory Hive.—At horticultural shows exhibitors should be encouraged to show observatory hives of home make. Generally it is best to make one so as to accommodate three brood combs, which should be straight and wired, tiered one above the other, and above these room for three sections on a shallow frame. Those who contemplate making such a hive should employ oak, or, better still, mahogany. The hive should be very neatly made, and the side walls should be of double glass to secure greater warmth in the interior. Unfortunately some makers of observatory hives forget that it is necessary to provide ample ventilation. The space between a fully drawn-out comb and the glass should be a bee space and no more, so that bees may not be encouraged to build out brace combs, which is always the case when too much space is left. The tunnel through which the bees pass to the open should be covered with glass, so that the bees entering and leaving the hive may be closely observed by the visitors. Since the object is educational every phase of bee life should be visible. The top comb should be stored honey, and the two lower ones should have brood in every stage of existence, drone and worker, and the hive should show a queen, drones and workers. It is not uncommon to find observatory hives queenless.

Bee Products.—Much might be done in educating the public if local bee keepers could be induced to stage a trophy of honey. In the exhibit tablets of wax of varying sizes should find a place, but care must be taken to use the best and cleanest.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but they cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, AUGUST 12—
United Hort. Benefit and Prov. Soc. Com. meet.

TUESDAY, AUGUST 13—
Royal Hort. Soc. Coms. meet. and Exh. of Gladioli. (Lecture at 3 p.m. by Mr. Pulham, Jun., on "The Construction of the Wisley Rock Garden.")

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—62·4.

ACTUAL TEMPERATURES:—

LONDON.—*Wednesday, August 7* (6 P.M.): Max. 68°; Min. 53°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, August 8* (10 A.M.): Bar. 29·6°; Temp. 63°; *Weather*—Fair.

PROVINCES.—*Wednesday, August 7*: Max. 59° Windsor; Min. 56° Aberdeen.

The Colours of Flowers.

The garden at the height of summer is full of rich and varied colour. To achieve this result has required long and arduous work, dating back it may be not to last season only but to many years ago. Even though the enchanting hues, delicate shades and masses of colour are produced from sundry annuals, yet the brilliance now enjoyed owes its origin to the enterprise and skill of the florists and the seedsmen who have devoted their lives to the improvement and purification of what, at first, were perhaps wayward weeds, the decorative possibilities of which none but a trained eye might realise. Now, with the results of his and others' forethought before him the gardener may enjoy one of those all too rare and brief pauses from his engrossing work and feast his eye on the loveliness which his labours have produced. Perchance he is content in his enjoyment, and is not concerned to vex his mind with questions as to the processes which plants employ in the compounding of the pigments, which result in so many perfect garden pictures. Or he may be of philosophic turn of mind, and ask himself to what are these flower colours due! How is it that some kinds of plants are so conservative, so constant to one shade of colour; whereas others are so catholic, that from a packet of mixed seed they will yield all the colours of the rainbow and more besides?

Though the former class of garden-enthusiasts care, like Galleo, for none of these things, yet they are as acute as are the latter class to notice not only the beauty of the garden but also a hundred facts of seasonal change; of the effects of bright light, or of cloudy skies, reflected, as it were, in the colours of the garden. They, however, accept the fact of such variability as a decree of nature, or as an expression of capriciousness on the part of the subjects over which they reign; but to the lips of the curious, ever asking questions, the eternal "why" comes constantly as they note the daily change in their charges, or compare the effects of this year with those of former seasons.

Far be it from us to play the part of the worst of bores—those who impose instruction on folk unwilling to receive it! When we visit the gardens of the incurious we make a practice of disguising our interest in the scientific features, and devote ourselves to the pleasant occupation of admiration; but on our visits to friends of the enquiring minds we are often happy in passing a pleasant hour exchanging speculations as to the causes which underlie the manifestations of colour-range and tint presented by their gardens. In this way we learn many facts which the observant gardener has noted; facts which have not found their way into the text books, which contain much about certain fashionable aspects of science, and have the air of being both infallible and complete. In return we are sometimes able to surprise the gardener by showing him that, although with respect to the origin of colour, much remains to be known, yet even now, in Nature's infinite book of secrecy, a little may we read. We know, for example, that flowers form their colours on two models; some adhering exclusively to one, others to the other, and others yet again building their colours on both.

The models are known to the expert as "sap" and "plast" respectively. In the former style the pigment which gives rise to colour is in solution in the watery sap of the surface layer of petal-cells. In the latter it is of a more solid consistency and, strange as it may seem, is produced from the same granular bodies or plastids which form the chlorophyll granules and give rise to the green colour of the leaf.

The sap pigments may produce a wide range of colours from blue to red. The plast pigments are never blue, but range from bright yellow through orange to an equally bright red.

To say much of the chemistry of the plast pigments would carry us far into the jungle of organic chemistry, in which only those bred therein may travel easily; but this we may say:—that the red plast colours which occur in flowers, and also in fruits and autumn leaves, are interesting because they lend a certain confirmation to the recent discovery that the green pigment of plants is a close chemical relation to the red colour of the blood of animals.

We know more, however, about the origin of the sap colours, and what we know is not so very difficult to tell in plain language. There is reason to believe that each sap pigment is produced by an oxidation process; that is, one brought about by the union of oxygen with some other constituent of the plant. The substance which unites with oxygen to form pigment is a colourless body, and this colourless mother of pigment is termed a chromogen. The chromogens are liberated but grudgingly from the living substance of the plant, and as they are liberated they become oxidized. Yet such is the intensity of the colouration of the pigments that, although they occur as a mere film in the surface layer of the flower, they suffice to produce the most brilliant colour effects.

A recent discovery, and one of far-reaching importance, seems to show that the exact colour presented by one of these sap pigments is determined ultimately by the presence of minute quantities of some third substance in the sap. Thus, for example, if a chromogen is oxidized it gives rise to a blue sap-pigment; but in the presence of a trace of a certain other substance the colour of the pigment becomes red. It is not improbable that the commercial dyes of the future will be obtained by copying Nature in this respect. Again, the rate and extent of the oxidation count also in the determination of the colour of the sap pigment, and the rate of oxidation depends upon the amount of the special oxidizing agents present in the cells of the petals and other parts of the flower.

Furthermore, it can now be proved that not only does the kind and depth of colour depend on the amounts of oxidizing agent and of chromogen present in the cell, but also on the conditions of light and heat to which the plant has been exposed. Thus we begin to understand how the colour of this year's flowers may be richer or poorer according to the weather not only of this year, but also of the preceding season.

The student of these matters recognises that as a dyer is particular to use pure materials of certain kinds, and to employ them under conditions which experience shows to give the best results, so the plant is meticulously careful of its chemical operations, leaving nothing to hazard, but bringing together within the minute space which constitutes each of its cells the mother of pigment, the oxidizing agent, and the substance which acts as a controller of the hue. But, even so, the sun which rules the destinies of gardens exercises also an influence in determining the colours which these plant chemicals produce.

And what of the white flowers which lend an especial grace, and give a sense of sacredness to the garden? They are white for the double reason that they form no pigment, and that below the surface of the petals are layers of cells with air-spaces between the neighbouring cells. So the Lily owes its whiteness to the same cause as that which makes white a mass of powdered glass. In either case the air entangled between transparent particles bends and rebends the waves of light out of their several courses. Bent and scattered, these light waves return to the eye, and produce upon our sense the effect which we describe as whiteness. But not all white flowers are true albinos. Some, as

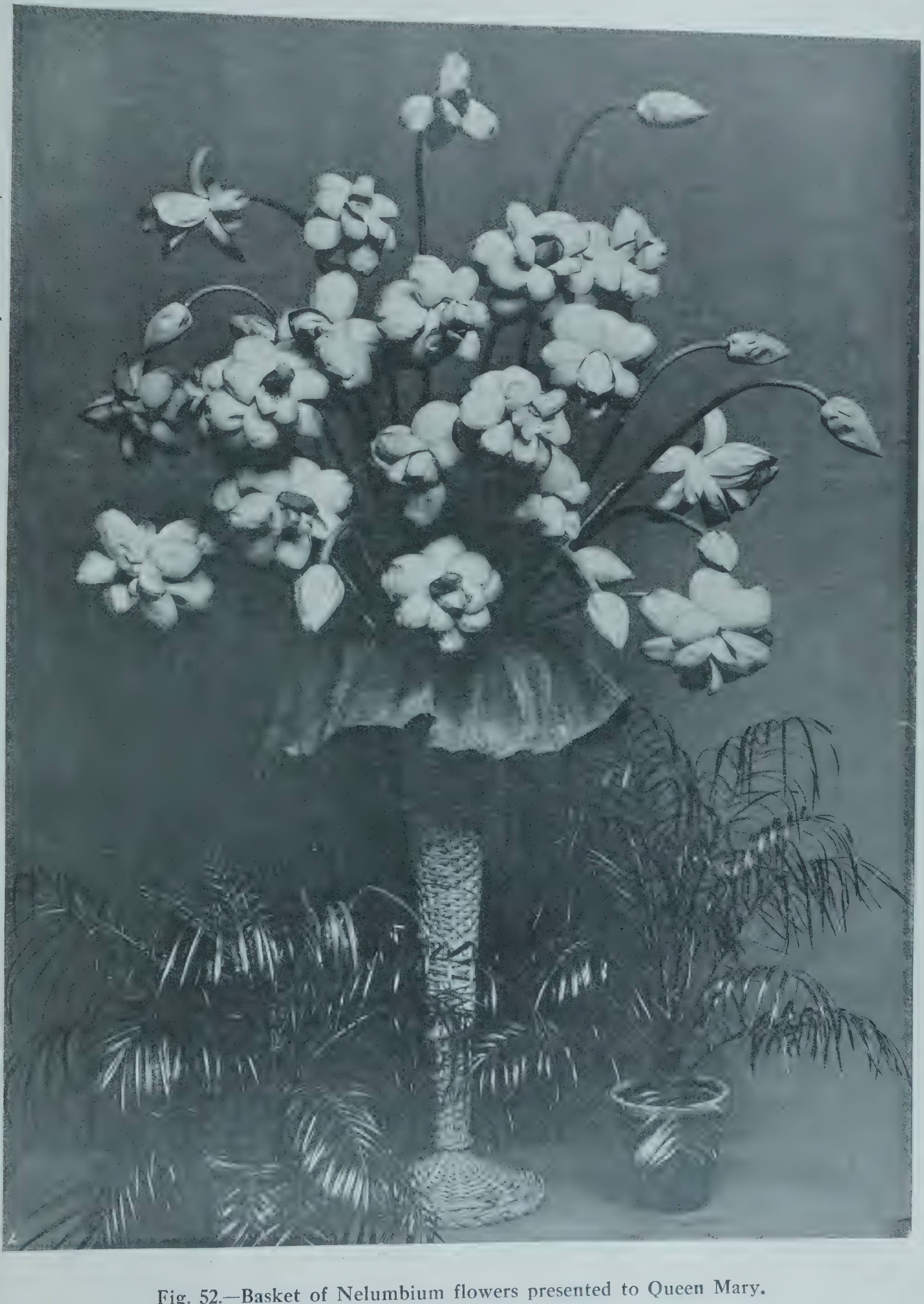


Fig. 52.—Basket of Nelumbium flowers presented to Queen Mary.

(See p. 118.)

we have said, lack chromogen, the mother of pigment, and so cannot form pigmented products. Others possess this chromogen and also the agent which oxidizes it, but they possess also in their sap another substance which puts a veto on the action of the oxidizing agent, and so prevents the formation of the pigment. As a cheek may be pale for lack of blood or by reason of a thick coat of powder, so a flower may be white from lack of pigment or because some substance masks the fact that the producers of pigment are present. Which is the kind of whiteness present in any plant may be discovered by cross-breeding with a colour variety of the plant. If the whiteness be due to lack of pigment the offspring are all coloured; but if it be due to the masking action of an interferer with the pigment-making process, the offspring are all white. So by their fruits ye may know them.

Imported Flowers of Nelumbium speciosum (see figs. 52 and 53).—Owing to the enterprise of Mr. R. F. Felton, the well-known florist, fresh flowers of the Sacred Bean (Nelumbian speciosum) have been imported from a distance of 1,500 miles. At first efforts were made to import the flowers by means of cold storage, but without success, and, finally, Mr. Felton, being convinced that rapidity of transit was the only method by which he could hope to get over the difficulty, gave instructions for a trial batch to be sent by the quickest route possible, the shortened journey occupying five days. This consignment arrived in good condition, and Mr. Felton at once placed it in a large van, and brought it in triumph to the *Gardeners' Chronicle* offices, so that we might have the first opportunity of admiring the lovely flowers direct after their long journey from the East. Queen Mary was graciously pleased to accept the basket of blossoms shown in fig. 52. The rich rose-coloured flowers were placed in a basket, and together the basket and flowers were 6½ feet in height whilst the bouquet measured 5 feet across. The largest individual flower had a diameter of 11½ inches, and the segments were reflexed, owing to the flower opening whilst in a cut state, giving the bloom a distinct appearance from those shown on the Kew plants on p. 119. The leaf shown with the flowers in fig. 52 measured 35 inches across. Mr. Felton states that in favourable circumstances the imported flowers remain fresh in water from 10 to 14 days. Warm-house and tropical aquatics are not generally grown in private gardens, and the visitor must go to such botanical establishments as that at Kew to see the Nelumbiums growing and flowering as they are shown in fig. 53, which is reproduced from a photograph taken recently by Mr. Raffill. The large, round-table-like leaves, from which water will roll off like quicksilver, are borne high above the water on slender stalks; they have a lustrous green colour, and possess very great beauty. After the flowers have faded and the petals have fallen, there still remains the curious wasp-nest-like fruit to interest plant lovers. The oblong nut-like seeds, commonly called Beans, which are said to have the flavour of Almonds or Filberts, are imbedded in the circular cavities of the torus or receptacle, and are either eaten when young and tender or are dried; in the latter state the shells become very hard. These are the Beans which the disciples of Pythagoras were forbidden to eat. The Nelumbium has been an Eastern emblem of fertility from remote periods. When mature the head of seeds will often break off, and, falling on the water, float away until it lodges in some quiet spot, by which time the seeds have germinated, and the head becomes a little nursery of young plants, which eventually separate and fix their roots wherever circumstances permit.

Royal Horticultural Society.—The next meeting of the Committees of this Society will take place on Tuesday, the 13th inst. In the afternoon a lecture on "The Construction of the Wisley Rock Garden" will be delivered by Mr. Pulham, Jun.

Caladiums at the Leamington Show.—At the Leamington Horticultural Show, of which a report was published in our last issue, Messrs. John Peed & Sons, West Norwood, were awarded a Silver Challenge Cup, presented by Alderman Holt, for a very fine collection of Caladiums. Some of the principal varieties were as follow:—Silver Queen, Comtesse de Brosse, Oriflamme, Rufus, Ville de Hambourg, Nai Lek, and Duchess of Teck. C. argyrites formed a pretty edging to the group. Messrs. John Waterer & Sons were awarded a large Gold Medal for a group of hardy shrubs in tubs. The group comprised Gold and Silver Hollies, Golden English and Irish Yews, a central group of Cedrus atlantica glauca, and various other specimen Conifers.

The Weather at Chatsworth.—Mr. F. Jennings has sent us interesting particulars of the abnormal rainfall and the temperatures registered by him in the Chatsworth Gardens during the past month. The total rainfall measured 8.49 inches; rain fell on 21 days, the greatest rainfall in 24 hours was 2.48 inches on July 27. The maximum temperature was 85° registered on the 12th, and the minimum temperature was 58° on the 22nd and again on the 31st of the month.

Central Chamber of Horticulture.—We are informed that there is a movement on foot in influential circles to establish a Central Chamber of Horticulture on lines similar to the Central Chamber of Agriculture. It would include representatives from the leading horticultural societies and be representative of every branch of the business, and in addition Members of both Houses of Parliament, who are interested, would be invited to become members, so that when necessary direct Parliamentary influence could be exerted.

Nursery Employés Outing.—The employés of Messrs. W. P. Laird & Sinclair, Ltd., Dundee, held their picnic on the 3rd inst. The company, which included the shop and nursery staff to the number of 50, drove in brakes to Red Castle, Lunan Bay, a distance of about 23 miles. After luncheon the younger members engaged in games of cricket and football.

Importation of Potatos into South Africa.—Although very stringent measures are to remain in force with the object of excluding from the Union Potatos infected with black scale or wart disease, it is notified that since July 1 last sorting has been discontinued, but each consignment is fumigated with formaldehyde gas.

Spraying for Scale Insects.—Farmers and fruit-growers troubled by scale insects are advised by Mr. A. L. Lovett, assistant entomologist at the Oregon Agricultural College, to spray with lime-sulphur, kerosene emulsion, and whale oil soap as follow:—"For scale insects of such a type as the San José use the lime-sulphur spray of winter strength. For the soft scales, such as occur on the Blackberry, Prune and Plum, use the kerosene emulsion or whale oil soap. Kerosene emulsion is prepared as follows: Heat a gallon of water (soft if possible) to boiling; shave ½ lb. of soap into it (whale oil is preferred), and stir till the soap is dissolved. Remove from the fire and add 2 gallons of kerosene. Agitate vigorously till it is creamed, which is best done with a hand pump, forcing the solution through the hose and back into the container. For use in the dormant season this mixture should be diluted with 7 gallons of water, but for summer spraying, at the time the young insects emerge, with 11 gallons of water. To 1 lb. of whale oil soap 4 gallons of water may be used as a summer spray for soft scale. For plant lice on Roses and garden crops any of the tobacco solutions may be used. For plants having smooth foliage, or a specially bad attack of aphides, there should be added 1 lb. of fish oil soap dissolved in a gallon of hot water to each 8 gallons of the spray. On fruit trees, as the Apple and Peach, the spray used in early spring when the buds are starting should be a combination of winter strength lime-sulphur and 'Black Leaf 40,' using one part of the Black Leaf to 800 of solution."

The Board of Agriculture and Fisheries.—Mr. Runciman, President of the Board of Agriculture and Fisheries, has appointed Mr. A. S. Gaye to be his private secretary in the place of Mr. H. G. Maurice, promoted to be Assistant Secretary of the Fisheries Division of the Board.

Publications Received.—***Brazil in 1911,*** by J. C. Oakenfull. February, 1912. (London: Butler & Tanner.)

LAW NOTE.

ALLEGED DEFECTIVE FLOWER-POTS.

At the Nottingham County Court Samuel Barratt, of Radcliffe-on-Trent, a coal merchant, claimed from his cousin and namesake, Samuel Barratt, a nurseryman, also of Radcliffe, the sum of £33 4s. 7d., which he alleged was due to him as the price of goods sold and delivered.

The plaintiff, who said that he was the owner of a brick-yard at Radcliffe, declared that his cousin opened an account with him, and he delivered goods until a large sum was owing, and the defendant paid sums of £10 and £6 on account.

The defendant, in evidence, said that he had been in the nurseryman's business all his life. He used a large number of plant pots, and after his cousin had started in the "pot trade" he bought some from him. So long as the pots were made under the supervision of Ogden (formerly the plaintiff's manager) they were suitable, but after he left the defendant found them to be soft. None of them was of service to him a second time, whereas a good pot could be used time after time. The defendant produced a number of pots, and showed by demonstration how those that were said to have been made by the plaintiff were not of the proper size and shape, and how they broke very easily.

Richard Mansey, formerly in the employment of defendant at Radcliffe, said he superintended the general work. About 100,000 pots were used a year. Witness called defendant's attention to some pots which were soft and which came to pieces.

George Ogden, a practical pot maker, said he was formerly employed by plaintiff as manager. Witness had been over defendant's nursery, and found a number of pots badly made, of wrong shape, and badly burnt.

Horace Chas. Mee, a nurseryman, of Sherwood, said he inspected samples of various sized pots supplied to him by plaintiff. Witness would not have them at any price.

Judgment was given for the plaintiff for the sum of £24 and costs.

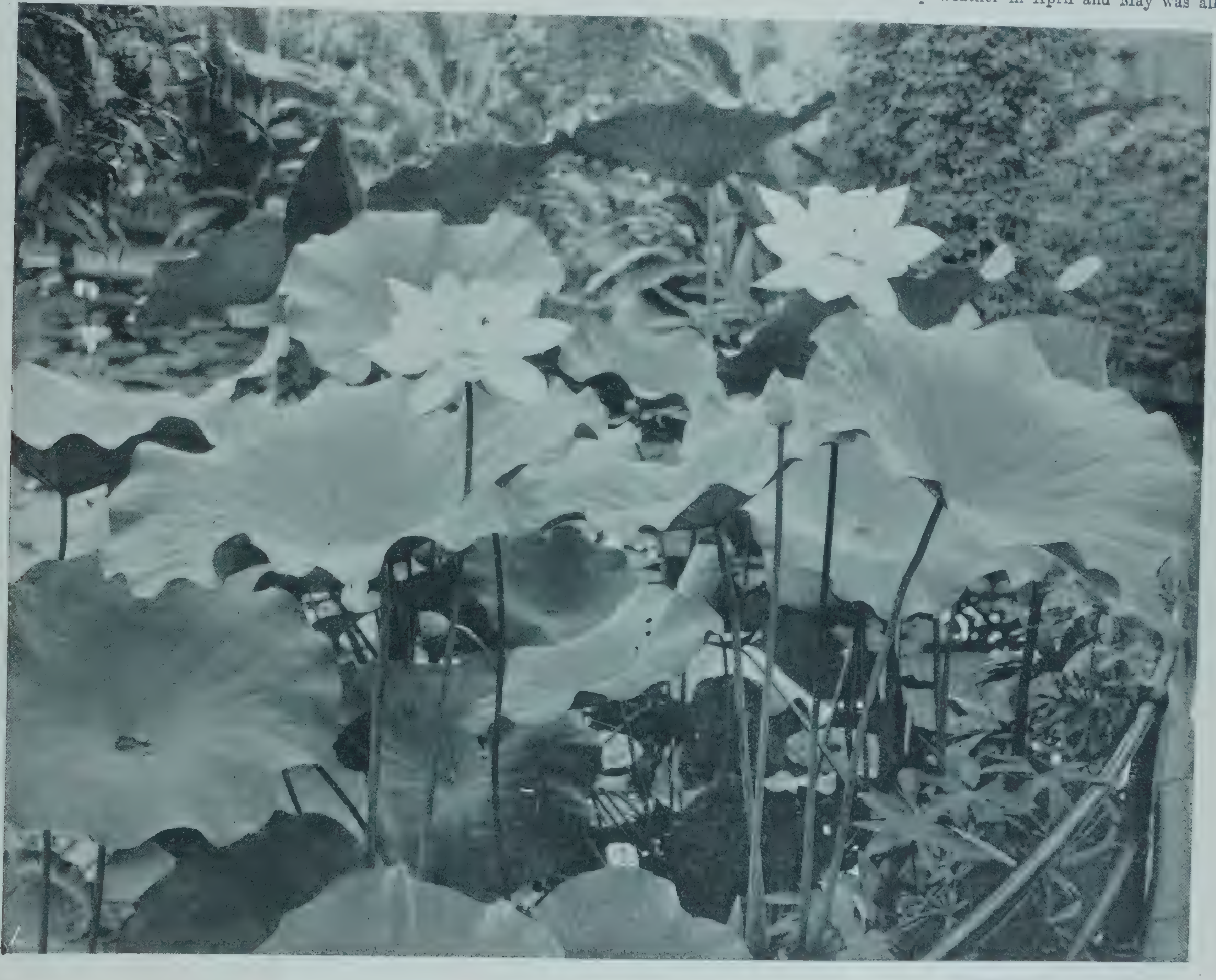
REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 66-71.)

(Continued from p. 91.)

2, ENGLAND, N.E.

Durham.—Being engaged in horticulture generally throughout Durham, my report concerns the whole county. Durham is a great mining centre, and wherever Currants and Gooseberries are grown, or, in fact, any hardy fruits, in the neighbourhood of a coal pit, the fumes given off from coke ovens and the like fumigate the crops so well that big-bud, Gooseberry-mildew, and American blight are very rarely found. *John Smith, County Council Lecturer, The Shire Hall, Durham.*



[Photograph by C. P. Raffill.

Fig. 53.—NELUMBIUM SPECIOSUM IN THE LILY HOUSE AT KEW: COLOUR OF FLOWERS, RICH ROSE.

(See p. 118.)

Yorkshire.—The promise in May for a good fruit year was generally favourable. Apple trees bloomed freely, but set comparatively scanty fruits. Pear trees flowered freely and the fruits set well. Gooseberries and small fruits generally promised well. In all but exposed areas spring frosts did less damage than usual. Areas in the smoke screen escaped. *A S. Galt, Rutherglen, Lidgett Park Road, Roundhay, Leeds.*

——Pears on walls and small fruits are the only really satisfactory crops in this district. Gooseberries are the heaviest crop for 10 years past. Raspberries developed very few canes last season, so that this crop is short. Apples and Plums bloomed well, but frost damaged the flowers and prevented fertilisation. *J. G. Wilson, Chevet*

——The Pear crop in places is very heavy. Apples are much under the average. Plums, which are somewhat extensively cultivated, show heavy crops in only a few places. Gooseberries have been plentiful. Black Currants, owing to the Black-Currant mite, other insects, and fungous diseases, are generally very bad; the bushes, from these causes, have, in many places, made but little growth during the past few years. The Strawberry crop was unsatisfactory; many of the early flowers were destroyed by spring frosts, and the fruits have been much damaged by rain. Raspberries have done well. The character of the soil in the North Riding of Yorkshire is very variable. Much of it is unsuited to fruit culture. The best soils for Apples and Pears, and, in a greater or lesser degree, also for other fruits, are to be found in the Vale of York, extending eastward to Malton and Pickering, and along the banks of the Ouse to the Humber. *Alfred Gaut, The University, Leeds.*

——The fruit crops, with the exception of Apples and Nuts, are well up to the average. Pears and Gooseberries are very heavy crops. Apple trees showed a scarcity of bloom, and those that developed plenty were damaged by late frosts. The soil here is a heavy loam, overlying a layer of clay on red sand. *J. E. Hathaway, Baldersby Park Gardens, Thirsk.*

——Apples are generally a very thin crop, but the varieties James Grieve, King of Tompkins County, American Mother, Allington Pippin, Adams's Pearmain, and Worcester Pearmain are very good. Pears are plentiful. Plums, especi-

Black Currants are a failure, but all other bush fruits are good. Raspberries and Loganberries are the best crops I have had for some years past. Peaches in the open are an average crop. Strawberries looked very promising during the flowering and early stages, but owing to the continued and heavy rains during June, many of the berries rotted before they commenced to colour. *A. E. Sutton, Castle Howard, Welburn.*

——The hardy fruit crops in this district are very uneven. Apples and Plums are under the average, but since rain fell both trees and fruit have improved greatly. All small fruits have been heavy crops and of excellent quality. Strawberries ripened late and suffered in the early stages of ripening from the heavy rains and sunless days, but they improved later. I have never seen so much blossom on fruit trees, but the dry weather in April and May was all against a good set of fruit. The almost tropical heat during these months, with sudden changes to cold, favoured the spread of aphis and maggots, which did much damage to the foliage and fruits. These are amongst the possible causes of failures in the Apple and Plum crops in this district. The trees are now making excellent growth, and promise to thoroughly mature their buds and wood. Our soil is light and shallow, and the subsoil chalk. *F. Jordan, Warter Priory Gardens, York.*

3, ENGLAND, E.

Cambridgeshire.—The Apple crop, with few exceptions, is rather light, and the same may be said of Pears. Most of the Plum trees on walls to be severely thinned. Standard trees are carrying average crops. Morello Cherries set their fruits well, but many afterwards fell. Peaches are an average crop, and clean. Apricots failed to set well owing to frost when the trees were in flower. All bush fruits are carrying heavy crops of good fruit. Strawberries were a poor crop on young plantations, but better yields were obtained from two-year-old plants. Both Cobs and Walnuts are plentiful. The soil in these gardens is a heavy, retentive loam, resting on clay. *W. J. Snell, Wimpole Hall Gardens, Royston.*

——The fruit crops generally are equal to the average, with the exception of Plums and Strawberries, which were damaged by the frosts when in bloom. The drought of spring caused a great many Strawberry plants to dry; the fruiting season was a very short one. Walnuts are a good crop. Our soil being light and not very retentive, the drought caused many Apples and Pears to drop. The former could be well spared, owing to the exceptional quantity which set. Raspberries generally were a very heavy crop and of good quality. *Arthur Sewell, The Palace Gardens, Ely.*

——The fruit crops generally are under the average, particularly stone fruits. Greengages, for which this garden is noted, are very scarce, also Apples, of which more trees are being planted every year. The soil is inclined to be heavy, with a chalk subsoil, and never suffers from drought, being situated in the valley of the Cam, which is several miles in width in this district. *T. Spooner, Meldreth Court Gardens, Royston.*

——Early Victoria and Lord Grosvenor Apples are very plentiful; Bramley's Seedling, Lord Derby, Miller's Red Victoria and Worcester Pearmain are also satisfactory. Owing probably to frost on May Day, combined with the drought, many fruits have fallen. Pears are a disappointing crop after a full show of blossom. Doyenné d'Été is, however, a full crop. Plums Victoria, Czar, Monarch, and Belle de Louvaine are all failures. Rivers' Early was the only variety to bloom freely, but all the fruits dropped. Small fruits and Gooseberries are extra good. Raspberry Superlative is a particularly heavy crop. Strawberries Royal Sovereign and Sir Joseph Paxton both fruited freely. Black Currants are disappointing, after a very fine show of bloom, the failure being due to 4° of frost which occurred on May 1. Walnuts, even on young trees, are a very heavy crop. All small fruits, both on the open market and under contract, are higher in price than last year. There is a scarcity of labour in the district. *Stephen Castle, Walpole St. Andrew's, Wisbech.*

Essex.—The fruit crops are not so good as they promised earlier. Apples are disappointing. In the case of trees that have set well, much of the fruit is deformed and drops easily. But Pears are an excellent crop, and Peaches and Nectarines fair. Plums are a failure, and Apricots are scarce. Morello Cherries are an average crop. Of small fruits, Black, Red and White Currants are extra good. Raspberries and Strawberries were abundant. Most of the fruit trees showed plenty of bloom, but east winds and frosts, which prevailed at that time, prevented Plums from setting freely. Probably, too, the drought of last year had its effect upon them. Our soil is a stiff, yellow clay. *Arthur Bullock, Copped Hall Gardens, Epping.*

——All out-door fruit crops are very free from insect pests this season. The Apple crop is a very thin one Ecklinville Seedling and Lord Suffield being the best cropped varieties. Strawberries Royal Sovereign and British Queen have fruited well, but the season was soon over, owing to the dry weather. Gooseberries and Currants have been abundant, and very fine in quality. Pears are a fair crop, and the trees are looking well. The soil is rather heavy in texture. *John Arthurton, Debden Hall Gardens, Saffron Walden.*

——The Apple crop is a very light one, except in the case of a few varieties, such as Ecklinville Seedling, Stirling Castle and Sturmer Pippin. Most varieties of Pears are very promising. Stone fruits seem to have been thinned by frosts during the flowering period, but trees of Plums here and there are laden. Cherries are very good. Gooseberries and Currants have been clean, heavy crops. Strawberries were soon over. Our soil is a strong loam overlying boulder clay. *C. Wakely, County Gardens, Chelmsford.*

——Taken all round, the fruit crops are much below the average. In the spring there was a fine display of blossoms, as might reasonably be expected following such dry, semi-tropical weather as prevailed during the summer and autumn of 1911, and the consequent complete maturation of the wood of all kinds of fruit trees. But late frosts spoiled the promising prospect. Apples are a poor crop, and Pears only a little better; Plums also are very scarce. Bush fruits are average crops. Strawberries have been a light crop and were severely damaged by the heavy rains experienced during the ripening and harvesting stages of the fruit. King of the Pippins, Ecklinville Seedling, Stirling Castle and Early Julyan Apples are bearing fair crops, while a very large tree of Hambledon's Deux Ans, which during the last 14 years has borne heavy crops of good fruit, has only about a dozen fruit on it this year. The soil is a sandy clay resting on a substratum of clay, and the ground slopes gently to the south: an ideal soil and situation for all kinds of fruit and vegetable crops. *H. W. Ward, Lime House, Rayleigh.*

——Apple trees flowered early, but the fruits failed to set on several sorts, and the others that did set are dropping badly. Pears are an abundant crop and look like finishing well. Plums seem to have set well on some sorts, whilst other trees have scarcely any fruit. Cherries are a fairly good crop: Morellos are extra fine. Very few Peaches and Nectarines are grown out-of-doors in this district, and the same may be said of Apricots. Gooseberries, Raspberries, Red and Black Currants are all good crops. Strawberries were scarce in most places, owing to the drought of last summer. Nuts seem to be an abundant crop everywhere. *W. Johnson, Stansted Hall Gardens, Stansted.*

Lincolnshire.—Apple trees which had heavy crops last year are in many cases barren this season, especially dessert varieties, although I thinned the fruits severely last year. The trees flowered but little, and this I attribute to the dry weather in 1911. Bush Pear trees suffered severely from late frosts. Plums are scarce but Damsons more satisfactory; Strawberries failed to make a satisfactory growth last autumn owing to drought, and they have been but a poor crop. The soil is a brown loam on either clay or ironstone. *H. Vinden, The Gardens, Harlaxton Manor, Grantham.*

—— The Apple crop is extremely good, but unfortunately on Wednesday, June 19, a terrible hailstorm visited the district; the hailstones measured in some instances 1¼ inch across. In the village, which has a population of some 800 people, between 450 and 500 panes of glass were either destroyed or badly cracked; the damage was done chiefly to windows facing the west. This storm very seriously affected the crops. Apples, in particular, on the west side of the trees, had pieces literally cut out of them, and others were badly bruised. Pears, too, suffered to some extent. Plums are scarce. Sweet Cherries are a fair crop, and Morellos are plentiful. Apricots are very good, but the crop is under the average. Black Currants and Gooseberries are very good. Strawberries were exceedingly poor, excepting the variety Givon's Late Prolific. *C. Frankish, Waltham Hall Gardens, Grimsby.*

—— The condition of the hardy fruit crops here is, on the whole, satisfactory. The only failure is in the case of Apricots, which flowered well, but were destroyed by the early spring frosts. Small fruits are specially plentiful and good. Strawberries suffered from the excessive rains, otherwise they were a good crop. The soil here is light and sandy, and the subsoil white clay. *Fredk. Barton, Hainton Hall Gardens, Lincoln.*

—— This has been a disappointing season, and April and May gave us sunshine far too hot for that early time of the year. Apple blossom proved very weak and failed to set fruits except in isolated instances. Black Currants failed from the same cause, and Royal Sovereign Strawberries were nearly all blind. Can any reader suggest the cause? (see p. 98). The soil here is a heavy loam resting on yellow clay. *H. Louth, Boothby Hall, Grantham.*

Norfolk.—The fruit crops here are very good. The soil is a good sandy loam. Late frosts in April and May never exceeded 3°, although the east winds at the time were very trying, blistering the tender leaves of Peaches and Currants, both red and black, severely. April proved a dry and sunny month, the rainfall only amounting to 0.32. In May the rainfall was 0.83, whilst June gave us 3.67. The foliage of fruit trees, also other trees and Roses and shrubs, I have never seen so clean and good; this must be owing to the two dry and sunny months, followed by a copious rainfall. With fine dry weather from this time, the prospect for excellent fruit crops and a good harvest are promising. *Wm. Allan, Gunton Park Gardens, Norwich.*

—— The Apple crops this season are very irregular, some of the early varieties such as Emneth Early, Stirling Castle, and the old Hawthornden are bearing heavily, whilst many are without fruit. Pears are in most places the crop of the year, being plentiful everywhere. The Strawberry crop was the most disappointing; in many places the yield was only a quarter of what was expected. Small fruits are plentiful and good. *William Orr, Stow Hall, Downham Market.*

Suffolk.—In this district the crops are very irregular. On some rather light soils Strawberries were a complete failure. With the dry season of last year Apple and Pear trees ripened the buds well, and this season there was an abundance of strong blossom which set well in these gardens. A mile or so from here, on heavy soil, Apples failed to set, owing, the grower thinks, to the very dry conditions existing when the trees were in flower. Trees mulched and watered well during the dry period of last summer have set a better crop this year than trees which were not given the same attention. *Thos. Simpson, Henham Gardens, Wangford.*

—— After the fine summer of last year a bountiful fruit crop was expected, and all kinds of fruit trees blossomed profusely this spring. Sharp frosts when the Plums were flowering have in most cases, resulted in a scanty crop. Apples are generally bearing a fair crop, but the growth has been badly crippled by Aphis. Strawberries were a disappointing crop, the drought of last summer killed many old plants or stunted the crowns. Very few new plantations were made owing to the difficulty experienced in procuring runners. *E. G. Creek, East Suffolk County Education Office, Ipswich.*

—— There was every prospect of an exceedingly good fruit crop when all kinds of fruits flowered freely last spring, but owing to cold winds and drought, many kinds of fruits failed to set, and many of those which succeeded in setting, fell from the trees subsequently. Plums, Peaches, Nectarines, Cherries, and Apricots suffered most in this respect. Our soil is light, sandy loam, overlaying gravel. *W. Messenger, Woolverstone Park Gardens, Ipswich.*

—— The soil in these gardens is inclined to be heavy, making it necessary to make special preparations for the planting of Pears, Cherries, and some other fruits. This season, bush fruits generally are good crops, but cold winds in the spring caused much harm to Black Currants. Plums are an extra good crop, and the fruits are of good quality. Pears are plentiful and good. They are principally young trees and doing remarkably well. Apples are a deficient crop owing to the trees bearing so freely last year. Morello Cherries succeed here, but Sweet Cherries are not satisfactory. *H. Coster, Ickworth Gardens, Bury St. Edmunds.*

—— The soil here is of a light description, consequently we suffered from the droughts of 1911 and this season, which account in a great measure for the sparse crops of Apples, Plums, Strawberries, and Raspberries. *George Taylor, The Gardens, Shrubland Park, Coddenham, Ipswich.*

—— Pears are an excellent crop. Gooseberries are a very fine crop. Cherries, both bush and fan-trained trees, are also good. Some varieties of Apples are well cropped, and others are carrying only a few fruits, but Strawberries were a light crop of very fine fruits. Plums are satisfactory, all the choice varieties of the Gage type being heavily cropped. The soil here is light, sandy loam, with a subsoil of gravel and chalk. *B. Goodacre, Moulton Paddocks, Newmarket.*

—— The year 1912 is not a good fruit year encouraged the fruit buds to develop quickly, and the trees were in full bloom three weeks earlier than usual. The frosts experienced several nights early in May caused enormous damage when the trees were exposed, but Plums escaped, being protected by foliage where set. Strawberries were a failure, owing, probably, to the six weeks drought in April and May. Black Currants are scarce, and Raspberries good. The soil here is a mixed loam. Nuts promise well, and the harvest of the hedges is distinctly good. *R. Evans, Gt. Barton, Bury St. Edmunds.*

——In sending a report for this district, I must say it is astonishing we are able to furnish one so satisfactory, after the severe drought of last year and the early summer drought this season. Apple trees are casting their fruits very fast, and Plums are a failure. We cannot lay the blame of the latter to late frosts or cold winds, as the conditions here this spring were almost perfect. Peaches are an excellent crop. The following table of the rainfall recorded here during the past six months may be of interest, and will go far to show the cause of failure with crops on the light lands of this district. It will be seen that the total for the last three months is only 2.89 inches:—January, 2.53 inches; February, 1.20 inches; March, 2.89 inches; April, 0.28 inches; May, 0.69 inches; June, 1.92 inches. *A. K. Turner, Orwell Park Gardens, Ipswich.*

(To be continued.)

SCOTLAND.

PERTHSHIRE FRUIT CROP.

The disastrous weather of the past week or two has had a bad effect on the fruit crops in Perthshire, which is the leading district in Scotland for Raspberry culture, and this crop promises to be sadly deficient. Prices have been stiffening, and as much as £35 is said to have been asked for immediate delivery. Low weights are being chronicled, and the pickers complain that they are only able to earn small wages. Severe storms on the 4th and 5th inst. caused great losses. Much fruit was blown down and a great quantity otherwise injured.

LOCKERBIE SHOW.

In association with the annual show of the Mid-Annandale Agricultural Society a good exhibition of fruit, flowers, and vegetables was held in the show ground, Lockerbie, on August 2. The general horticultural exhibits were arranged in a large marquee, and a smaller tent was set apart for Sweet Peas.

Cut flowers were the strongest section in the gardeners' classes, and the principal prizes fell to Mr. T. W. James, Stainton, Carlisle; J. Wyllie, Esq., Elmbank, Dumfries (gr. Mr. Jas Henderson); Mr. D. Whitelaw, Locharbriggs; Misses Dobie, Broombush (gr. Mr. J. Tweedie); Mr. J. Crosbie, Dalswinton; Mr. J. Wilson, Eskrigg; Mr. J. French, Hetland Cottage; Miss Jardine, Dryfeholm (gr. Mr. J. M'Donald); J. Davidson, Esq., Summerville, Dumfries (gr. Mr. J. Wilson), and Messrs. Adamson & Hunter, Lockerbie.

The Sweet Pea classes were thin, owing to the stormy weather, but G. L. Moffat, Esq., Mayfield, Lockerbie, was an easy winner in the principal class, winning several 1st prizes in additional classes with grand flowers of new varieties and others. Pot plants were not numerous, and the principal prizes fell to Miss Jardine, Dryfeholm. Grapes were well shown, J. Wyllie, Esq., taking most of the prizes for these; Miss Jardine, Dryfeholm, and Mr. J. Wilson, Eskrigg, leading in other classes. Miss Jardine, Dryfeholm (gr. Mr. J. M'Donald), had the finest collection of vegetables.

Non-competitive exhibits consisted of florists' flowers from Messrs. E. F. Fairbairn & Sons, Edentown, Carlisle, and Messrs. Palmer & Son,

EDINBURGH PARKS' EXPENDITURE.

From the statement made by the City Treasurer to the Town Council of Edinburgh, it appears that the estimated expenditure in the Parks' Department will exceed that of last year by about £1,000.

GLASGOW PARKS' DEPARTMENT.

From the accounts of the City of Glasgow for the year ending May 31, we learn that the ordinary revenue of the city parks amounted to £88,214 as against £88,294. The ordinary expenditure was £79,613 as compared with £76,500. The balance sheet shows that the estimate for the year was within £5 of the actual amount expended. From a statement of the assets and liabilities of the department it appears that the assets amount to £1,154,837, and the liabilities to £940,416. It is explained, however, that the latter amount includes the sinking fund of £248,848.

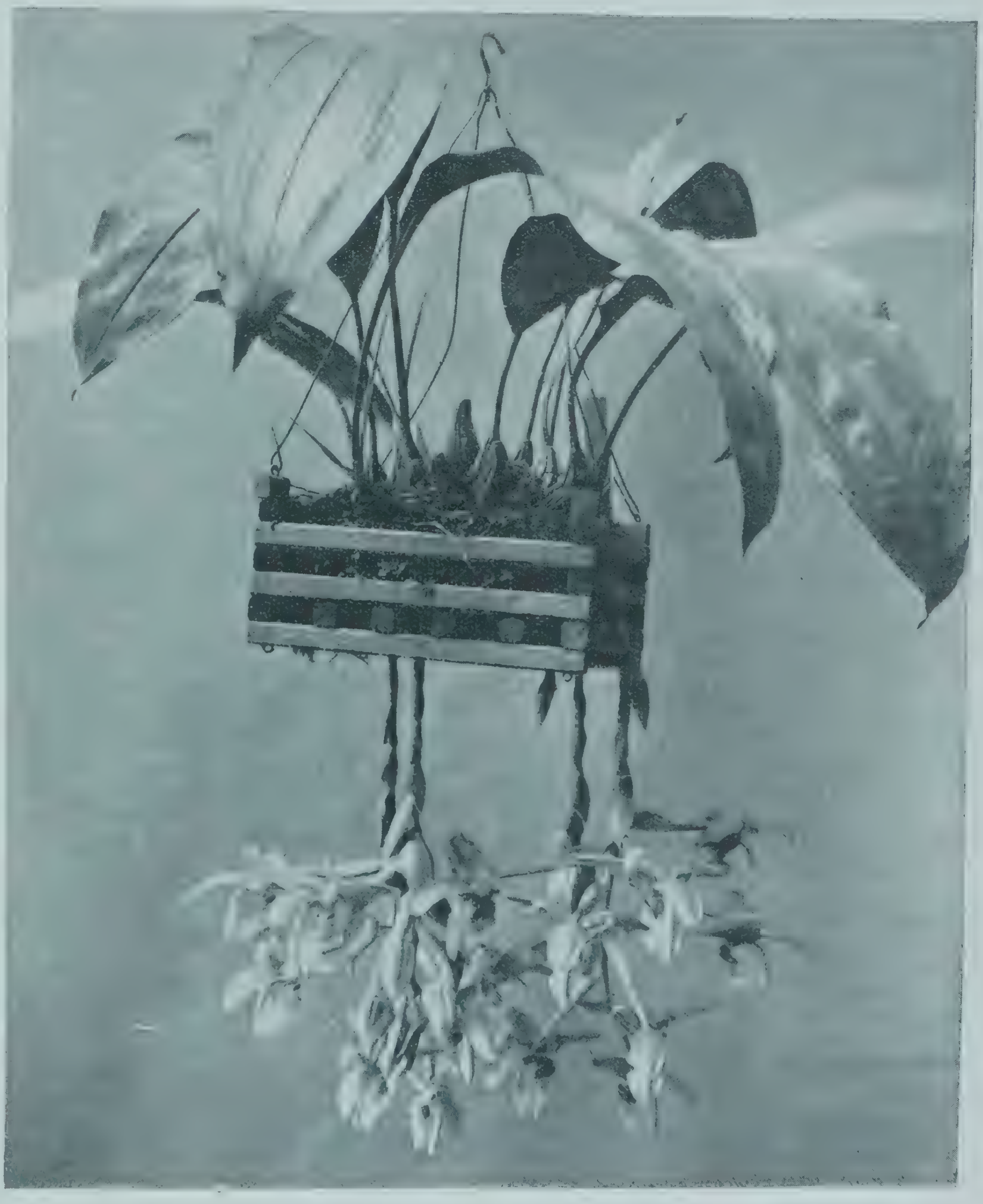


Fig. 54.—Stanhopea oculata in Mr. Koettgen's collection.

DEATH OF A KEITH GARDENER.

A sad drowning affair took place at Keith recently by which Mr. William Fleming, a gardener, aged 74 years, lost his life. For some time deceased had been suffering from giddiness. He left his house shortly after 10 o'clock in the morning, stating that he was going for a walk. Some time afterwards as a man was passing along the bank of the Isla, he saw a coat lying, and on looking observed a body in the water. On the body being taken out it was identified as that of Mr. Fleming.

ORCHID NOTES AND GLEANINGS.

STANHOPEA OCULATA.

A photograph (see fig. 54) of a very fine specimen of this attractive species has been forwarded by C. Koettgen, Esq., Ceres, Bromley, Kent, with the following particulars, which support the opinion often expressed in our columns that, for many Orchids, a special Orchid house is not absolutely necessary. Mr. Koettgen says: "This plant has been grown in an ordinary conservatory. In the winter I keep the temperature at about 55°-60° Fahr. In 1909 the specimen had two spikes, bearing three and five flowers respectively; in 1910 it did not bloom; in 1911 it had one spike of six flowers. This year the plant has borne altogether six spikes: one with nine flowers, two with eight each, the others having seven, six, and five flowers respectively. The illustration shows the plant in a basket with four fully-expanded spikes of flowers, and two others not yet fully developed. A very interesting selection of Orchids is grown in the same conservatory with the most satisfactory results. For the conservatory, Stanhopeas and other Orchids which may be grown suspended from the roof are specially good. For the warm greenhouse, the strong-growing Selenipediums, Sobralias, Ansellia africana and Cymbidiums are valuable plants. Cymbidium Lowianum often flowers better in a conservatory than in the Orchid house."

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Horticulture and Manchester.—The time is now ripe for a big movement at Manchester. What seems to be wanted is:—1, The Botanical Society to free itself from its roundabout shows and menagerie; sell up, and "realise." 2, A horticultural hall for Lancashire and Cheshire in the town. 3, A library. 4, A home for the Manchester Orchid Society. If Lancashire and Chesire would take the matter up, I feel sure that with the requisite amount of energy, patience and tact the thing could be done. *H. B. J.*

The Education of the Gardener.—Mr. Aggett (p. 32) mentions the fact of employers calling in landscape gardeners when new gardens are to be made as a proof of the inability of the gardener to do this kind of work. In this connection the following incident may be of interest. The owner of an estate contemplated making extensive alterations in the grounds. A head gardener was wanted, and upon an application being made for the post the candidate was informed that it was feared his experience of landscape work was insufficient to enable him to carry out the work in hand. Eventually a firm of landscape gardeners were engaged. Meanwhile the applicant for the post of gardener had obtained employment with the firm of landscape gardeners, and this man was sent by the firm to supervise the whole of the work. I admit that many gardeners are not good draughtsmen, but others can produce excellent work as landscape gardeners. Many would be delighted with an opportunity to show their abilities in this branch. If employers would but have confidence in their men, and give them encouragement, this branch of the profession could often be carried out successfully, and with advantage to themselves by their own gardeners. It is well known that many gardens have been designed by private gardeners. Who would take more care and interest in the laying out of grounds than the man who expects to be entrusted with their future maintenance? *Roamer.*

William Penn.—*C. T. D.*, who reported the outing of the Horticultural Club (see p. 79) is in error when he states that William Penn, the founder of Pennsylvania, had a pew at Stoke Poges Church. The great William Penn left the Establishment when quite a young man, and joined the Quakers. It was his son Thomas who resided at Stoke Poges. This fact is quite plain by the inscription on the monument in the church. *L. Graveson.*

The Bissagos Islands.—I regret that a mistake has been made in the name of the small Chili mentioned on page 46, col. 3. For Amomum Melegueta, read Capsicum frutescens. *F. W. Seers.*

Black Currant "Boskoop Giant."—The writer has had a similar experience to Mr. Pearson (see p. 76). Out of a dozen good bushes, planted four years ago, three became barren, and were dug up last winter and thrown away. Beyond a slight thinning of the branches they had no pruning. My opinion was that perhaps the variety was a sport at first, and the barren form a reversion. The bushes are practically free from the Black-Currant mite. I may mention that for several years I have noticed some Black Currant bushes growing freely at the edge of a Willow bed. They are covered overhead with water at times in the winter, when the adjacent River Wharf overflows its banks. Being shaded by a Willow tree they do not fruit as a rule, though this year I noticed a few fruits on the top branches. No doubt they have grown up from seeds carried by birds or water. I have often thought it might be worth while trying a plantation on similar land exposed to sunshine. The main drawback would be keeping down the free undergrowth of strong grasses and other weeds. This would be best done by small sickles. Hoeing is out of the question. I have never seen any big-bud on the bushes under the Willow, though this pest is only too prevalent in the district. *Yorkshire Gardener.*

Daphne Mezereum.—This is one of the most cheerful of hardy shrubs, flowering, as it does, when most other plants are still resting. Like other members of the family, however, it is somewhat capricious, succeeding best in a fairly light loam which is well drained and porous. When the soil is suitable, a low temperature does not materially injure the plant. The beautiful variety alba rarely attains much size or age, but occasionally one finds an exception to this rule. One such plant I found recently flourishing in a mixed shrubbery at Shavington Hall, in Shropshire. This plant is 8 feet high and 4 feet or so through; a charming plant in the best of health. The Mezereum suffers quickly from drought, and should be well mulched during summer with farmyard manure to prevent the evaporation which inevitably takes place when the soil is fully exposed. *D. E.*

Branched Sweet Pea.—I enclose a photograph of Sweet Pea Mrs. Wm. King (see fig. 55), grown by Mr. T. Ryder, market gardener, Burton. From one stem there were 17 flowers. At the ninth flower the stem branched, but there was no sign of leaves. The plant was raised from seed saved from a specimen which carried a similar stem last year, with 18 flowers, which branched at the 12th flower. Of the other stems three carried four blooms each. The plant was grown naturally, not disbudded. *J. Herdman, Under Fell Gardens, Burton, Westmorland.*

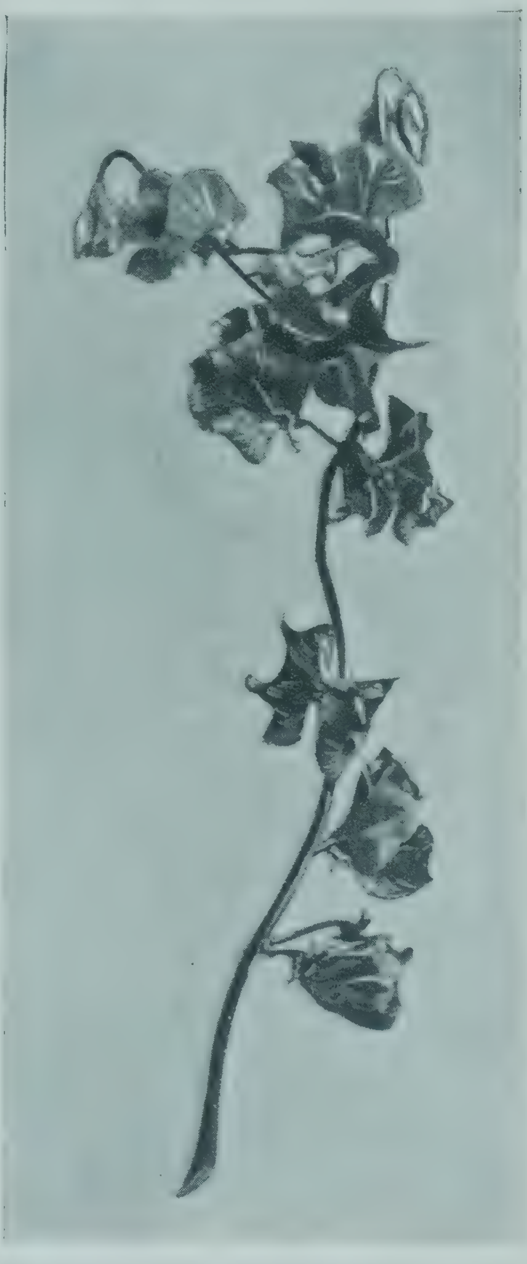


Fig. 55.—Branched inflorescence of Sweet Pea "Mrs. Wm. King."

Vine Culture (see p. 99).—The method advocated by *R. P. B.* is very interesting, but I do not think it would prove successful for market purposes. We market-growers pinch the sublaterals at the first leaf, and thus maintain a good root-action. Grape-growers, in private gardens as well as in trade establishments, practise different methods, and much may be learned by visiting different vineries and noting the results obtained. I am of the opinion that the "simple method" of repressing all lateral growth will usually mean the breaking or bursting of the main eyes. In the case of the Muscat varieties, which need so much light, I have had the eyes break down to the joint above the bunch of fruit. I have stopped the sublaterals three or more times, leaving one leaf at each stopping, but my experience convinces me that it is not good practice to confine the growths of the laterals to main leaves only. The experience of other growers would be valuable. *Stephen Castle, Walpole St. Andrews.*

——*R. P. B.'s* system of growing Grapes by means of primary leaves only and the suppression of all laterals is a step in advance of a method which I have practised for some years with much success. Personally, I allow two primary leaves to develop beyond the bunch; then the subsequent laterals formed are pinched at the first leaf, thus there are four leaves beyond the bunch, two primary and two secondary. All other laterals as they are formed are rubbed off (not pinched) weekly, and in a house 30 feet by 17 feet all the laterals can be held in one hand, so persistently are they watched to prevent them from making much growth. A few good, healthy leaves will do better work than a lot of small ones clustered together, which form a hiding-place for mealy bug. The berries of Muscat of Alexandria respond remarkably well to this treatment, but Madresfield Court is liable to crack if suppression is too close. If Mr. Arthur W. Witt will give this method a trial, I am sure he will not go back to the old practice of pinching sub-laterals, for in the method I advocate only laterals are allowed to form. *P. Clapham.*

Secret Commissions.—The warning which you were good enough to publish twelve months ago with regard to secret commissions offered by foreign firms had the effect of setting many employers on their guard. I regret to find, however, from catalogues which have been sent to me that some firms abroad are still attempting to get round the provisions of the Prevention of Corruption Act; and, as the law is powerless to reach such offenders, who have neither offices nor agents in England, I hope you will allow me once more to suggest that those who own gardens should take steps to prevent their gardeners being tempted by bribes. If only a little trouble were taken, dishonest traders would soon have to abandon malpractices which handicap honest firms and cost employers dear. *The Secretary of the Secret Commissions and Bribery Prevention League, Incorporated.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

July 30.—*Present:* Mr. E. A. Bowles, M.A. (in the Chair); Messrs. E. M. Holmes, C. H. Hooper, A. Worsley, G. Wilson, J. T. Bennett Pöe, J. O'Brien, A. W. Hill, and F. J. Chittenden (hon. sec.).

Injury from smelter fumes.—Dr. Voelcker reported that the leaves sent to him from the last meeting were damaged by smelter fumes, probably by hydrochloric and sulphuric acids in the fumes. Zinc and manganese were also present.

Hybrid Orchid.—Mr. O'Brien drew attention to a hybrid Orchid, Brasso-Cattleya × Thetis, shown by Messrs. J. Veitch & Sons. It was raised between Brassavola Digbyana and Cattleya Aclandiæ, but practically all the spotting of the latter species had been eliminated by the cross.

Caterpillars on Hops.—Mr. E. M. Holmes remarked upon damage done to Hops by the larvæ of the peacock Butterfly, Vanessa Io, in Herefordshire; Vanessa C.-album frequently damages them, but he had no doubt whatever that in this case V. Io was the culprit.

Mimulus moschatus almost scentless.—Mr. A. W. Hill showed specimens of Mimulus moschatus to draw attention to the almost scentless condition of the plants. It would that under certain cultural conditions this plant fails to produce the essential oil to which its characteristic odour is due in any great quantity.

Delphinium macrocentron.—Mr. Bartholomew, of Reading, sent a specimen of this uncommon species of Delphinium from his garden. It is a native of Uganda and is somewhat poorly figured in *Bot. Mag.*, tab. 8151.

BISHOP'S WALTHAM HORTICULTURAL.

July 24.—The 38th annual exhibition of this society was held in the Palace Ruins, at Bishop's Waltham. This site is conveniently near to the railway station, and picturesque in its surroundings. The display was a remarkable one, especially in the floral department, in which this society excels. Much encouragement was given to decorators of tables, vases, &c., substantial prizes being offered for these exhibits.

Floral Classes.

Four classes were provided for decorated dinner-tables. The principal class was for a table 6 feet by 3 feet, in which the use of Orchids, Carnations, and Roses was prohibited. There were eight entries, and each exhibit made a fine display. Mrs. E. C. Pern, Droxford, Hampshire, was awarded the 1st prize for an arrangement of Sweet Pea "Melba," very harmoniously combined with suitable foliage, such as Berberis purpurea, Croton leaves, Asparagus grasses, and Selaginella. The effect produced was very pleasing, and the decoration was not too crowded. Miss Taylor, Bemerton Rectory, Salisbury, was 2nd, with pink Larkspur and Francoa ramosa prettily blended.

In the class for a table decorated with Roses or Carnations, Mrs. A. Bide, Highlands, Farnham, was successful with a gorgeous display of Lady Hillingdon Rose, relieved with its own dark foliage. Mrs. R. G. Bealing, Bassett Nursery, Southampton, came 2nd, with pink Carnations and suitable foliage.

There were eight competitors in the class for a table of Sweet Peas, Mrs. A. Bide won the premier award with a rich combination of yellow, white, and red blossoms, associated with Asparagus and richly-coloured trails of Ampelopsis. Mrs. Parvin, Winter's Hill, Bishop's Waltham, who was 2nd, used pink and white flowers.

Miss Taylor was successful with a prettily-arranged table of Clarkias, in the class confined to lady members, in a keen competition. Mrs. Pern, who was placed 2nd, arranged purple and white Centaureas. For a basket of flowers, Mrs. A. Bide was awarded the 1st prize, for a charming arrangement of Roses, including Mrs. A. Goodwin and a pretty, single-flowered variety named Mrs. W. Massey. Wild flowers were quite a feature of the show. Miss Taylor won the 1st prize in this class with a delightful collection, prettily arranged in a basket. There were nine competitors in the class for a vase of flowers; Mr. Ellwood won the premier award with Larkspurs and Tamarisk.

Mr. Bealing showed the best vase of Carnations, presenting Enchantress in fine form. Sweet Peas in vases were numerous. Mrs. Bide won the 1st prize in this class with some high-class blooms, well arranged. In the class for a bowl of Roses, Mr. Bealing was successful with a glorious mass of Mme. Abel Chatenay. Mrs. Bide won the 2nd prize with Sunburst.

Entrants in the class for cut flowers were, as usual, very numerous. Among other competitors, Dr. Pern, of Droxford, was placed 1st for 12 vases of Sweet Peas, showing excellent flowers. Mr. J. Peppler, Bishop's Waltham, won the prize for six vases, and Miss Gladstone, Hampton Hill, Swanmore (gr. Mr. A. Cooper), won Messrs. J. Carter & Co.'s prize for six bunches. Mrs. Macrae, Meonstoke House (gr. Mr. H. Childs), won Mr. Robert Sydenham's prize for six varieties, and T. C. Wilson, Esq., The Thickets, Bishop's Waltham (gr. Mr. G. Barnes), was equally successful in Messrs. Toogood's class. In all classes the blooms were of good quality.

Annuals made a great display. W. H. Myers, Esq., Swanmore Park, Bishop's Waltham (gr. Mr. G. Ellwood), won the 1st prize for six varieties with a charming collection of Mallows, Larkspurs, Godetias, &c.

Mrs. Macrae won the premier award for 18 varieties of hardy flowers, and also for 12 bunches. Roses were numerous and good, especially Ramblers, which are here particularly encouraged. Mr. Myers won the chief award for six varieties with long trails of Lady Gay, Minnehaha, Flower of Fairfield, and Excelsa, and was also 1st in the class for six bunches of any other variety.

Cactus Dahlias, in bunches of four varieties, were distinctly good. Miss Gladstone won the 1st prize; there were five other competitors.

Fruits were not numerous, but the quality was good. For four kinds of fruit (Grapes excluded), Mr. Myers was successful with Peaches, Nectarines, Melons, and Plums. Mr. Macrae won the chief award for four dishes of fruit grown out-of-doors—a very commendable collection.

In the vegetable classes, which were a strong feature of the show, Mr. Myers was again successful in all classes in which he competed. This exhibitor secured the leading awards for collections in which the prizes were provided by Messrs. Sutton & Sons, Toogood & Sons, Carter & Co., Webb & Sons, and Dickson & Robinson. The Onions, Peas, Tomatos, Potatos, Cauliflowers, and Carrots he showed were remarkably fine.

Mrs. Macrae won the premier place in competitions arranged by Messrs. Daniels Bros. and Messrs. E. Hillier & Son, Winchester.

TAUNTON DEANE HORTICULTURAL.

July 25.—The 45th annual show of this society was held at Vivary Park on the above date. The weather, after the preceding day's heavy rainfall, was favourable, and the society can still boast of always having had fine weather for their show.

In the open class for groups of plants, 13 ft. by 10 ft., arranged for general effect, Messrs. J. Cypher & Sons, Cheltenham, won the 1st prize with a tastefully-arranged group; 2nd, Mr. W. Vause, Leamington, whose group was not so bright, but contained fine single-stemmed Codiæums (Crotons); 3rd, Mr. W. Brock, Exeter.

In the class for amateurs' groups, Mr. Cornelius, Weston-Super-Mare, won the 1st prize.

The best group of 12 stove and greenhouse plants in flower was shown by Messrs. J. Cypher & Sons; Mr. W. Vause was 2nd; and Mr. A. W. Brock, Exeter, 3rd.

In the class for six stove and greenhouse plants, three specimens in flower, Messrs. J. Cypher & Sons were again placed 1st; very closely followed by H. Cornelius, Esq., Weston-super-Mare.

Roses.

For 36 varieties, distinct, Messrs. Perkins, Coventry, were awarded the 1st prize, and also for 18 varieties, distinct, and for 18 blooms (Teas), in not fewer than nine varieties.

In the class for 24 blooms grown in the county of Somerset, Mr. Rowland Adams was placed 1st and Messrs. Jarman & Co. 2nd.

The class for dinner-tables arranged with decorations of fruit and flowers, and laid for dessert for eight persons is always keenly contested, and in this instance two equal 1st prizes were awarded to Mr. C. J. Ellis, Weston Nurseries, Weston-super-Mare, and Sir W. Howell Davies, Stoke Bishop (gr. Mr. Curtis). The arrangement of Mr. Ellis was the more novel; a looped centrepiece had at either side neat candelabra-like stands containing lightly-arranged bouquets and trailing foliage; the chief flowers used were Cattleyas, Oncidiums, Francoa, &c., whilst the other table contained a rustic epergne as a centrepiece, and the usual four corners with Cattleya Harrisoniæ and brown and yellow Oncidiums. In the circumstance of equal 1st prizes there was no 2nd prize awarded, and Mr. W. Cole, Bath, was placed 3rd. The fruit on the two first tables was of superb quality.

Fruit and Vegetables.

The display of fruit in the open classes was excellent. Mr. Harold St. Maur, of Stover Park, Newton Abbott (gr. Mr. G. Richardson), gained the premier honours for a collection of eight dishes, which included fine bunches of Muscat of Alexandria Grapes, Violette Hâtive Nectarine, Superlative Melon, and splendidly-finished Black Hamburgh Grapes. F. J. B. Wingfield Digby, Esq. (gr. Mr. Turton), 2nd, whose Grapes were not quite so good.

For a collection of four dishes, Mr. H. St. Maur was again placed 1st with equally good quality; 2nd, F. J. B. Wingfield Digby, Esq. The same exhibitor was also 1st with three bunches of Black Hamburgh and for Muscat of Alexandria Grapes.

For three bunches of any other black Grape, Mrs. Balliscombe Worle, Weston-super-Mare, was 1st with massive bunches.

For a collection of vegetables, of 10 distinct kinds, Mr. B. C. Shepherd, Bridgwater, was awarded the 1st prize for a magnificent collection; Mrs. Bernard was a close 2nd; and the Earl of Devon, Powderham, 3rd. The whole of the vegetables reached a very high standard of excellence.

Non-competitive Exhibits.

Messrs. Robert Veitch & Son, Exeter, arranged a magnificent display of herbaceous and Alpine plants, hardy shrubs and new and rare plants.

Messrs. A. A. Wallace showed Phlox in a choice and great variety, arranged in masses of each colour. Roses and herbaceous plants were also a fine collection.

Messrs. Young & Co., Cheltenham, exhibited a noteworthy collection of Carnations.

Messrs. W. E. & T. Cousins arranged floral designs, Carnations, &c.

Messrs. Rich & Co. staged Pentstemons in a good range of colours.

MIDLAND CARNATION AND PICOTEE.

July 31, August 1.—The weather on the opening day of the 22nd annual exhibition of the above society, held at the Botanical Gardens, Edgbaston, was very wet and cold. The classes were well filled with flowers of good size and general excellence. Fancy Carnations—both dressed and undressed—have rarely been seen in better condition. The show was more extensive than that held a year ago. The non-competitive exhibit of Roses and Phloxes from Messrs. Gunn & Sons well deserved the Gold Medal awarded.

Flowers Shown on Cards (Open).

Single Blooms.

The schedule required 12 varieties to be shown in each of the first five classes.

Self Carnations.—1st, Messrs. A. R. Brown, Ltd., King's Norton, who had exquisite flowers of the following varieties:—W. H. Parton, Albion, Wyatt, Theodore Galton, Alba, Scarlet Gem, Modesty, Daffodil, Burlington, Cambria, Longfellow, and Mrs. George Marshall. 2nd, Mr. H. Mathias, Stubbington, Hants., whose best varieties were Daffodil, Titan, Mrs. G. Howard, Elizabeth Shiffner, Kappa, Theta, and Irma. 3rd, Mr. C. F. Thurstan, Wolverhampton.

Fancy Carnations.—The stand which gained the 1st prize for Mr. H. Mathias was particularly good. All the specimens were large, shapely, and of good substance. The varieties exhibited were Mrs. Leo Hunter, Vandyck, Lord Steyne, Father O'Flynn, Donald Macdonald, Bombardier, Hercules, Erl King, Hecla, Zeta, Daniel O'Connor, and Linkman. 2nd, Mr. C. H. Herbert, Acocks Green, whose exhibit contained superb flowers of Lord Steyne, Mrs. Penton, Forester, Linkman, Alice Byron Stuart, Rony Buchanan, and Father O'Flynn. 3rd, Mr. A. W. Jones, Yardley. There were seven exhibits.

Yellow-ground Picotees.—Mr. H. Mathias also won the 1st prize in this class. He showed magnificent blooms of Ariel, Onward, Corona, Gloria, Santa Claus, F. W. Goodfellow, Gamma, Togo, Delta, Dago, Beta, and Alpha. 2nd, Mr. C. H. Herbert, whose blooms of Margaret Lennox, John Ruskin, Santa Claus, Onward, Togo, Corona, and Ophir were beautifully clean and fresh. 3rd, Messrs. A. R. Brown, Ltd.

White-ground Picotees.—Mr. C. H. Herbert excelled in this class. He showed the following varieties in splendid condition:—W. E. Dixon, Pride of Leyton, Mrs. Payne, Beaty, Fair Maiden, Mrs. Twist, John Smith, Hon. Mrs. Kenyon, Amy Robsart, Thos. William, Lady Louise, and Mrs. Openshaw. 2nd, Mr. C. F. Thurstan, whose exhibit contained dainty blooms of Molly, Carrie Goodfellow, Mrs. Gorton, Myra, Lavinia, Excelsior, and White Heather. 3rd, Messrs. A. R. Brown, Ltd.

Flake or Bizarre Carnations.—Mr. C. H. Herbert again led with an even lot of blooms of the following varieties :—Master Fred, Peter Pan, George Rudd, J. S. Hedderley, Admiral Curzon, Wm. Skirving, Bobbie, George Melville, S. S. Thomson, Sportsman, Gordon Lewis, and Meteor. 2nd, Mr. C. F. Thurstan, whose stand included very fine specimens of Sir Kenneth, Gordon Lewis, J. S. Hedderley, Mrs. T. Lord, Admiral Curzon, and Sportsman. 3rd, Mr. H. Mathias, whose flower of Peter Pan was particularly good.

Undressed Flowers Shown in Trebles (Open).

Six varieties were required in each of the four following classes. The flowers were staged in vases, and Carnation foliage and buds only were allowed.

In a class for Self Carnations there were six exhibits, against two last year. Messrs. A. R. Brown, Ltd., were the most successful exhibitors, showing the undermentioned varieties in excellent condition :—Mrs. George Russell, Sappho, Wyatt, Britannia, H. J. Thornton, and Albion. 2nd, Mr. A. W. Jones, who showed very good blooms of Daffodil, Mrs. George Marshall, and Mrs. Flight. 3rd, Mr. R. G. Rudd.

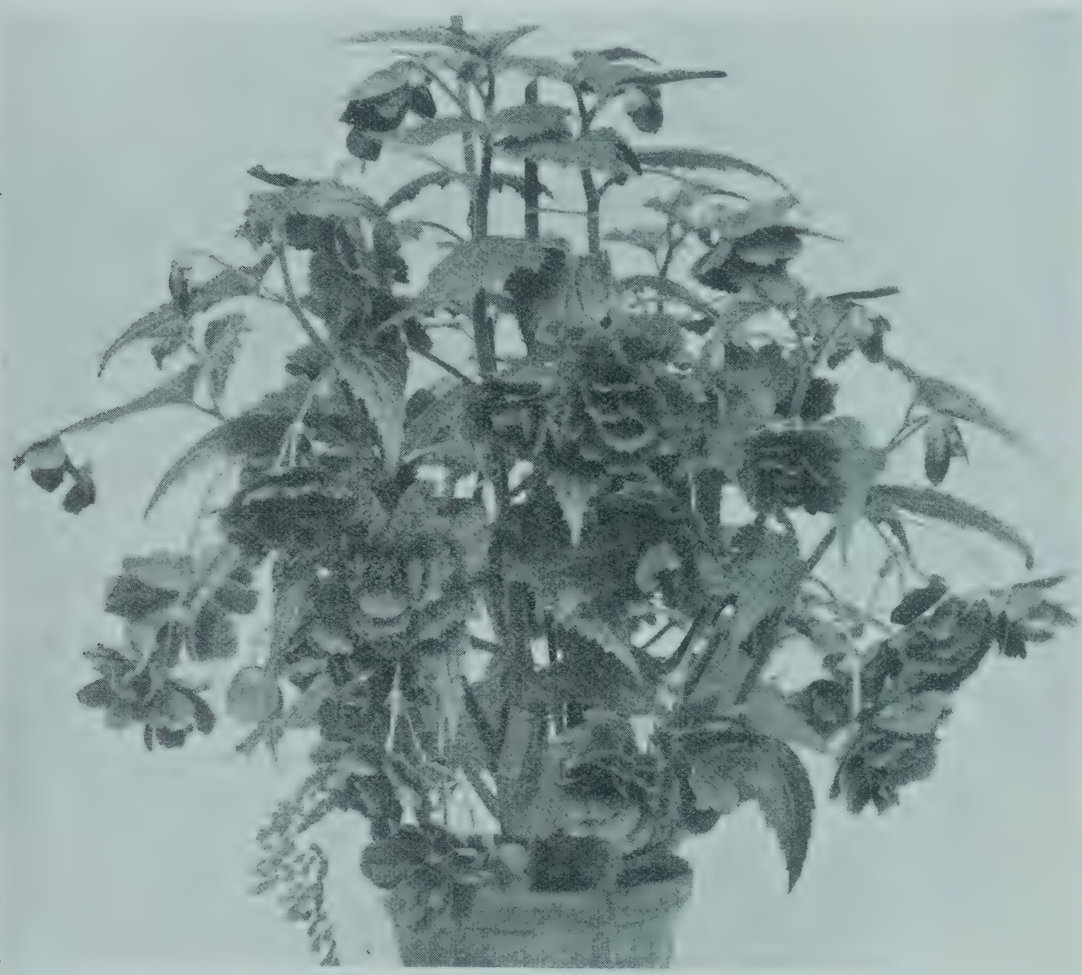


Fig. 56.—BEGONIA "DECORATOR": COLOUR OF FLOWERS, SCARLET.

(R.H.S. Award of Merit on the 30th ult. when shown by Messrs. H. Cannell & Sons. See p. 100.)

Messrs. A. R. Brown, Ltd., again took the lead in the next class, which was for Fancy Carnations, with exquisite blooms of Nomad, Queen Eleanor, Billy Barlow, Clement Jupiter, and Mandarin. 2nd, Mr. R. G. Rudd, whose best blooms were Lord Steyne, Pasquin, and Rony Buchanan. 3rd, Mr. C. H. Herbert.

Mr. R. G. Rudd was placed 1st in a class for Yellow-ground Picotees. He had splendid flowers of Agnes, Lady Gascoigne, Exquisite, Peter Pan, Santa Claus, and John Ruskin. In the 2nd prize stand, which came from Mr. C. H. Herbert, the varieties Togo and John Ruskin were superbly shown. 3rd, Messrs. A. R. Brown, Ltd.

In the next class, which was for White-ground Picotees, the last-named exhibitors gained the 1st prize with refined flowers of Mrs. Hammond, Silas Osbaldison, Dorothy, Scribonia, Amy Robsart, and Cynthia. 2nd, Mr. C. H. Herbert, whose best specimens were Mrs. Chaundy and Mrs. Payne. 3rd, Mr. H. Mathias.

Flowers Shown on Cards (Amateurs).

The best of eight exhibits in a class for six Self Carnations, dissimilar, came from the Rev. C. A. Gottwaltz, Hadzor Presbytery, Droitwich, whose flowers were remarkable for their even size, form, and good colour. The varieties exhibited were H. J. Thornton, Iberia, Albion, John Pope, Dean Swift, and Snow White. 2nd, Mr. C. F. Budenberg, Marple, with good blooms of Tubal, Cardinal, and Mrs. Howard Green. 3rd, Mr. F. Bayliss, Walsall.

The Rev. C. A. Gottwaltz won the 1st prizes offered in classes for (1) Yellow-ground Picotees and (2) White-ground Picotees. Sylph, John Ruskin, and Lady Douglas Galton were the best varieties in the first-named class. Margaret, Fair Maiden, and Lady Sybil were the best of the White-ground Picotees. Mr. C. F. Budenberg was placed 2nd in the first-named class, and Mr. W. H. Clements, King's Norton, 2nd in the latter class.

The winning exhibit of Fancy Carnations, dissimilar, came from Mr. A. H. Birchley, Selly Oak, who showed handsome flowers of Hercules, Lord Steyne, Linkman, Mrs. Leo Hunter, Gaiety, and Margaret Thurstan. 2nd, Mr. F. Bayliss, Walsall. 3rd, Mr. B. J. Willetts, Yardley.

Undressed Flowers Shown in Trebles (Amateurs).

Mr. C. F. Budenberg won the 1st prizes in the classes for (1) three varieties of Self Carnations and (2) three varieties of Fancy Carnations. Mr. W. H. Parton was 2nd in each class. Both exhibitors had flowers of great merit.

Mr. W. H. Parton beat five contestants in the next class, which was for Yellow-ground Picotees. His flowers of John Ruskin, Santa Claus, and Exquisite were uncommonly good. 2nd, Mr. A. H. Birchley. 3rd, Mr. C. F. Budenberg.

The Rev. C. A. Gottwaltz showed the best three varieties of White-ground Picotees. 2nd, Mr. C. F. Budenberg.

The most successful exhibitors in the classes reserved for those who do not grow more than 300 plants were Mr. W. Rogerson, Mellor; Mr. H. J. Thornton, Sutton Coldfield; Mr. E. J. Brookes, Bearwood; and Mr. F. Woodward, Bournville.

Premier Flowers (Dressed).

Bizarre Sir Kenneth, shown by Mr. C. F. Thurston; *Flake* Peter Pan, shown by Mr. H. Mathias; *Heavy-edged White-ground Picotee* Margaret, shown by Rev. C. A. Gottwaltz; *Light or Wire-edged White-ground Picotee* Fair Maiden, shown by Rev. C. A. Gottwaltz; *Heavy-edged Yellow-ground Picotee* Gloria, shown by Mr. H. Mathias; *Light edged Yellow-ground Picotee* Onward, shown by Mr. H. Mathias; *Yellow-ground Fancy* Hercules, shown by Mr. A. H. Birchley; *Self* H. J. Thornton, shown by Rev. C. A. Gottwaltz.

Premier Flowers (Undressed).

Self Wyatt, shown by Messrs. A. R. Brown, Ltd.; *Fancy* Linkman, shown by Mr. O. O. Weiss; *Yellow-ground Picotee* John Ruskin, shown by Mr. W. H. Parton; *White-ground Picotee* Fair Maiden, shown by Mr. F. Woodward.

First-class Certificate.

Scarlet Self Carnation H. J. Thornton.—Shown by Rev. C. A. Gottwaltz.

Winners of Medals.

The Silver Medal offered to the most successful exhibitor in the open classes was won by Mr. C. H. Herbert, with 144 points. Messrs. A. R. Brown, Ltd., gained the Bronze Medal with 143 points. Mr. C. F. Budenberg was awarded the Silver Medal offered in the amateur class, with 84 points. The Bronze Medal was won by Rev. C. A. Gottwaltz, with 79 points. The above medals were given by the Birmingham Botanical and Horticultural Society. The Midland Carnation Society's Silver Medal, offered in the smaller classes, was won by Mr. W. Rogerson, with 58 points, and the Bronze Medal by Mr. H. J. Thornton, with 52 points.

Sweet Peas.

Robert Sydenham Limited offered prizes for 12 varieties of Sweet Peas and the 1st prize was won by Mr. A. Taylor, Olton; 2nd, Mr. E. Deakin, Hay Mills; 3rd, Mr. J. Sceaney, Harborne.

Honorary Exhibits.

Messrs. Gunn & Sons, Olton, had an extensive and exceedingly pretty exhibit of Roses, each variety being represented by bold masses. Messrs. Gunn & Sons also contributed a grand collection of Phloxes. (Gold Medal.)

Messrs. Dicksons, Chester, sent a large assortment of Roses and hardy herbaceous flowers. (Silver-gilt Medal.)

Messrs. W. H. Simpson & Sons, Birmingham, showed about 30 varieties of Sweet Peas, together with Antirrhinums. (Silver-gilt Medal.)

Robert Sydenham Limited, Birmingham, exhibited Carnations in rustic stands. (Silver Medal.)

ROYAL LANCASHIRE AGRICULTURAL.

August 1-5.—The annual exhibition of the above society was held this year at Moor Park, Preston, when the horticultural section, which is now one of the most important in the county, fully upheld its traditions by making a very fine display, although unfortunately many entrants were for various reasons compelled to withdraw their entries.

Plants.

For a group of miscellaneous plants arranged in a space not exceeding 300 square feet, Messrs. James Cypher & Sons, Cheltenham, who were awarded the 1st prize, arranged with their customary skill an admirable group, in which highly-coloured Crotons, healthy Kentias, Liliums, and a variety of Orchids were prominent. Mr. W. A. Holmes, Chesterfield, was 2nd, and Mr. J. Sharp, Almondbury, 3rd. The values of the prizes were £25, £20, and £15 respectively.

Twelve stove and greenhouse plants, not fewer than seven in bloom.—Messrs. Cypher & Sons were the only exhibitors. Their specimens of Kentia Fosteriana, Croton "Queen Victoria," Statice intermedia, Ixora Regina, and Clerodendron Balfouri were very fine.

Twelve stove or greenhouse plants in pots not exceeding 10 inches in diameter.—Here again the 1st prize was awarded to the Cheltenham firm.

Twelve table plants.—This class brought five competitors, the awards going to Messrs. W. A. Holmes, James Sharp, and James Cypher & Sons in the order named.

Six Orchids.—Messrs. Cypher & Sons obtained the premier award; the plants of Lælio-Cattleya Wellsiana, Epidendrum prismatocarpum, and Anguloa Clowesii were especially noteworthy. Messrs. W. A. Holmes and C. Parker, Preston, received the remaining awards.

For the single specimen Orchid Messrs. Cypher won the 1st prize with Lælio-Cattleya callistoglossa; Messrs. Holmes and Parker were 2nd and 3rd respectively.

Cut Flowers.

Mr. W. G. Eastham, of Preston, won the 1st prize for a table of cut flowers showing a fine display; the Liliums were especially good. Messrs. W. J. Garner, of Altrincham, and J. Saul, of Preston, received the remaining awards.

Mr. W. J. Garner arranged the best bridal bouquet, in which Odontoglossums were principally used; the best ball bouquet was that shown by Mr. W. G. Eastham, and Mr. P. W. Heyes exhibited the best bouquet of Roses.

Mrs. J. Nixon and Miss Newsham were the chief winners in the class for dinner-table decorations (Orchids excluded), and in the open class Messrs. W. J. Garner and F. Newsham were the most successful exhibitors.

In the class for 18 vases of Sweet Peas, J. Herron, Esq., Freshfield (gr. Mr. W. Bond), showed the best exhibit; 2nd, Sir R. Graham, Bart., Carlisle (gr. Mr. G. T. Hallett).

The best 12 vases of Sweet Peas were shown by Mr. G. T. Hallett; Mr. F. A. Robinson, Manchester, was the most successful exhibitor in the similar class reserved for amateurs; and for another set of the same number, Mr. R. Kellett was the winner.

For a collection of cut Carnations, Mr. W. Waters, of Balcombe, won the 1st prize with a fine display; J. Brennard, Esq., Thirsk (gr. Mr. J. Hathaway), being a close 2nd.

For a collection of hardy perennials arranged in a space of 15 feet by 5 feet, Messrs. Harkness & Sons, Bedale, won the 1st prize with a grand display well staged; Mr. G. Gibson, Bedale, was 2nd.

For 12 bunches of hardy flowers (the trade excluded), Mr. R. L. Garnett was the most successful exhibitor.

Twenty-four cut Roses.—Messrs. A. Dickson & Sons, Newtownards, won the 1st prize in this class, their blooms of Mr. George Dickson being especially fine; Mr. G. Gibson was 2nd. These two exhibitors received similar awards in the class for 12 blooms; and for a like number (the trade excluded) Mr. R. L. Garnett and Mr. E. Brooks were placed as named.

The Silver Cups offered as special prizes to amateur competitors residing in the county for the most successful aggregate exhibits in their various sections were awarded to the Rev. A. R. Tomlinson, of Bolton-le-Sands, for Sweet Peas; to Mr. W. G. Eastham, of Preston, for hardy cut herbaceous and bulbous flowers; and to Mr. R. L. Garnett, of Wyreside, for cut Roses.

Fruit.

The Duke of Portland, Welbeck (gr. Mr. J. Gibson), won the 1st prize for a collection of 12 varieties of fruit, showing an admirable collection, which contained Grapes Muscat of Alexandria and Madresfield Court, Peaches Barrington and Crimson Galande, a seedling Melon, Kirke's Plum, Brown Turkey Fig, Nectarines, and a Pineapple. Mr. J. Hathaway, who was 2nd, showed well-coloured Muscat of Alexandria Grapes.

Vegetables.

The exhibits in this section were somewhat below the average. Mr. R. Moss, Preston, showed the best collection of nine distinct kinds; 2nd, Mr. G. Barrow, of Carnforth.

Six varieties.—The 1st prizes offered by Messrs. Sutton & Sons and Messrs. E. Webb & Sons were awarded to Mr. G. F. Hallett.

Non-competitive Exhibits.

The Horticultural Station, Hutton, of the Lancashire County Council, staged a collection of growing Peas, fruit trees bearing fruits, and vegetables well staged on a white groundwork. (Gold Medal.)

Messrs. Blackmore & Langdon, Bath, exhibited excellent Begonias. (Gold Medal.)

The King's Acre Nursery Co., Hereford, displayed a fine collection of fruit trees in pots, the Apples and Pears being heavily laden. (Gold Medal.)

Messrs. C. M. Young & Co., Cheltenham, made a fine display with Carnations, the variety A. S. Montgomery being especially good. (Gold Medal.)

Messrs. A. Dickson & Sons, Newtownards, arranged cut Roses in pillars and boxes; a new variety, Mr. Edward Bohanne, received a First-class Certificate and Silver Medal. The variety Mr. G. Dickson was conspicuous for its good colour. (Gold Medal.)

Messrs. H. B. May & Sons, Edmonton, arranged a fine bank of Ferns; the specimens Davallia tenuifolia Veitchii was very pretty. (Gold Medal.)

Mr. R. Bolton, Warton, showed a large collection of Sweet Peas. (Gold Medal.)

Messrs. Dickson & Robinson, Manchester, arranged cone-shaped collections of Sweet Peas and culinary Pears in considerable variety. (Gold Medal.)

Messrs. Sutton & Sons, Reading, exhibited a very fine collection of vegetables and fruits. (Gold Medal.)

Messrs. Dickson, Brown & Tait, Manchester, set up a fine collection of Potatos. (Gold Medal.)

Mr. J. Saul, Preston, built a rock and water garden at the chief entrance, in which fountains, Water Lilies, with foliage and flowering plants, were utilised. (Gold Medal.)

Mr. H. Middlehurst, Liverpool; Messrs. Castle Bros., Carnforth; and Mr. W. Wright, Formby, were awarded Silver Medals for collections of Sweet Peas.

Mr. S. R. Crompton, Macclesfield, displayed Violas and Pansies. (Silver Medal.)

Mr. H. N. Ellison, West Bromwich, arranged a collection of Ferns. (Silver Medal.)

The following firms had effective displays at their several stalls overlooking the ring:—Messrs. Dicksons, Chester; Messrs. Dickson & Robinson, Manchester; Messrs. Toogood & Sons, Southampton; Messrs. E. Webb & Sons, Stourbridge; and Messrs. Dickson, Brown & Tait, Manchester.

PERTHSHIRE SWEET PEA.

August 2, 3.—There was a large attendance at the third annual exhibition of the Perthshire Sweet Pea Society, which was held on these dates in the New City Hall, Perth. There was a record entry, but owing to a severe storm of wind and rain about a week before the show, a great number of competitors could not fulfil their obligations. Notwithstanding this, the Hall contained many exhibits, and a fine display of Sweet Peas—certainly the best in Scotland—was to be seen. With few exceptions, the flowers were weather-stained, but the quality throughout was of a very high order. On this occasion there were no non-competitive exhibits from England, as at this late date most of the best flowers in the south are over.

The principal class was for a display of Sweet Peas arranged for effect, no restriction being made as to space, style of arrangement, vases, or number of sprays, and open to the trade only. The 1st place was awarded to Mr. D. McOmish, Crieff, for a pretty display of the most useful varieties in commerce; all the flowers were well grown and attractively staged. The 1st prize included the society's Gold Medal. Messrs. Thyne & Son, Dundee, were 2nd, and received the Silver-gilt Medal for a circular table, on which a large number of varieties were shown. Too many varieties, a great many of them differing only in name, were staged, and many of the flowers were weather-beaten. The 3rd prize was awarded to Messrs. Herd Bros., Penrith.

The Scottish Challenge Cup, presented by the National Sweet Pea Society, was easily won by Mr. John A. Grigor, Forres. His outstanding varieties were Dobbie's Cream and Dobbie's Sunproof Crimson, both varieties showing remarkable colour. The Rev. Harold Mayall, Comrie, was 2nd, and received the society's Silver Medal for 12 vases, very slightly inferior to the winning exhibit. The varieties May Campbell, Elfrida Pearson, and Dobbie's Cream were exceptionally fine. Third prize and the society's Bronze Medal were awarded to Mr. John Machar, Forfar.

The Challenge Cup presented by Sir John Dewar, Bart., M.P., induced a good competition, and the cup was awarded to Mr. Shaw, Boquhan, who showed 12 vases of flowers of even quality. The 2nd prize and the society's Silver Medal were won by Mr. Jas. Kennedy, Moness, his blooms of Edrom Beauty and Mrs. Cuthbertson being especially noteworthy. Mr. J. Farquharson, Kinfauns Castle, received 3rd prize and the society's Bronze Medal.

In the class for six bunches, the Rev. Harold Mayall was easily 1st; the Rev. Stewart Crabb, Cupar, 2nd; and Mr. Jas. Kennedy, Moness, third.

The National Sweet Pea Society's Silver Medal, offered in addition to the 1st prize in a class for small growers who do not grow more than 15 yards or clumps of Sweet Peas, was awarded to Mr. H. Rose, Aberfeldy.

In the class for a decorative display of Sweet Peas arranged on a table 4 feet 6 inches by 3 feet, the Rev. H. Mayall was 1st; Mr. Shaw, Boquhan, 2nd; and Mr. G. Reid, Downfield, 3rd.

There was keen competition in the class for the decorated dinner-tables. The 1st prize was awarded to Mrs. F. McKenzie, Perth, for a pretty arrangement of pink and white flowers; 2nd, Miss Morrison, Perth; 3rd, Miss King, Perth. Messrs. Thyne & Son, Dundee, were 1st in the bouquet class; and Mr. H. Sinclair, Aberdeen, 2nd.

The 1st prize presented by Mr. Robert Bolton, of Carnforth, was won by Mr. John A. Grigor, Forres, and Mr. Crossly, of Comrie, won the principal prize offered by Messrs. Dobbie & Co., Edinburgh. In the open class for the prizes offered by Robert Sydenham Limited, Mr. Drummond Hay, of Geggieden, had the best exhibit.

There were many other classes and all were contested.

Non-competitive Exhibits.

Messrs. Dobbie & Co., Edinburgh, filled the whole of the space in front of the platform of the Hall with a large and comprehensive display of their novelties, and older varieties of Sweet Peas. The same firm showed a small table of Collarette Dahlias. (Gold Medal.)

Messrs. R. Henderson & Sons, Perth, staged cut flowers, Ferns, and various fruits. (Gold Medal.)

Mr. M. H. Sinclair, Aberdeen, showed a small table of well-grown border flowers displayed in glasses. (Silver Medal.)

WEST DERBY HORTICULTURAL.

August 5.—This Bank Holiday exhibition was well supported in splendid weather. The entries were well up to the average, the show being held in the Rectory Grounds, Liverpool, by the kind permission of the president, the Rev Percy Stewart.

In the cut-flower section special interest was taken in this year's exhibition on account of the presentation of a handsome challenge cup by Messrs. W. Wright & Sons, for 12 bunches of hardy herbaceous cut flowers, which was well won by the Rev. Percy Stewart (gr. Mr. T. Edgar) with fine bunches of flowers; 2nd, Mr. G. Osborne. For 12 bunches of hardy and half-hardy annuals the winners were Drs. Tidsdale and Ingle (gr. Mr. G. Osborne); 2nd, Mr. C Crossthwaite. Mr. G. Osborne was successful with 12 Gladioli, showing good spikes. The same exhibitor also won in the class for 12 Roses and 12 vases of Sweet Peas. Mr. T. Edgar exhibited the best 12 Cactus Dahlias, and Mr. R. S. Shepherd showed the best Carnations. In the class for a miscellaneous group of plants arranged for effect, Mr. G. Osborne was awarded the 1st prize. For one foliage plant Mr. G. Osborne excelled with a good Croton, Mr. Leith being placed second for a Palm. For a single specimen flowering plant, D. Cunningham, Esq. (gr. Mr. Leith), secured the 1st prize with a well-bloomed Fuchsia; 2nd, Mr. G. Osborne, who was successful in the classes for two Pelargoniums, for two Palms and for four stove or greenhouse plants, in which there was a well-flowered Lilium, Mr. Leith was placed 2nd in the latter class.

In the vegetable section, Mr. G. Osborne excelled in the class for nine distinct varieties; 2nd, Mr. Leith. For six varieties, Messrs. T. Edgar and S. Basford were placed 1st and 2nd respectively. Mr. Leith showed the best exhibit of Cucumbers and Tomatos, the latter being splendid fruits.

For the special silver cups offered for Sweet Peas the prize-winners were Mr. J. B. Nicholls, Mr. J. Skitt, and Mr. R. L. Shepherd. Mrs. V. Young proved to be the winner in the classes for a basket of flowers, and for dinner-table decorations. Mrs. Young was successful with Carnations.

Obituary.

John Allgood Pettigrew.—The *Florists' Exchange* reports the death of Mr. J. A. Pettigrew at Boston, Mass., on July 2 last, at the age of 68 years. Mr. Pettigrew was one of the foremost park superintendents in America. He was born near Newcastle, England, on April 25, 1844, and gained experience at some of the principal English nurseries. Later he was at Berkeley Hall with the celebrated W. B. Latham, the raiser of Cypripedium Lathamii. The training thus received, combining, as it did, nursery work and practice with the management of roads and park, was invaluable in his future calling of park work. In 1865 Mr. Pettigrew left England and engaged in commercial floriculture in Chicago until he was selected to control several combined quarries near Chicago, and for some years was engaged in this enterprise, which brought him into close relation with contractors and their work. He left this position to assume the management of Lincoln Park, Chicago, which he superintended with conspicuous success. During his term the sea wall was built, with a lagoon skirting it for its whole length. It is a mile long, and, with the work necessary to grade the lagoon, build roads and plant trees, cost about 400,000 dollars. He also designed and built the celebrated Palm-house at a cost of about 80,000 dollars. Notable instances of his ability in garden work were the Lily ponds in Lincoln Park, one of them being artificially heated, and the planting and rockwork in the great Palm-house. Mr. Pettigrew remained in charge of Lincoln Park for many years before going to Milwaukee for a year or so, where he laid out Milwaukee Park. He was called from that service to Brooklyn to take charge of Prospect Park, which he made one of the notable parks in the country. On January 1, 1897, he proceeded to Boston as superintendent of parks, a position which he filled with signal distinction until he was stricken with his last illness.

William Bishop.—This well-known gardener died at Hemsley, Norfolk, on July 18, at the age of 87. Mr. Bishop was born at Burnham. For many years he had charge of several important gardens in Norfolk, notably at Bylaugh Park and Shotesham. He was a successful exhibitor of plants and vegetables in his early days, and frequently acted as a judge at the flower shows at Norwich, Yarmouth, and other places. At one time Mr. Bishop was also an occasional contributor to the *Gardeners' Chronicle*. In his declining years he was a pensioner of the Gardeners' Royal Benevolent Institution.

ANSWERS TO CORRESPONDENTS.

Autumn Giant Broccoli Clubbing *Wermhite*. The fungus attacking the roots of your Broccoli is club-root (Plasmodiophora brassicæ). The disease is caused by a slime-fungus, and the infection arises from spores present in the soil; when infected, the roots of the plants develop wart-like swellings or nodules. The plants are most susceptible to the disease during the first three weeks after germination, and care should be taken that the soil in which the seed bed is formed should be free from contagion. Following an attack of club-root, quicklime has been found to be a good cure, using 35 bushels of lime per acre, which will be found sufficient to arrest the disease. Every plant affected with the disease should be rejected when planting out from the seed bed, and those that are thus rejected should be destroyed by burning. Before planting these green vegetables in their permanent positions, it is a good practice to dip the roots in a puddle formed by mixing together mud, soot, and a little sulphur.

Berries: *J. T. R.* 1, The Lowberry generally ripens from the middle to end of August, a little earlier than the wild Blackberries. 2, The Phenomenal Berry has a little less core than the Loganberry, which it greatly resembles. 3, The Wineberry is an excellent fruit for cooking, prolific in bearing, and possessing a distinct flavour. 4, The American Blackberries are rather uncertain in this country, but many of the Black Cap varieties do well on heavy soils. On the whole they are generally reported upon unfavourably. Wilson Junior is one of the best varieties.

Cyclamen: *W. R.* Eelworm is present in the roots. Treat the soil by heat or with gaslime. See answer to *A. D.* and *W. L.* in last week's issue (August 3) in the first column of page 106.

Douglas Fir: *W. E. A.* A root fungus is present. Your best plan will be to remove the soil and expose the roots as far as practicable. Then dust the exposed roots with a mixture of sulphur and quicklime in equal quantities, and mix same with the soil when filling in.

Gladioli Dying: *P. C.* The Gladiolus plants were killed by the fungus Heterosporium gracile. It is too late to spray the remaining plants, but next spring spray them with liver of sulphur. If the corms are left in the ground permanently, remove the surface soil 2 inches deep, during the winter, and replace with fresh soil mixed with lime.

Grapes Diseased: *Anxious Enquirer*. Brown rot is attacking your vines. Nothing can be done at present whilst the fruit is on the vines, but during the winter spray every part thoroughly with sulphate of copper, using 1 lb. of sulphate of copper to 25 gallons of water. This spray fluid must only be used when no green leaves are present.—*W. G. L.* The mildewed Grapes should be sprayed twice a week with liver of sulphur, using 2 ounces of sulphur in 3 gallons of water. Spray again next spring before the disease appears. For the treatment of brown rot see reply to *Anxious Enquirer*.

Mimulus, Polyanthus and Antirrhinums: *J. D. S.* Plants of Mimulus which have only recently been raised from seed will be much too soft to withstand the winter out-of-doors, and it is advisable on the approach of severe weather to place the seedlings in a cold frame or make another sowing next year in February or March. The Polyanthus, if pricked off in light soil, will probably live through the winter, but it would have been much better to have sown the seed last April, as the seedlings would now have been good plants, which would flower well next season. Antirrhinums will occasionally live through the winter in the open air, but the usual practice is to give the seedlings the shelter of a cold frame, planting them in their flowering quarters in April. Antirrhinums which have wintered in the open will often grow from the base in the spring, but they are not really hardy in all districts.

Names of Plants: *W. W. W.* Kindly send fresh specimens; those received are too scrappy to identify.—*J. H.* 1, Stachys grandiflora; 2, Lamium maculatum; 3, Coronilla varia; 4, Tradescantia virginica; 5, Macrotomia echioides; 6, Stachys Betonica rosea.—*H. G.* 1, Aspidium angulare; 2, Asplenium Trichomanes; 3, Arundinaria Fortunei; 4, Urtica sp.; 5, Sedum Sieboldii variegatum.—*Old Subscriber.* 1, Centranthus ruber; 2, send in flower; 3, Nephrodium molle; 4, Begonia Weltoniensis; 5, Veronica longifolia; 6, Bocconia cordata.—*T. J. M., Cheshire.* 1, Asplenium bulbiferum; 2, Euphorbia splendens; 3, Arundinaria sp., material insufficient for identification; 4, Bougainvillea glabra; 5, Stephanotis floribunda; 6, Asparagus scandens; 7, Abelia grandiflora.—*H. A.* 1, Lycium chinense; 2, Achillea Ptarmica; 3, Campanula carpatica; 4, Platycodon grandiflorum; 5, Buphthalmum salicifolium; 6, Statice tartarica.—*A. H. L.* 1, Veronica virginica; 2, Hyssopus officinalis (Hyssop); 3, Satureia montana (Winter Savory); 4, Origanum vulgare (Wild Marjoram).—*F. Denis, Balarue, France.* Lavatera assurgentiflora, Kell.—*D. C.* 1, Sequoia sempervirens; 2, Abies Pinsapo; 3, A. Nordmanniana; 4, A. Nordmanniana (diseased); 5, A. nobilis; 6, Cupressus Lawsoniana var. erecta; 7, Tsuga Pattoniana glauca; 8, Cupressus pisifera var. filifera; 9, Libocedrus decurrens; 10, Cupressus Lawsoniana; 11, Actinidia arguta.—*A. E., Kent.* 1, Adiantum Pacotii; 2, Osmunda regalis; 3, Nephrolepis Piersoni var.; 4, Cuphea ignea; 5, Acacia armata; 6, Coronilla glauca.—*N. E.* 1, Lathyrus sativus; 2, Inula ensifolia.—*J. H. J.* Heliopsis lævis.—*Miss Pike.* Leaf: Funkia subcordata; flower: Anchusa sempervirens.—*H. H.* Epipactis latifolia, common in marshy districts in some counties.—*F. W. B.* Lygodium scandens, a climbing Fern.—*R. O. Y.* 1, Pteris aquilina (Bracken); 2, Athyrium Filix-fœmina; 3, Lastrea rigida; 4, Asplenium viride.—*G. M. M.* Calycanthus floridus.

Nymphæas and their Propagation: *F. E. Hutchinson.* Nymphæas may not only be propagated by seeds, but also by division of the tubers and rhizomes. Propagation by division is usually adopted in the trade. It should be carried out at about the end of April when growth has commenced. By lifting the tubers it will be seen that in nearly every instance small offsets are formed upon the main stem. These should be cut away with a sharp knife, with some of the young rootlets attached at the base. Make these firm in small punnets rather than in pots by tying them in, over, and above the soil. Root action will soon take place, after which these young plants may be sunk in rather deeper water. N. Daubenyana—a pale blue variety—may also be propagated by the young plants that form on the top of the leaf close to the leaf stalk. We do not know of any other species that has this characteristic.

Oncidium Leaves: *Carnation, Leamington.* The Oncidiums are attacked by the "Spot" disease which is often spread by the presence of moisture on the leaves at a time when the atmospheric temperature is falling. The difference between the day and night temperatures is too extreme. If any of the Oncidiums are badly affected, they had better be destroyed by burning, for it is cheaper to buy healthy young plants than make attempts to bring the unsightly and diseased specimens back to health.

Pelargonium: *W. B.* The Pelargonium leaves are infested with the fungus Cladosporium epiphyllum, which can only attack plants when they are very moist. Spray the plants with a rose-red solution of permanganate of potash.

Potatos: *M. C. R.* The stunted habit of the Potatos is due to the use of diseased tubers.

Roses: *Hibernicus.* The fungus, Botrytis cinerea, is present on the Roses, and its spread is favoured by the flowers being too wet.

Spraying: *R. O. F.* Whilst forcible spraying with clear water will remove aphis, it is generally advisable to spray with a decoction of quassia or some other approved insecticide.

Stocks: *W. B.* The soil in which your Stocks are growing is infected with the fungus Sclerotinia, and should be treated with gaslime.

Sweet Peas: *G. G.* Even the best-grown Sweet Peas usually produce three-bloom sprays at first. It is probable that your plants will presently give four-bloom sprays in abundance. The culture you describe is excellent; we should have said it is too rich, but for the fact that you are on sandy soil. You say you have some of the best varieties. Doubtless you are aware that some varieties are more prolific of four-bloom sprays than others, and for next year's sowing you should select such varieties if you wish to have a greater proportion of these flowers.

Sweet Peas Diseased: *S. D., "Plympton,"* and *H. G. T.* The soil is affected with the fungus Thielavia basicola. In future, sterilise the soil before sowing the seed.

Communications Received.—B. G.—Hurlock—J. H.—Anxious—H. G.—Rubrum—La Cloche—A. P. R.—J. D. H.—J. L.—E. W. & Sons—R. P. B.—M. A. K., Hilversum—E. M.—R. G. W.—J. N. R.—B. C.—P. C.—S. C.—S. & Sons—H. & D.—J. H.—F. E. H.—J. H. B.—W. H.—K. & Son

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FRIAR'S HOUSE, BARRY ISLAND.

(See Supplementary Illustration.)

THE historical and legendary associations of Barry Island, near Cardiff, go far back into the mists of the ages. In mediæval times, within a radius of six miles from this place, half the circle being occupied by the sea, there were, we are told in Mr. G. T. Clark's interesting *Land of Morgan*, 12 castles (dating from about the time of Henry III), some built for the residences of private persons for the defence of the estates and their tenants, whilst others were the property of the chief lord, and were constructed for the defence of the country. Barry Castle, which is on the mainland opposite the western extremity of the island, is, in the words of Leland the antiquary, on a "little hil," and most of it was in ruins when he wrote, in the time of Henry VIII.

The name of "Barry" is stated to be derived from Saint Baroc, who formerly lived here, and whose remains (he died A.D. 700) are said to be deposited in the chapel. "Master St. John of Bedfordshire" was the lord of the place in Leland's time. "The isle," says a writer in the 16th century, is "about a mile in cumfance, and hath very good corne, grasse and sum wood; the ferme of it is worth £10 a year." There was then no dwelling on the island, but in the middle of it was "a fair litle chapel of Saint Barrok, wher much pilgrimage was usid." By the early part of the last century the rental value of the island was £80, and the only house in the place was in part utilised for the accommodation of visitors.

Among the ancient wonders of the place, one recorded by Archbishop Baldwin in 1588, may be mentioned. In a rock near the entrance to the island is "a small cavity, to which, if the ear is applied, a noise is heard like that of smiths at work, the blowing of bellows, strokes of hammers, grinding of tools and roaring of furnaces, and it might be easily imagined that such noises, which are continued at the ebb and flow of the tides, were occasioned by the influx of the sea under the cavities of the rocks."

The modern wonder of the island is the beautiful and extensive rockery which Mr. J. Bathurst Treseder erected last summer at Friar's House, for William Graham, Esq., one view of which forms the subject of the supplementary plate. Friar's House is situated at an exposed point, open to all the gales that sweep along the coast. Of natural advantages for a rockery on a big scale the situation offered little or nothing. It had been for generations a rubbish heap. Forty tons of fine coal had to be removed from beneath a generous overgrowth of creepers, nettles, docks and all kinds of weeds, and 20 tons of old iron and woodwork, portions of derelict bathing machines, and pots and pans were also removed. The rocks, some of which weighed six tons, were procured from the seaside and placed in position by means of cranes and tramlines, and the work of planting had to be carried out during the ever-memorable summer of last year, without rain for many weeks. Every plant had to be carefully nursed, but, in spite of all the drawbacks, the subjects introduced into the Alpine work and plantations grew wonderfully well and clothed the bare places in a manner which can readily be seen from the illustration. From a bare and unattractive rubbish heap the place has been transformed into one rich in beauty and interest with Australian tree Ferns, Palms, Pittosporums, and a thousand and one other shrubs and herbaceous plants. *W. Roberts.*

THE EUGENIAS OF SOUTH AFRICA.

THE paucity of the Myrtaceæ indigenous to South Africa is strikingly shown by a comparison of the Australian flora with that of the former region, for while the prolixity in number of species of Eucalyptus, Melaleucas, and Callistemons in Australia is a by-word, South Africa can only boast of three genera, two of which are, moreover, represented by solitary species. Of the latter, Metrosideros angustifolia, Smith, a shrub or small tree, enjoys a circumscribed distribution in the south-western corner of the Cape Colony, in the Worcester, Caledon and neighbouring divisions, while Barringtonia racemosa, Blume, a tree bearing racemes of white, conspicuous flowers, occurs on the eastern coast of Natal, extending northwards into the tropics.

A consideration of the distribution of Eugenia as a whole suggests that heat in correlation with a prevailing humidity are the chief factors which have contributed to such an enormous assemblage of species as obtain in Brazil, the East and West Indies, Tropical Africa, and India, and that a more arid clime militates considerably against their specific development, as witness North America and South Africa, where the species are extremely few in number. This distribution, dependent so largely upon climatic factors, is exemplified to a lesser degree by the South African species, which approximately number 13. There, in the Cape Colony, the species are confined to the coastal belt, where a greater humidity prevails than in the more inland districts, commencing from the extreme south, in the Uitenhage Division, and extending north-eastwards to Natal, where their greatest development is attained, and it is only on arrival at the sub-tropical belt that their diffusion inland and westwards is noticeable. In the tropical zone the species range from the east to the west coast.

Several of the species, as E. cordata and E. Gerrardii, yield excellent timber,* and it may hereafter prove that certain of the newly-described species may also be productive of good timber.

E. capensis, a densely-leafy shrub, is of considerable importance as a sand-dune binder, covering extensive tracts along the eastern coast from Uitenhage right up to Portuguese East Africa, while other species produce edible fruit, whose utility may subsequently be increased by judicious hybridisation and selection.

The present article aims at a general descriptive account of the species, and is preceded by a key, which may prove of use in the rapid identification of species, and be of assistance to future monographers.

For the enlightenment of the general reader, it may be stated that the description of each species is followed by references to books in which the particular species has been described or incidentally alluded to, and italicised names are to be regarded as synonyms. The distribution then follows, which has been based upon specimens at Kew and in the British Museum. It will be noticed that allusions are made to regions and divisions. These divisions, to a great extent, are arbitrary, and are equivalent to English counties, forming, collectively, the five great regions (three coastal and two central) of South Africa as conceived by Bolus and generally accepted by English botanists.

Points of general interest are then discussed, concluding with a description of the timber (when known) and other items of economic interest.

A.—TREES OR SHRUBS.

(a) Flowers disposed in terminal, trichotomously-branded, cymose panicles. Sepals obsolete. Corolla calyptrate.

i. Leaves subsessile or very shortly petiolate, subcordate and clasping the axis, obtuse or rounded at the apex, thickly coriaceous. Branchlets stout and four-winged.—(1) *cordata*.

ii. Leaves petiolate, attenuate at the base; apex acuminate or cuspidate, thinly coriaceous. Branchlets slender, obsoletely winged.

Leaves elliptic, cuspidate, 3 to 5 cm. long; principal lateral nerves, 1.5 to 2.5 mm. distant.—(2) *Gerrardii.*

Leaves broadly lanceolate, acuminate, 6 to 10 cm. long; principal lateral nerves, 3 to 5 mm. distant.—(3) *Fourcadei.*

(b) Flowers axillary, either solitary or racemosely or cymosely disposed. Sepals conspicuous. Petals free.

i. Ultimate twigs glabrous. Leaves attenate at the base.

*Leaves not exceeding 2.5 cm. in breadth. Peduncles glabrous.

†Midrib raised on both surfaces; petals eglandular.—(4) *zuluensis.*

‡Midrib sunken on the upper surface; petals glandular.

Leaves elliptic, 3 to 4.5 cm. long, 1 to 2.5 cm. broad, bluntly cuspidate. Peduncle several-flowered.—(5) *natalitia.*

Leaves lanceolate-elliptic, 5 cm. long, 12 to 13 mm. broad, obtuse. Peduncle invariably one-flowered.—(6) *Simii.*

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* Cf. Hutchins, *Transvaal Forest Report* (1904), 75, who suggests three Brazilian species as likelv timber-producers in the Transvaal.

**Leaves exceeding 3 cm. in breadth. Peduncles glandular.—(7) *incerta.*

ii. Ultimate twigs covered sparingly with short, stiff, spreading pubescence. Leaves rounded or subcordate at the base. Peduncle slender, one-flowered. —(8) *capensis.*

iii. Ultimate twigs with inconspicuous appressed hairs. Leaves attenuate at the base. Peduncle short, several-flowered.

Leaves elliptic, ¾ to 1½ cm. broad; receptacle glabrous.—(9) *Zeyheri.*

Leaves obovate, 2 to 3.2 cm. broad; receptacle white-sericeous.—10 *Woodii.*

B.—Plants developing short, annual, leafy and flowering shoots from a woody rootstock.

*Leaves subsessile; ascending attenuate at the base; calyx and corolla inconspicuously glandular.

Leaves linear lanceolate with strongly-revolute margins, 3 to 5 mm. broad—(11) *pusilla.*

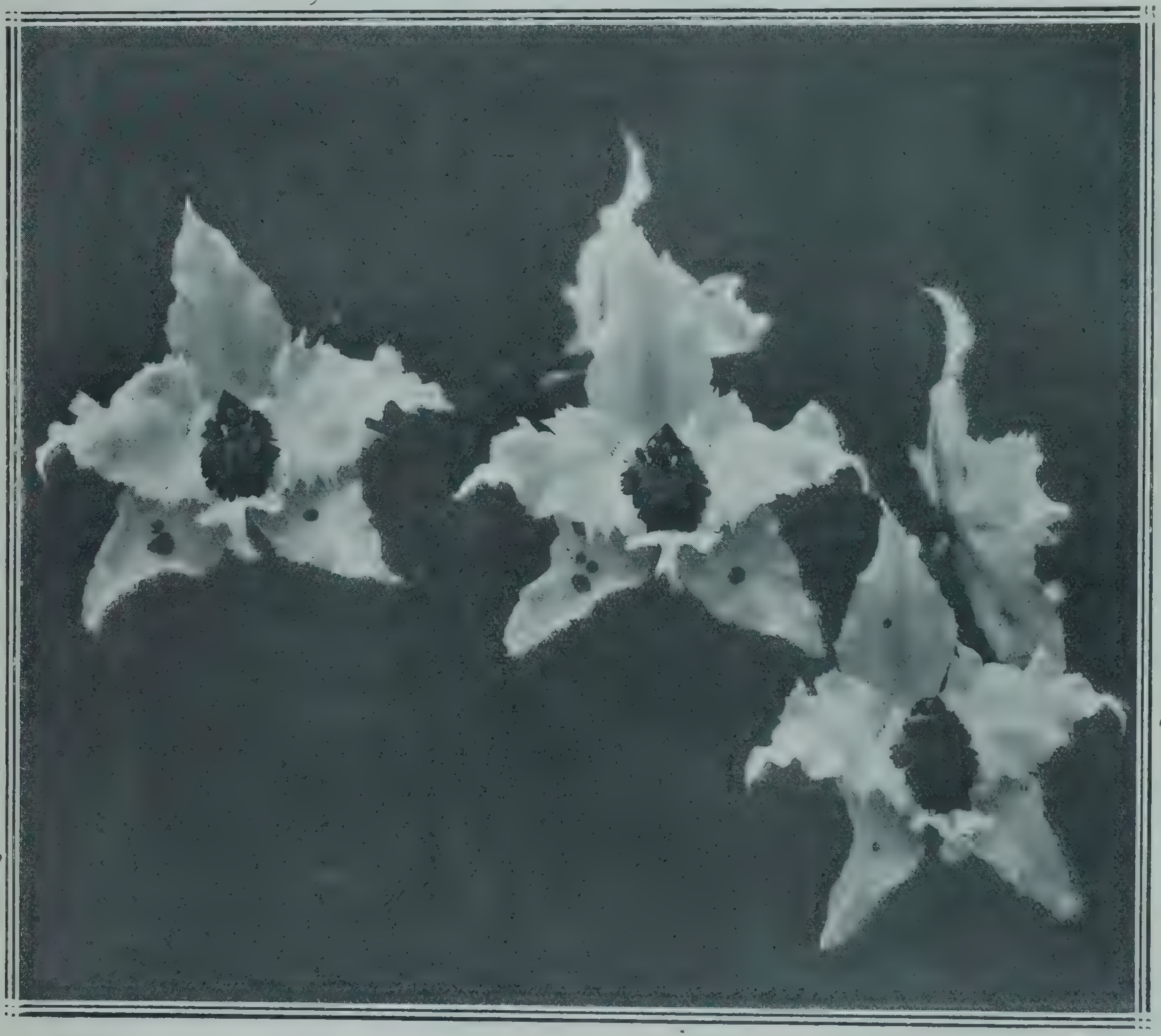

Fig. 57.—Odontoglossum crispum Bumble-bee.

Leaves elliptic, with slightly recurved margins, 1 to 1½ cm. broad—(12) *albanensis.*

**Leaves shortly petiolate, patently spreading, subcordate at the base and often clasping the axis. Calyx and corolla dotted with prominent dark glands—(13) *Gueinzii.*

1. E. cordata, Lawson, in Oliver's *Flora Tropical Africa*, ii., 438, 1871.

An umbrageous, round-topped evergreen tree, 15 m., with a straight, smooth trunk, 1¾ m. in girth and thick, dark, red-brown, fibrous bark; ultimate branchlets stout, subarticulate, acutely and compressedly tetragonous, often with narrow wings, dirty brown, glabrous and densely leafy; leaf scars prominent, oval-crescentic. Leaves opposite, imbricate or patent, subsessile, broadly elliptic (rarely suborbicular), obtuse or rounded at the apex (rarely emarginate), subcordate at the base and nearly clasping the stem, 5 to 8 cm. long, 4 to 5 cm. broad, thickly coriaceous and entirely glabrous, glaucescent and rarely shining above, paler and dull below, with the midrib correspondingly raised, and the lateral veins and reticulations prominent; glands inconspicuous; the margin undulate and slightly recurved. Inflorescence as in E. Gerrardii, Sim, with the axes flattened and four-angled, and its lowest branches subtended by small persitent leaf-like bracts, its upper by smaller, linear, subulate, deciduous bracts. Flowers white, subsessile. Receptacle broadly obconic, glabrous, glandular, sepals four, erect, nearly obsolete and rounded, petals four to five, arranged into a dome-shaped calyptra, which either falls off entirely at the expansion of the stamens or the petals separate and fall at varying times. Stamens numerous, 8 to 9 mm. long; anthers pale yellow. Style filiform, erect, rarely exceeding the stamens, with a minute stigma. Fruit oblong, purplish or reddish, 1.5 cm. long, usually one-stoned.

Fourcade's *Report* of the Natal Forests (1889), 108. Sim in *Cape of Good Hope Agric. Jour.*, XVI (1900), 41. *Forests and For. Fl. Cape Col.*, 226, pl. lxxi, f. iii. Wood in *Trans.* Phil. Soc. S. Africa, XVIII, ii (1908), 157. Sim, *Forest Fl. Portuguese East Afr.*, 67 (1909). Syzygium cordatum, Hochst. ex Harv.-Sond. Fl., Cap. II, 521; Burtt-Davy in *Transvaal Agric. Jour.*, V (1906-07), 429. S. cordifolium, Klotzsch, in Peter's *Mossamb. Bot.*, 63, t. 11. Jambosa cyminifera, E. Meyer in Drège *Zwei. Pfl. Doc.*, 194.

Eastern Region.—Natal. In wood and thickets near Durban, Drège. Coast land, Sutherland. Sanderson, 21. Gerrard, 370. M'Ken. Krauss, 136. Harvey. Plant, 71. Inanda, Wood, 216. Zululand, Mrs. McKensie.

Kalahari Region.—Transvaal, Houtbosch, Rehmann, 6494. On hills near Barberton, 930 m., Bolus, 7770.

A highly valuable and ubiquitous species, enjoying a relatively wide distribution, usually favouring the banks of streams (hence the name Water-tree or Waterboom), as isolated specimens, but often in most diverse situations. Sim gives its most southern limit on the east coast as the Great Fish River, and states that it is particularly abundant in the Lower Transkeian districts; thence it spreads northwards throughout Natal, Portuguese East Africa to the Uganda Protectorate. In Swaziland and the Transvaal it forms a constituent of the wooded ravines, and is not infrequent in South-eastern Rhodesia, where it extends to elevations of 2,100 m. Miss Gibbs relates[†] that E. cordata, Laws, predominates in the Rain Forests proper at the Victoria Falls. Specimens gathered by Welwitsch, and more recently by Gossweiler, indicate its occurrence also in Angola, on the west coast of Africa. The species forms pure swamp bush in the neighbourhood of the coast in Natal, and is reputed to be almost the only tree in the M'Chopes pans in Portuguese East Africa[‡].

The flowers appear at varying times from March to April, or as late as September, and the subsequent cherry-like fruits, which are acidulous and edible, are known as Water Berries, or, in the "taal," as Water Besjes; these are much sought after by the natives, and enter largely into the preparation of a mead by the Dutch settlers.

The wide diffusion of the species is correlated with a host of applied tribal names, some of which are enumerated:—Umswi or Umdoni, um-Doóani, Umdone or Um-Towni, um-Doani and um-Swi (Kaffir): the foregoing are probably interpretations of two words; Mutwa (Shangaan), Munto Modgagies, Muchô, Muhlu, Munchlo and Mkose (Portuguese East Africa), Mukuti (S.E. Rhodesia), Kirungi noamvu (Uganda).

The species, when in an advanced state of growth, is practically immune from the effects of fires, and is highly prized for its timber, which is utilised for a variety of purposes.

Respecting its timber, Fourcade (l.c.) states that it is moderately heavy and hard, moderately strong and elastic; annual rings obscure; medullary rays fine and close; pores moderately small, numerous, distributed regularly or in short radial lines; colour light red to pale chocolate-brown; durable and used for beams, rafters, boat-planking and occasionally for felloes; suitable for mill-work, and, according to the same author, its properties are:—Weight, 43.7 lbs. per cubic foot (Sim quotes 35 lbs. to 40 lbs.); relative hardness, 4.1; co-efficient of elasticity, 498 tons; modulus of rupture, 3.17 tons; crushing load, 2.41 tons per square inch.

Sim states that the wood is of a beautiful grain, pinkish to reddish-grey, well fitted for furniture work, and is also used for elbows in boat-building and largely for fuel, while Wood remarks that it enters largely into the construction of houses. In South-eastern Rhodesia the natives employ it in the making of their huts, and further north, in Tropical Africa, in the vicinity of Pemba, the wood is largely utilised for dhows, for which it appears eminently suitable, as a water-wheel of this wood, after 22 years' wear, was perfectly sound (Bazley ex Fourcade, l.c.). In the latter station the flowers evidently vary from white to pink. Sim opines that the durability of the timber is dependent on water-seasoning. The sapwood is injured by wood-borers in Portuguese East Africa. An extremely small-leaved form of this species occurring in the swamps of Uganda, known to the tribes as Kirungi noamvu, is burnt to give a pleasant smell to bark-cloth. *R. A. Dümmer.*

(To be continued.)

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM CRISPUM BUMBLE-BEE.

The typical, white form of Odontoglossum crispum is deservedly one of the most popular of Orchids, but the specialist demands variety, and in the blotched forms of the species it is liberally given. A compromise between the white and the blotched forms is provided by the remarkable O. crispum solum, which has an occasional spot on the sepals and a labellum almost entirely of a deep maroon tint. O. crispum Bumble-bee (see fig. 57), shown by Lieut-Col. Sir Geo. L. Holford, K.C.V.O. (gr. Mr. H. G. Alexander), at the Royal International Show, and of which we give a representation half natural size, is a variation in the same direction, an occasional dark spot appearing on the sepals, while the lip bears a bee-like, brownish-purple blotch, which occupies the greater part of its surface, the fringed margin being white.

[†] *Linn. Jour. Soc. Bot.*, XXXVII, 487.

[‡] A closely-allied species, E. guineensis, Sim, with attenuate leaves, occurs here also, but has a wider northern distribution.

POLYCYCNIS LEHMANNII.

This singular species of a very remarkable genus was first flowered by Sir Trevor Lawrence, Bart., K.C.V.O., who received a botanical certificate when it was shown at the Royal Horticultural Society, on Aug. 13, 1895. That plant was the sole specimen received from the late Consul Lehmann, and the spray was illustrated in the *Gardeners' Chronicle*, Aug. 31, 1895, p. 245. A single plant has again appeared and is flowering in Tracy's Nursery, Twickenham, with an elegant spray of 23 insect-like blooms, larger in size than shown in the illustration mentioned. The raceme is pendulous, after the manner of Gongora. The flowers, each about 1 inch across, are borne on downy, purple stems. The reflexed sepals and petals are whitish, evenly spotted with reddish purple; the very singular labellum, expanded

is white, spotted with rose-purple at the sides, the blade bearing numerous long, hair-like spines. The arched, slender column is green with an enlarged purple apex. It is nearest to P. barbata, and very distinct from P. muscifera, a fine plant of which with three spikes was shown from Lord Rothschild's collection, July 9, 1895, when it also secured a botanical certificate. The genus originally was included in Cycnoches, with which it has but little in common. The singular flowers, produced like a flight of insects, are very attractive, and to anyone interested in speculating as to the meaning of the singular arrangement of the lip, and its bearing on fertilisation by insect-aid, it affords useful study.

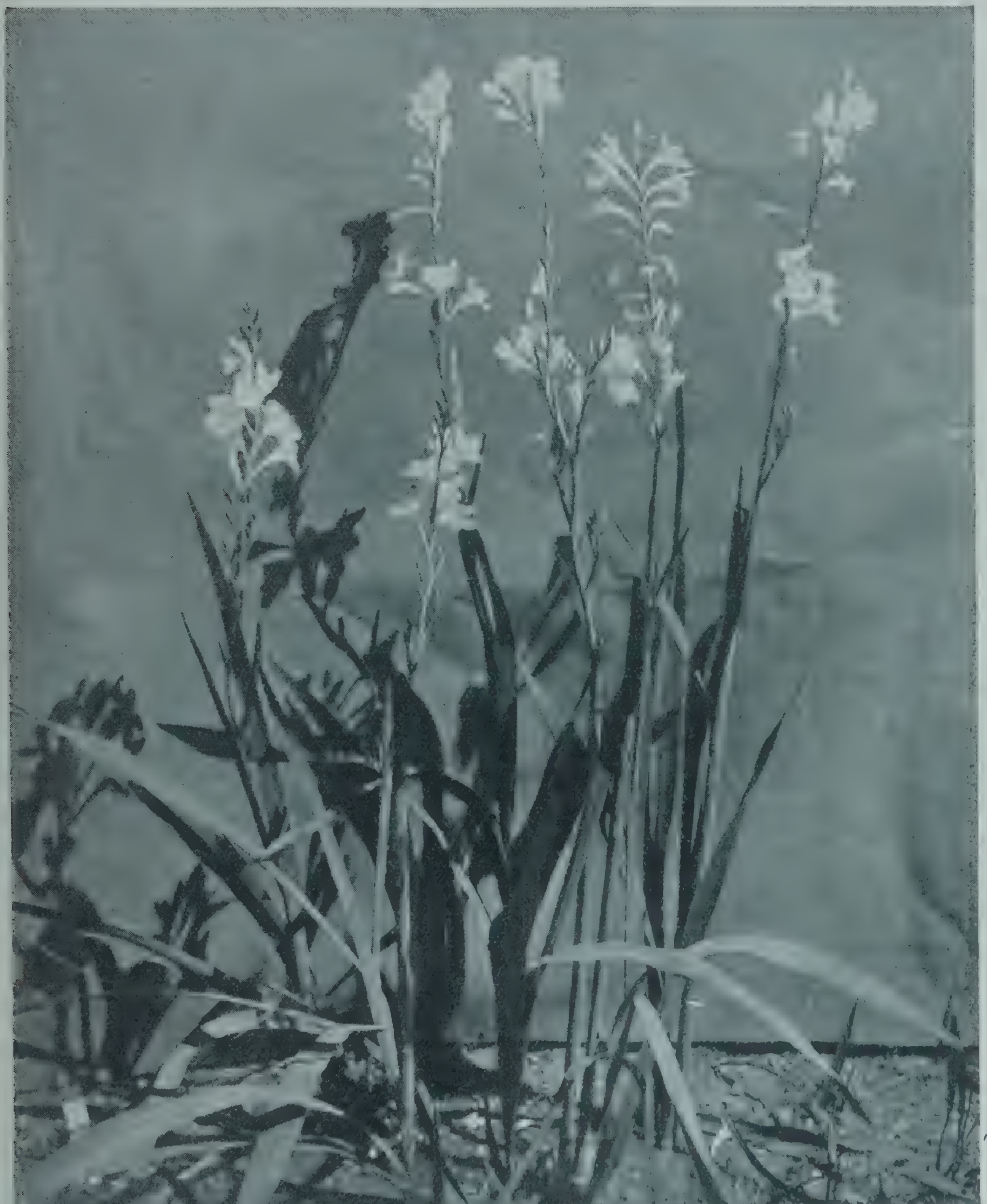

Fig. 58.—Watsonia Meriana Ardernei: flowers white.

WATSONIA ARDERNEI.

Watsonias are nearly allied to the Gladioli, and though their flowers are not so large as those of the majority of that race, they are very beautiful plants, well worth the attention of gardening enthusiasts. Curiously enough, however, they are almost entirely neglected, and it is rarely we see any of the species in the open, except in the south-west. It is true that, being natives of the Cape of Good Hope, they are not perfectly hardy, but if they are treated in the same manner as the Gladioli—namely, lifted in the autumn, stored in sand during the winter, and replanted in March, there is no reason why they should not succeed. In certain spots, however, such as South Devon and Cornwall, Watsonias may be left permanently in the open bed through the winter, though even in Devon this method does not always ensure success. The first white Watsonia was found by an employé of a Mr. Upjohn, a nurseryman living at Rondebosch, near Cape Town, on the slopes of Table Mountain, and eventually some of the produce of this bulb passed into the hands of the curator of Port Elizabeth Botanical Gardens, who consigned corms to Mr. James O'Brien, which led to their distribution under the name of Watsonia O'Brienii. Later on, Mr. H. M. Arderne, of Cape Town, an enthusiastic gardener, found a white Watsonia near Worcester, about 80 miles from Cape Town, and the produce of this corm has come into commerce under the name of Watsonia Ardernei. Practically speaking, the two may be considered identical, since both are white-flowered varieties of W. Meriana (syn. iridifolia), and were found growing among numbers of the pink-flowered type. However, some nurserymen catalogue them separately and at different prices, but it would be far better if the white forms were known simply as Watsonia alba. I have myself seen a white Watsonia growing at the Cape among masses of the common type some hundreds of miles distant from where W. O'Brienii and W. Ardernei were found, and intended to collect it on my return, but, unfortunately, never passed that way again. In a note on Watsonias which I read a short while ago, the writer stated that wet was fatal to the corms, but here the plants have not the slightest protection from the excessive winter rainfall, yet are in the most vigorous health, and Mr. Arderne found his white Watsonia growing in a "boggy marsh," so that I venture to think that this correspondent's theory on the culture of Watsonias stands in need of revision. This is, however, a favoured spot for the culture of Cape bulbs, Nerines and others growing and flowering well in the open, and I would not for a moment advocate planting Watsonias permanently in the open in cold districts. In such localities lifting and replanting in March is the only safe plan. *Wyndham Fitzherbert, Kingswear, Devonshire.*

NURSERY NOTES.

THE WARGRAVE HARDY PLANT FARM.

The title of this firm being unfamiliar to some readers, it may be remarked that the owner is Mr. Bernard Crisp, a son of Sir Frank Crisp, of Friar Park, Henley-on-Thames. The Wargrave Hardy Plant Farm is situated a little over a mile from Twyford railway station, opposite a right-angled turn in the main road leading to Henley, where the passer-by cannot fail to notice the long, broad herbaceous borders on each side of the entrance drive, which, for many months of the year, have been gorgeous with beautiful flowers. It is difficult to realise that previous to last October the site of these borders and nursery was pasturage, and that, owing to the continued rains of the autumn and early winter, but few of the subjects were planted in position until the spring of the present year. It may be admitted that goodly-sized clumps were used, but the old-established appearance of the borders is largely due to the excellence of the soil. "We can dig two spits deep," said Mr. Richardson, the manager of the farm, "and not come to the end of the good, heavy loam, which suits so many herbaceous plants." Even the most casual visitor could not fail to be impressed with four of the plants in these show borders: these are Polygonum orientalis (Mr. Bowles's variety), which may be termed an improved P. amplexicaule; the bright-golden variety of Achillea eupatorium; Helenium cupreum, not more than 18 inches high and profusely flowered; and H. pumilum. "It would be difficult," remarked

Mr. Crisp, as we expressed our admiration for these plants, "to name four equally valuable border plants, for these are all very showy subjects, are useful for cutting purposes, and will remain in flower for fully four months."

On either side of the entrance gate there are masses of Nepeta Miltonii; cuttings were dibbled in the ground in the spring at 6 or 8 inches distant, and now the plants have completely covered the ground and are smothered with masses of pretty lavender-coloured flowers, which individually are not showy, but in the aggregate produce a delightful effect. In the middle of the border a huge mass of Anchusa italica "Dropmore variety" was just passing out of bloom, and the spent flower-racemes told of the wealth of colour which had been present a short time ago. In the background there are 150 Michaelmas Daisies for autumn blossoming.

We leave the show borders to inspect the stock of plants, of which there are 50,000 ready for dispatch, and, all being well, the number will have increased to 80,000 by the spring. Incidentally, we learn that the nursery has already outgrown the owner's original intentions. His idea was to commence in quite a small way and gradually build up a business. But even as the plants in the rich ground decline to spread slowly so the owner soon found it impossible to confine the nursery to the original limits. Walking between the nursery beds, we were impressed with the vigour of the plants, and the keen knowledge the promoter and his manager appear to possess of the characteristics of each species. In these beds are to be found practically every Alpine or herbaceous plant worth growing—many of them rare and valuable; prominence is given to improved varieties of old favourites, such as Anemone pusilla grandiflora, which has flowers twice the size of those of the type and of richer colour. Gypsophila dubia is a little gem for the rock-garden; the tiny, trailing stems become blood-red in colour early in the spring. Very many Violas are grown, and there is a good batch of the uncommon Pelargonium Endlicherianum, so brilliant when in flower. Of German Irises there are 150 new varieties, with dozens of each variety, besides very many of the standard sorts. Pentstemons of a splendid strain occupy a large piece of ground. There are a host of plants suitable for the "grey border"; water and bog plants are also largely grown; the Nymphæas are cultivated in long cement tanks, framed so that lights may be placed over them when necessary.

Half-hardy Shrubs.

One of the heavy showers which have been all too frequent this summer forced us to seek shelter, so we took refuge in the glasshouses, where there are many seedling and other plants, chiefly of species suitable for growing against warm outside walls. As is the case out-of-doors, the plants almost seem to grow themselves; the seedlings of Carpenteria californica and Fremontia californica will be embarrassing in their numbers. The propagating frames contain a host of desirable plants, the popular Lithospermum "Heavenly Blue" is present in great numbers, and there are also many plants of the true Saxifraga Boydii. In a warm border against the walls of the propagating house a trial is being made of various plants to test their hardiness. At present a batch of Salvia Grahamii seems to be perfectly hardy, but it has not yet wintered. This species may almost be termed a glorified, bushy Salvia rutilans.

Foresight and forethought—two indispensable qualities for success—are evident in this latest hardy-plant establishment. During periods of drought local water is not available for garden purposes, so Mr. Crisp sunk a deep well, installed a pumping engine, and built a large cistern at a considerable height, so that, whatever the weather may be, he has the command of an abundant water supply.

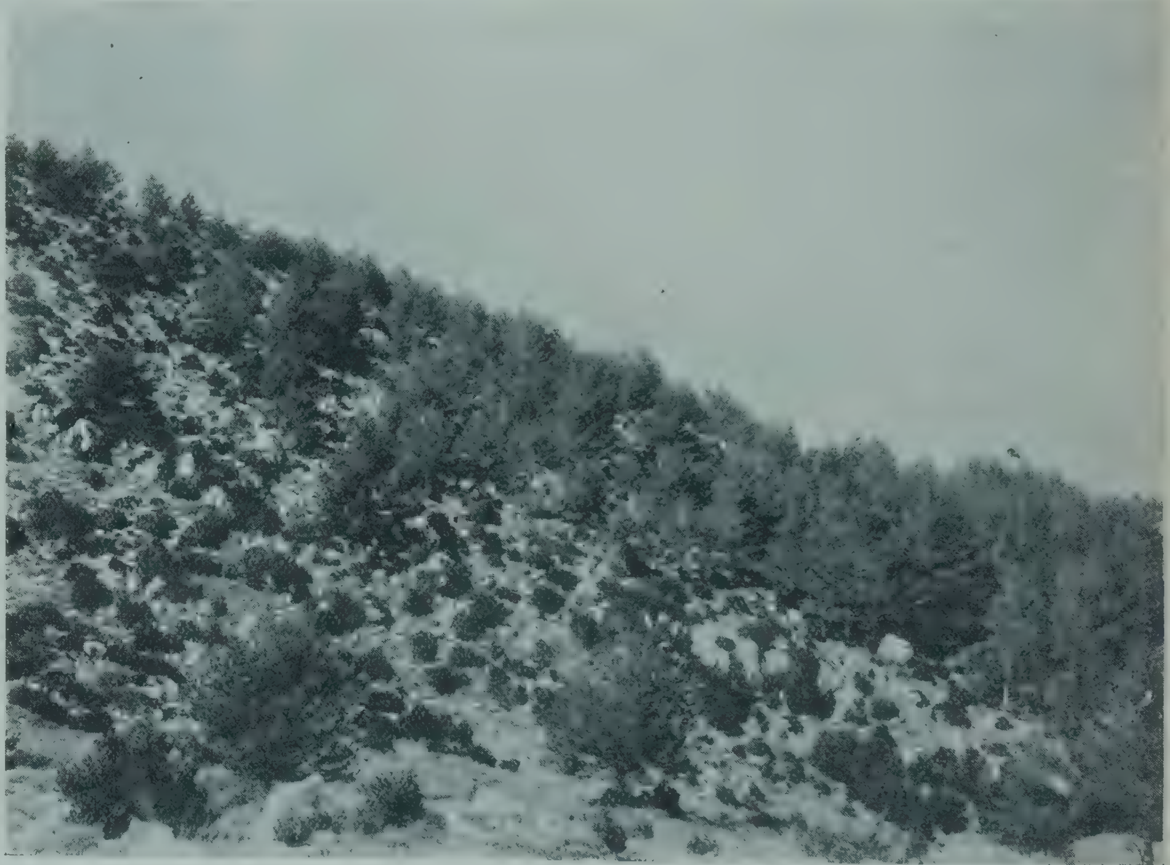

Fig. 59.—FORESTS OF PROVENCE.

Upper edge of wood of Pinus sylvestris on northern slope at 1,450 m Bois de Cheiron. The dark bushes are Buxus sempervirens.

ANNUALS AT READING.

Passengers by the Great Western Railway Co.'s main line trains cannot fail to have noticed the blaze of colour in Messrs. Sutton & Son's seed trial grounds at Reading. As seen from the railway coaches, the predominant floral features are the long central borders which bisect the trial grounds; the glorious mass of dwarf Nasturtiums, which adjoin the railway, and the varied hues of the Snapdragons which, grown in so many different parts of the grounds, testify to the popularity of these valuable annuals.

The weather, on the occasion of our visit, was stormy, but this fact afforded an opportunity of determining the varieties of annuals which have the greatest value for dull seasons, and many flowers which are beautiful during bad weather are even more attractive when the conditions are enjoyable. The masses of dwarf Nasturtiums seemed to revel in the heavy showers; the raindrops glanced off the shining leaves, and the abundant flowers immediately recovered themselves, flaunting their rich colours. This huge bed of Nasturtiums provides a valuable object-lesson, showing the essential condition for obtaining plenty of flowers on the plants. The soil at the trial grounds is naturally very poor, shallow, and stony—gravel and sand are quarried on the nursery; at one end of the Nasturtium bed the soil was enriched last autumn for growing Narcissi, and the position of this ground can be definitely outlined, for here the Nasturtiums have grown luxuriantly, the leaves being rich and green, but the crop of flowers is only a moderate one. On unmanured ground the flowers quite hide the leaves, and on a bright, sunny day the brilliance would be dazzling. Lines of Godetia "Crimson King" in the central borders were very floriferous, and it is interesting to notice that the rains had caused the older petals to assume a pleasing magenta tint. The rose-coloured Godetia "Marquis of Salisbury" is another desirable variety, whilst Godetia Dwarf Pink makes exceedingly floriferous plants not more than 15 inches high. Godetia (double rose) is still the best of the taller-growing type. Behind the Godetia Crimson King there is a long row of dwarf, single Sunflowers. We were informed that they were sown where they are growing; the plants, which have been well thinned, are not more than 3 feet high. Each bears a surprising number of flowers, averaging 7 inches across. The annual Chrysanthemums also showed up well: the soft, yellow Morning Star and its rich, golden companion, Evening Star, are still the most desirable varieties of their type. Clarkia elegans Scarlet Beauty, about 15 inches high, was a blaze of colour, in spite of the unpropitious weather. Close by a large bed of a beautiful rose-coloured annual Larkspur was very effective. The seeds of this Stock-flowered Larkspur may be sown out-of-doors in September, or at about the second week in April. The plants grow to 2 feet 6 inches in height, and produce many spikes of delicately-scented flowers. The two varieties of Marigold chiefly grown, Lemon Queen and Orange King, are splendid sorts, being great improvements on the old garden Marigold. Candytufts of several kinds, notably Improved Carmine; Linarias, hybrid Dimorphothecas, and the annual Lupins are other valuable annuals for dull and wet seasons. Delphinium Queen of Blues, if sown in the flowering quarters in April, make dwarf plants and flower freely. Asters which were sown in the open in April, and transplanted, were just commencing to flower. The beds of Stocks provided masses of showy, sweet-scented flowers. A large bed of seeding Lobelias showed an interesting variation; many of the dwarf spreading varieties would be useful for filling temporary blanks in the rockery, as also would the dainty little Eschscholtzia "Miniature Primrose." The varieties of Lobelia tenuior, which are generally restricted to greenhouse cultivation, thrive splendidly at Reading in the open, making good, compact, very floriferous plants about 9 inches high.

Contrary to some gardeners' opinions, the hybrid Schizanthuses frequently make satisfactory plants as hardy annuals, and at Reading may be seen a large bed of these plants flowering freely. As a general rule the Eschscholtzias are not so satisfactory this year as usual; they require plenty of bright sunshine to be seen at their best, but the variety Mandarin, which bears large, yellow flowers, with deep-orange reverse, provided a fine patch of rich colour.

THE FORESTS OF PROVENCE.

(Concluded from p. 113.)

3.—Montane and Sub-alpine Coniferous Forests.

In the right angle made by the valley of the Var, where it turns from an easterly to a southerly course, the country is formed of limestone strata, dipping steeply (40-45°) and regularly to the north, and the rivers have dissected this region into a series of steep, parallel ridges running east and west, whose tops are from 1,000 to 1,700 metres above sea level, and intervening valleys whose bottoms are about 400 or 500 metres above the sea. The sides of these valleys, except round the small towns and villages where Olives are cultivated, are thickly clothed with wood. Here the influence of aspect is extremely well seen. The north sides of the ridges bear forests of Pinus sylvestris, with Beech and deciduous Oak, and often with considerable tracts of Ostrya, while the southern slopes bear Quercus Ilex and many Mediterranean shrubs. Towards the mouth of a large valley, such as that of the Esteron, Pinus maritima and P. halepensis also appear, the last-named gradually becoming dominant as the slopes of the Var valley are reached.

The montane woods of Pinus sylvestris (see fig. 59), which, as has been said, mainly occupy steep slopes of north aspect, contain Quercus sessiliflora, Fagus sylvatica, Ilex aquifolium, and Ostrya carpinifolia. The shrubby undergrowth consists of Buxus, Daphne laureola, Juniperus communis, while Anemone hepatica and Erythronium dens-canis are the two most conspicuous ground species in early spring. Mosses are abundant, and Ferns moderately so. Cowslips and occasionally Primroses also occur.

On steep northern slopes protected from the south by vertical rocks, as at Ste. Baume in Western Provence, the Beech becomes dominant, replacing the Pine. The famous forest of Ste. Baume (700-900 metres) consists of a considerable area of finely-developed Beech, continuous with Pinus sylvestris on one side and Quercus pubescens on the other. The great feature of the Beech forest is the abundance of Yew and Holly, which form a regular layer below the crowns of the Beeches. Associated are Acer campestre, A. opulifolium, Prunus avium, Viburnum Lantana, Euonymus europæus, and on the ground Daphne laureola, Ruscus aculeatus, Heracleum sphondylium. Mecurialis perennis, Anemone hepatica, Sanicula europæa, Euphorbia amygdaloides, Primula veris, Ranunculus ficaria, Polygonatum verticillatum, &c. Ivy is abundant on the ground and climbing on the trees, whose bark is thickly covered with mosses and lichens. If one climbs to the summit of the ridge, which reaches a height of 1,000 metres, one comes out on pure Mediterranean vegetation on the southern slopes.

The forests of Pinus sylvestris extend from the region described northwards into the sub-Alpine region, with but little modification of the undergrowth. As the Alps are approached, however, e.g., in the neighbourhood of St. Martin Vésubie, at an elevation of 1,200 to 1,500 metres, in the narrower east and west valleys, the Pine woods are confined to the southern slopes of the hills, while on the northern slopes the woods are composed of Picea excelsa and Larix europæa (see fig. 60). On these southern slopes the pine woods form the actual tree limit at a height of 1,700-1,800 metres. The ground vegetation includes Buxus, Genista cinerea, Juniperus communis, Anemone hepatica.

At the time of my visit (end of March) the ground vegetation of the Spruce and Larch woods on the northern slopes was entirely covered with snow from 1,400 metres upwards, while the southern (Pine wood) slopes from a similar height up to 1,800 metres at least, were quite free from snow (see fig. 60). *A. G. Tansley.*

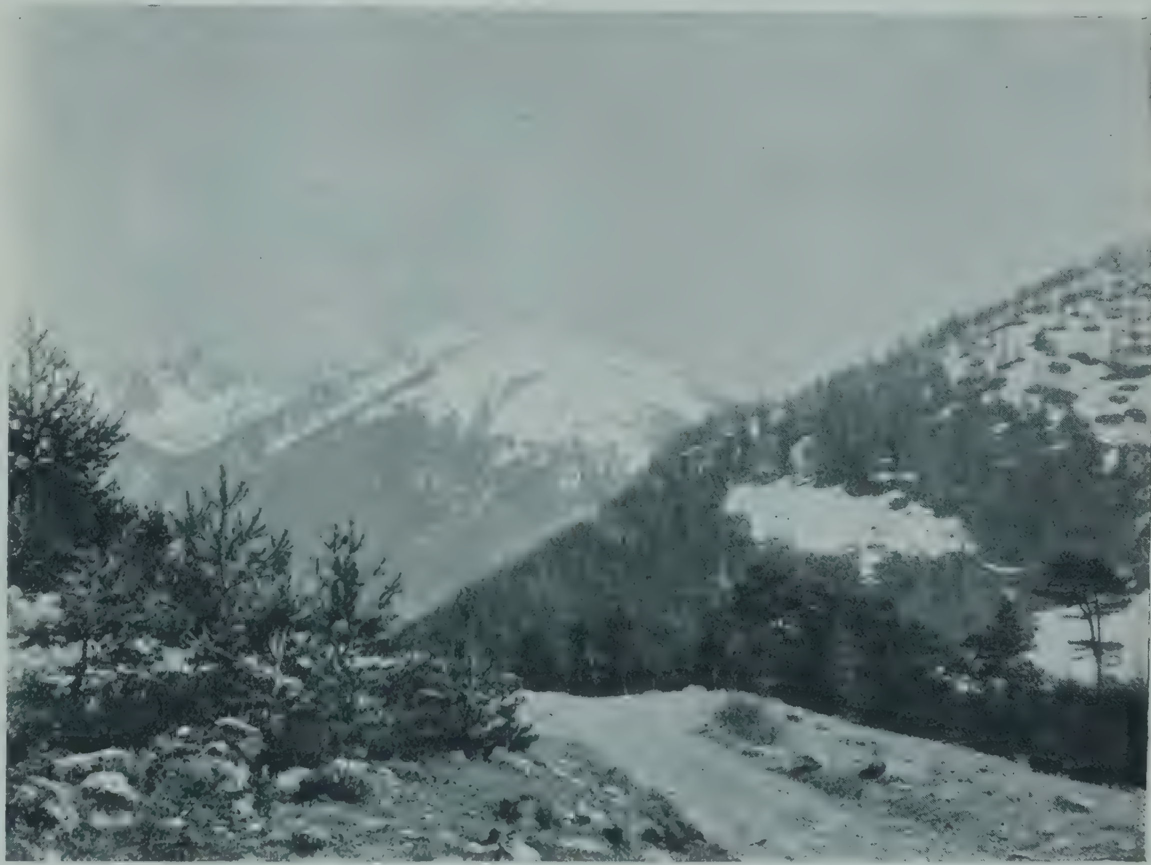

Fig. 60.—FORESTS OF PROVENCE.

Effect of exposure at 1,500–1,700 metres. Pinus sylvestris on southern slope (left), which is free of snow. Picea excelsa and Larix decidua on northern, snow-covered slope (right). Col St. Martin, near St. Martin Vésubie.

NOTICES OF BOOKS.

A New Carnation Treatise.*

A volume, extending to more than 200 large octavo pages, with 20 or more full-page illustrations, devoted to one section of this popular flower, is a proof of the interest that the author deems the flower-loving people of Great Britain entertain for it. That he is an enthusiast no one who reads its pages can doubt, and almost every page bears witness to the fact that, like all enthusiastic florists, he believes that the cultural practices he pursues can alone give the very best results; else it might be asked, Why another book on a subject that most gardeners know pretty well? They know all that can be told about cuttings and their rooting, pottings, stopping on the short and long system, ventilating and other simple items of management. Some gardeners, it is true, and it is said they are an increasing number, are giving up propagation from cuttings for layering, but that system the author does not mention. Yet it is a point that requires to be settled, because plants rooted from cuttings and layers frequently exhibit marked peculiarities, and whether the new system will give as good results as the old remains to be proved. It will probably happen that most of us, as in other things, will determine the matter experimentally each for himself. A suggestive chapter is that on cutting the flowers, which the author insists must be done when the blooms are half-developed, their further expansion taking place in a cool room. He remarks "I venture to say that all the best blooms at our leading perpetual-flowering Carnation shows which carry off premier honours have been cut from three to six days previous to the show, the water being repeatedly changed, and stems recut at least every 24 hours." That is a point well worth the consideration of every grower. We all know how soon colours deteriorate, and shade our flowers accordingly, but we do not know that so simple a method, where it can be carried out, will give such good results. Mr. Allwood seems not to have quite made up his mind if the bench system is superior to the pot system. The former method of cultivation is no doubt spreading in private gardens, and a decisive opinion would have been welcomed by many of us who do not care to be responsible for the expense of alterations that may become monuments of our want of prescience. The author disclaims any literary merit, which he need not have done; the one fault of his book from that point of view being a looseness of style which leads to repetition, and here and there incorrect conclusions. He refers to a Carnation house, the limit of which it is stated should be 250 feet by 40 feet, and it is to contain eight benches and about 16,500 plants! A very simple problem in arithmetic will show the absurdity of the number. The author's brother, who writes a chapter on Carnation growing in America, proposes houses 200 feet by 47 feet, to contain about 7,000 plants, which works out more satisfactorily. The illustrations are from photographs, and many of them will prove practical helps to the full understanding of the text. *R. P. B.*

Fern Culture.*

Messrs. H. B. May & Sons have published a third edition of this useful book. The text was originally written by John Birkenhead, and the present edition is revised by Mr. F. Parsons. The little book is well arranged, and the advice on soils, potting, rockwork, light, &c., is excellent, as might be expected from such a capable cultivator as the reviser. The selections of Ferns for various purposes are most happy and judicious. Exception may, perhaps, be taken to the inclusion of such plants as Adiantum Capillus-veneris and Dicksonia antarctica among Ferns for the cold greenhouse, so far, at any rate, as regards the less genial parts of the country. The illustrations are numerous, and many of them are exceedingly effective, although all are not of equal merit. It is a pity that some attempt has not been made to indicate the scale of drawing, as this is very unequal. A glaring example of this disparity occurs on p. 43, where Osmunda regalis and Davallia parvula are shown as of approximately the same size.

There are a few mistakes, such as the use of Hymenophyllæ for the plural of Hymenophyllum, although in most cases the ordinary English plural is wisely and properly used. Opposite p. 112 is a fine figure of Polystichum aculeatum pulcherrimum, which is misnamed P. angulare pulcherrimum. The distinction is important as the two Ferns in question are entirely different.

Nevertheless, the book will be found useful not only to the beginner, but to many more advanced cultivators of Ferns. *F. W. Stansfield.*

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* *The Perpetual-flowering Carnation*, by Montague C. Allwood. (London: The Cable Printing and Publishing Co.) Price 3s. net.

* *Ferns and Fern Culture*, by J. Birkenhead. Revised by F. Parsons. (H. B. May and Sons.) Price 1s.

HARDY FLOWER BORDER.

CAMPANULA PETRÆA.

Yellow is a rare colour in Campanulas, and I have only cultivated two species which can be said to have flowers of this colour. C. petræa (see fig. 61) is a native of the South of France, and I procured seeds from that district two years ago. These have given me a good batch of plants, but they include two distinct forms. One of the varieties has not yet flowered, and I am unable to identify it, as the foliage and habit are distinct. The other is C. petræa, and its small yellow flowers, closely set together in short spikes, are now at their best. I find this Campanula thrives best on a border facing west, and the plants have the benefit of a half-shady spot, which seems to suit them admirably. I grew the young plants in small pots, and wintered them in a cold frame, planting them in their present position in the spring. The soil in the border was taken away and in its place was used a mixture of two parts turfy loam, one part well-decayed leaf-mould, and one part rough "sandstone chips." C. petræa is a beautiful Campanula, and extremely rare in cultivation. If seeds can be procured, the present is, I think, the best time to sow them, in order to get strong plants for flowering next season. I am afraid that in Scotland the saving of seed will be a matter of great difficulty, more especially when the kind of weather we are experiencing is considered. It may, I imagine, be easily propagated by division of the plant after the flowering season is over, and I intend to try this method of increasing the stock during the present autumn. The other yellow form of Campanula I have grown is much more common. Apart from its colour, it has nothing to recommend it. I refer to C. thyrsoidea, a native of the Alps of Europe, with its dense pyramidal spikes of small, greenish-yellow, fragrant flowers. It seems to thrive best on the rock garden, and by the end of June its flowers are over for a season. *George M. Taylor, Midlothian.*

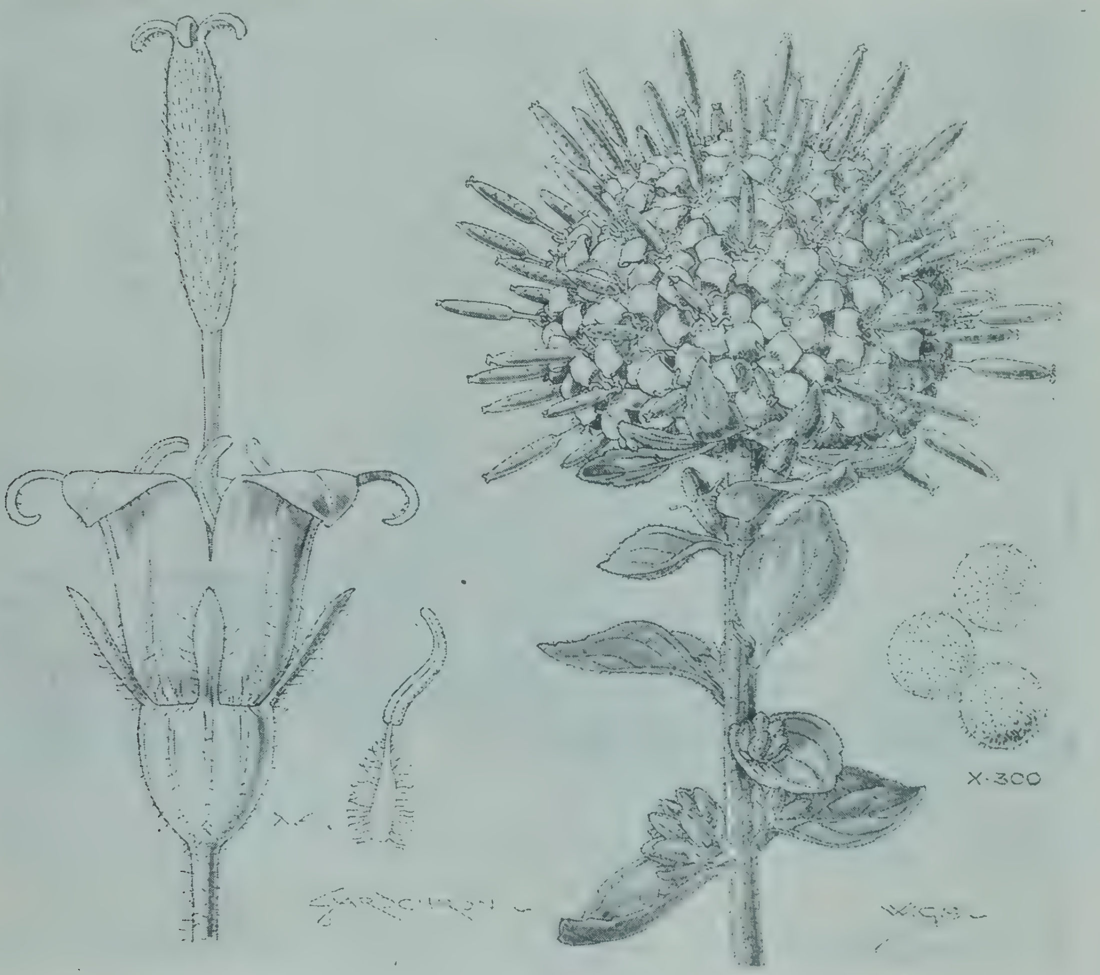

Fig. 61.—Campanula petræa: flowers pale yellow.

RICHARD BRADLEY.

Amongst the horticultural writers of the early years of the eighteenth century, the name of Richard Bradley stands in high relief for simple and graphic accounts of gardening.

A welcome and interesting epitome of his work has been lucidly portrayed in these columns (see p. 41) by Mr. Brotherston, a savant in horticultural matters. The subject is a large and intricate one, pregnant with matter for discussion, verification, and correction.

The man himself, as Mr. Brotherston observes, has an unknown pedigree. The one that might have been able to make it known was Dr. Thomas Martyn, his successor at Cambridge, but, so far as I can trace, the only notice taken of Bradley by him was that he sinned in the means employed in procuring the professorship, that John Martyn might have had earlier.

G. W. Johnson gives an account of the affair from Pulteney's *Sketches of Botany*. Following the extracted account, Johnson says that Bradley laboured indefatigably and successfully to promote the improvement of horticulture, and "however we may despise the man we should respect the benefactor." Eminent bibliographers seem to give full particulars of his works, but they leave the reader impressed with the fact that Bradley was a voluminous writer on gardening and agriculture, and somehow their descriptions of the respective works do not always tally with each other.

Anent Mr. Brotherston's article, I might say that possibly Loudon could not describe exactly what he had, as it was issued in another form, for instance:—

New Improvements of Planting and Gardening, in three parts, bound in one, 5th Edition, 1726, each with separate and distinct title pages; Part 2, 1725; Part 3, 1726.

This edition has also the rare Herefordshire Orchards by Dr. Beale, with a postscript letter to Samuel Hartlib, Esq., followed by an appendix and having distinct title pages.

Part I was dedicated to Prince Henry; Part II was dedicated to Lord Parker; Part III was dedicated to Earl of Carnarvon; Appendix was dedicated to Knox Ward, Esq.

Mr. Brotherston states *inter alia* that:—

The Seedmen's Catalogue was attributed to Bradley and is *not* his.

I have not seen or heard of the title exactly like that. Does Mr. Brotherston mean—

A *Catalogue of Seeds and Plants*, mentioned in Townsend's *Tract*, and to be found in a Seedsman's Shop, London, 1720. Vide Johnson's *Hist. Gard.*, page 187, under Bradley.

Or again *ex*-Johnson, not under Bradley, page 202:—

The Complete Seedsman's Monthly Calendar, showing the most easy method of raising and cultivating every sort of seed belonging to the Kitchen and Flower Garden, with necessary instructions for sowing of Berries, Mast and Seeds of Evergreens, Forest Trees, and such as are proper for the improving of land.
Written at the command of a person of honour.
London, 8vo., Anonymous.

The title page of the second, given as anonymous, is almost identical with my edition, thin 8vo., 1738, 63 pp., the difference being as follows:

The word "complete" is spelt "compleat," after the line—

"Written at the Command, &c."

My copy has—

By Richard Bradly, F.R.S.
(no "e" in Bradley.)
The Second Edition,
London.

Printed for W. Mears, at his Ware-House at the Lamb on Ludgate Hill, 1738.

(Price One Shilling.)

And before beginning the article with Dr. Bradley's (with "e") on the third page, the second page has:—

Advertisement.

The profitable usefulness of this little treatise sufficiently recommends it to the public.

The faults which escaped the Press in the former are in this Edition carefully corrected, and the whole piece has been revised and in many places improved by the late Author, Dr. Bradly (no "e").

This has been thought proper to intimate in justice to his memory the name of Mr. Townsend, a gardener, being only put to it by the Author, to do him a service, by bringing him into business.

Your obedient servant,
The Bookseller.

At the end of my copy of *New Improvements. &c.*, 1726, an advertisement of books published by W. Mears appears, giving a copy of the title page of the—

Compleat Seedsman (as I have already given in full—J.M.) and following the line—
Written at the Command, etc., by Benj. Townsend, formerly gardener to Lord Middleton, to which is added a catalogue of Seeds, Plants, etc., mentioned in the *Tract* and to be found in the Seedsman's Shop.
Recommended by R. Bradley, F.R.S.

So it is not surprising that the records we have are at variance, as the edition with Townsend's name might be the only copy known to the bibliographers, and Johnson has considered one of them "Anonymous." If Bradley really wrote the book, and for reasons explained by the bookseller it may be taken on good faith that he did, I think Dr. Bradley is entitled to the credit the publisher gives him. You will remember the Abercrombie-Mawe arrangement for authorship of *Every Man his own Gardener*, was a similar act of non-fraudulent collusion.

The Seedsman's Calendar is a most interesting and instructive book dealing exhaustively with species and varieties of garden seeds. Many sorts of Peas and Beans have curious names, and in numerous instances are prefixed by the name of Knight.

"Various Rounceval Peas, grey, blue and white, also the green Pea, for boiling when the Pea is dry; this is the same Pea as is eaten in Holland, cods and all, like Kidney Beans, and must be stick'd up for it grows high. The Bow Dye Pea is very hardy and stands the winter."

In a foot-note it is explained that Stratford-le-Bow, near London, is "a place famous for Dying Scarlets," also that Knight was a "curious nurseryman in Bedfordshire and a great collector of Peas." As an example of numerous details given by Bradley, I might pick out one on the Small Speckled Dwarf Kidney Bean. "I brought this from Holland and gave it first to the late Mr. Fairchild. It is a good Bean to boil, with smooth coat. Mr. Beacon, nephew of Mr. Fairchild, now has it." *J. Murison.*

NOTES ON HARDY PLANTS.

Is Geranium cinereum album a product of the garden or does it occur wild? Messrs. T. S. Ware, Ltd., had a fine patch of it in their rock garden exhibit at the International Show. G. cinereum has been blooming freely at Llanishen ever since the third week in May. Silene Hookeri was shown well by this firm and others: it is a more beautiful plant than S. Elisabethæ. I understand it is a native of the Rocky Mountains, and should much like to hear other people's experience with it, especially with regard to its capacity for withstanding English winters and the conditions which suit it best.

Everyone who inspected Messrs. J. Backhouse & Son's rockery must have been impressed with the beauty of Ranunculus Lyallii, and have subsequently welcomed the beautiful Supplementary Illustration that appeared with the *Gardeners' Chronicle* of June 29. The lover of hardy plants who had not before seen this Ranunculus, will also welcome the fact that the writer of the note accompanying the illustration suggests planting it on the moraine, although in Nicholson's Dictionary it is described as a greenhouse plant. Another feature of this exhibit was a spur of great limestone boulders, planted with the Queen of Saxifrages, the true S. longifolia, and Ramondia pyrenaica snugly lodged in the crevices. Looking at this spot alone, one would well imagine one was in the Gorge de Luz or by some tributary torrent near the Cirque de Gavarnie, rather than in the grounds of Chelsea Hospital.

The Caraway Thyme—shown by Mr. Clarence Elliott—will be very useful as a distinct aromatic plant for crevices in paths. It appears extraordinary that such a distinct scent should be borne by two such different plants as Thymus and Carum Carvi.

Libertia ixioides made a fine display in Mr. Maurice Prichard's rockery: it is taller, freer flowering, more elegant, and better in every way than L. formosa.

I made notes of the following German Irises in Messrs. Barr & Son's beautiful exhibit: Her Majesty, as near a true pink colour as any variety I have seen; Edward Michel, reddish purple; Ossian, with standards deep yellow and falls red; Princess Victoria Louise, pale yellow and red; Princess Beatrice, like a large pallida dalmatica and King of the Irises, with large reddish brown and yellow flowers.

Of the many striking plants in Messrs. Jas. Veitch & Sons' exhibit of new Chinese plants, perhaps Deutzia Veitchii will become the most popular. Deutzias are so easily grown, and this variety is of a beautiful pale pink—always a popular colour. Populus lasiocarpa, with great heart-shaped leaves a foot long, will make a most effective tree.

On the rockery at Kew Gardens, Erodium amanum, with white flowers and lovely silvery leaves, attracted my attention. Anemone sylvestris had evidently been flowering very profusely, which in some gardens it persistently refuses to do. At Kew the plant was labelled var. ochotensis, which may be freer than the ordinary form. I should be very glad to learn if this is the case. I believe Mr. Farrer in one of his books mentions a variety (major) which he states is freer than the type. Viola gracilis was very fine. Erodium supracanum, white with pink veins, was attractive, and E. guttatum, with large white flowers, the two top petals blotched and green leaves, is well worth growing.

In the Alpine House at Kew I was much impressed with the beauty of two Linums—L. salsoloides and L. s. nana—both pure white. I have since seen the former plant growing rampantly (but quite low): it seems a most desirable plant, having a long season of blooming. *Caltha.*

The Week's Work.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Propagating Bedding Pelargoniums.—Where large quantities of bedding plants are required annually, their propagation should not be delayed any longer. Many practical men have their own peculiar method of propagating and wintering bedding Pelargoniums, adapting their methods to the circumstances in which they are placed. At Eastwell Park, we propagate some thousands of these plants, and invariably use boxes, which we find particularly suitable for handling, enabling a large number to be moved in a very short time. These boxes, which hold about 50 cuttings each, are about 24 by 12 by 4 inches. The plants are wintered in the boxes till the potting is commenced in January. Any ordinary soil for filling the boxes will suit the plants, provided it is sweet, and made light and sandy. The gardener must use his discretion when removing the cuttings from the plants, or unsightly gaps will be made. A moderate number should first be secured from each bed, afterwards examining the beds each week or 10 days for further cuttings. After the cuttings have been taken from the plants, remove all decaying leaves that are exposed, hoe the beds over, and if the weather is dry apply a good watering. If the cuttings are very sappy, allow them to get dry before inserting them in the soil; flagging will not harm them. The cuttings should be planted firmly in the boxes or pots, and a moderate watering will settle the soil round them, after which they should be kept moderately dry. If the weather is hot and dry, the cuttings may safely be left out-of-doors and in the sun; but if frames or staging in empty fruit houses are available, these may be utilised, which will prove safer should wet weather prevail. If the cuttings are placed out-of-doors, provision should be made to protect them from heavy rains, or probably a large percentage will fail to root properly.

Alterations in the Flower Garden.—All through the summer, when the different sections of plants are at their best, notes should be taken of any intended alterations, whether in the shape and disposition of the flower-beds, or in discarding old varieties of bedding plants in favour of improved forms, or different plants altogether. There is no satisfaction in growing inferior varieties of flowering plants when there is such a wealth to select from. An important point to remember in considering any alterations is whether the staff is so constituted that the suggested alterations can be efficiently carried out. It is far better to undertake only a little, and to do it thoroughly, than to neglect the routine work in the flower-garden, which is sure to cause disappointment.

General Work.—Where carpet bedding is practised, the pegging-down and pinching of shoots must be undertaken at frequent intervals, in order to preserve the design. The beds should be kept scrupulously clean by hand weeding. All turf edges and grass must be kept in perfect order, as the best of flower-beds lose much in appearance if their immediate surroundings are not in keeping. Violets are now making capital progress. Pinch off all side shoots and runners as they appear in order to encourage the development of strong crowns for flowering in the frames during winter.

Pentstemon.—Pentstemons are proving one of the most satisfactory bedding plants this season. Each year we grow them in increasing numbers, and, given good cultivation, very few plants provide a more striking display. There are now such splendid varieties, giving long spikes, with large flowers, ranging from white to purple, that some may be chosen to suit all tastes. The scarlet and pink varieties are very effective, and the following selection includes a dozen of these beautiful shades:—Crimson Gem, George Home, Marquis of Linlithgow, Lady Noble, Lady Forbes, Garth, Mrs. Michie, Thomas Hay, William Bull, Alexander Brown, Sir Dighton Probyn, and Southgate Gem. Pentstemons can be strongly recommended for providing blocks of colour over a long period, whether grown alone in beds and borders, or in patches in the mixed flower-border. The main spike should be removed when it has finished blooming, which will allow the secondary shoots to make a good growth, and these will give a display till quite late in the autumn. Pentstemons are gross feeders, and revel in good soil. Manurial assistance should be given at intervals, and abundant waterings in dry weather.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Miltonia vexillaria.—Many plants of this species are now developing new growths, and at this stage are subject to the attacks of small yellow thrips, which secret themselves low down in the axils of the leaves. If these insects are not destroyed at once, the plants will suffer serious injury, the new leaves being permanently disfigured. When yellow thrips are found to be present, flowers of sulphur should be dusted into the axils of the leaves by means of a soft camel's-hair brush when the foliage is quite dry. This will have the effect of driving the pest nearer to the point of the leaves. The leaves of the plants and young growths should then be immersed in a solution of Quassia extract, the proportion being half-a-pint of extract to 3 gallons of tepid, soft water. After dipping, the plants should be laid on their sides in such a position as to allow the liquid to drain from the leaves without in any way coming into contact with the roots or compost, the leaves afterwards being rinsed with clean water. Any repotting that is necessary should be carried out at this stage of growth. The plants should be lifted from their pots, and all the old, loose material shaken from the roots, cutting away any which are decayed. Select pots of a size just large enough to accommodate each plant. The pots should be furnished with clean crocks to about three parts their depth for drainage, covering the crocks with a thin layer of Sphagnum-moss. Keep the base of the plants just above the level of the rim of the pots, and work the compost between the roots, pressing it moderately firm, and finishing with a surfacing of living heads of Sphagnum-moss. A suitable rooting medium for these plants consists of Osmunda fibre, A1 fibre, and Sphagnum-moss in equal quantities. The whole should be cut rather short, and a liberal addition of crushed crocks incorporated with the compost. After potting, the plants should be staged well up to the glass in a light, airy position in the intermediate house, shading them from the sun's rays. Water should be afforded only very sparingly at the roots, allowing just enough to cause the moss to keep green until the new roots are well into the new compost, when the supply should be gradually increased. The plants will be benefited by a light spraying overhead at least twice daily during bright weather, using clear, soft water for the purpose. They should also receive an overhead spraying once in every two weeks with Quassia extract water in rather a weaker form than recommended above for dipping.

Sophronitis grandiflora. — This cool-growing, bright-flowering Orchid is now developing its new growths, and at this stage any plants that require resurfacing or repotting should be given attention. The ordinary shallow Orchid pan, without side holes, is the most suitable receptacle in which to grow them. These should be filled to three parts their depth with small, clean crocks for drainage, using a compost of equal parts Osmunda fibre, A1 fibre, and Sphagnum-moss, cut up in small portions, to which should be added some crushed crocks. Pot the plants moderately firm, with a surfacing of clean Sphagnum-moss, and suspend them in an airy position in the cool Odontoglossum house. During the growing and rooting season, sufficient water should be afforded to keep the surface moss in a healthy condition, and when the plants are dormant they should not be allowed to become sufficiently dry at the roots to cause the pseudo-bulbs to shrivel. Sophronitis Rositeriana and S. cernua require similar treatment. Many of the hybrids of Sophronitis grandiflora, such as Sophro-Cattleya saxa, S.-C. Warnhamensis, and others, and Sophro-Lælia hybrids, such as S.-L. Marriottiana, S.-L. Psyche, and S.-L. Valda, are making new growths, and should be repotted or resurfaced as is found to be necessary; they need a similar compost to that mentioned for Sophronitis. The smaller-growing kinds are best grown in shallow pans and suspended from the roof, while those of larger growth may be cultivated in well-drained pots on the stage, keeping them well up to the light. These plants are usually grown in a cool, airy position in the Cattleya or intermediate house, but many of our hybrids at Gatton are suspended from the roof of a seedling Odontoglossum house, where they grow and flower very satisfactorily.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Tydæa amabilis.—The dark, rose-coloured flowers (see fig. 62) of this beautiful and interesting stove plant resemble miniature Gloxinias in form, but are borne on slender stalks, and, like the remainder of the plant, are hairy. Spring is the natural flowering season for Tydæas, but their period of usefulness can be prolonged by starting small batches of plants into growth at intervals until about midsummer. As most of these plants have now finished flowering water should be gradually withheld, and when the foliage has ripened the plants should be stored in the pots in a dry and warm place. As with the nearly-allied genus Gesnera, propagation is best effected by increase of the tubers in the spring. Leaf-cuttings readily form plants, and, in many instances, it is not yet too late to adopt this method of propagation.

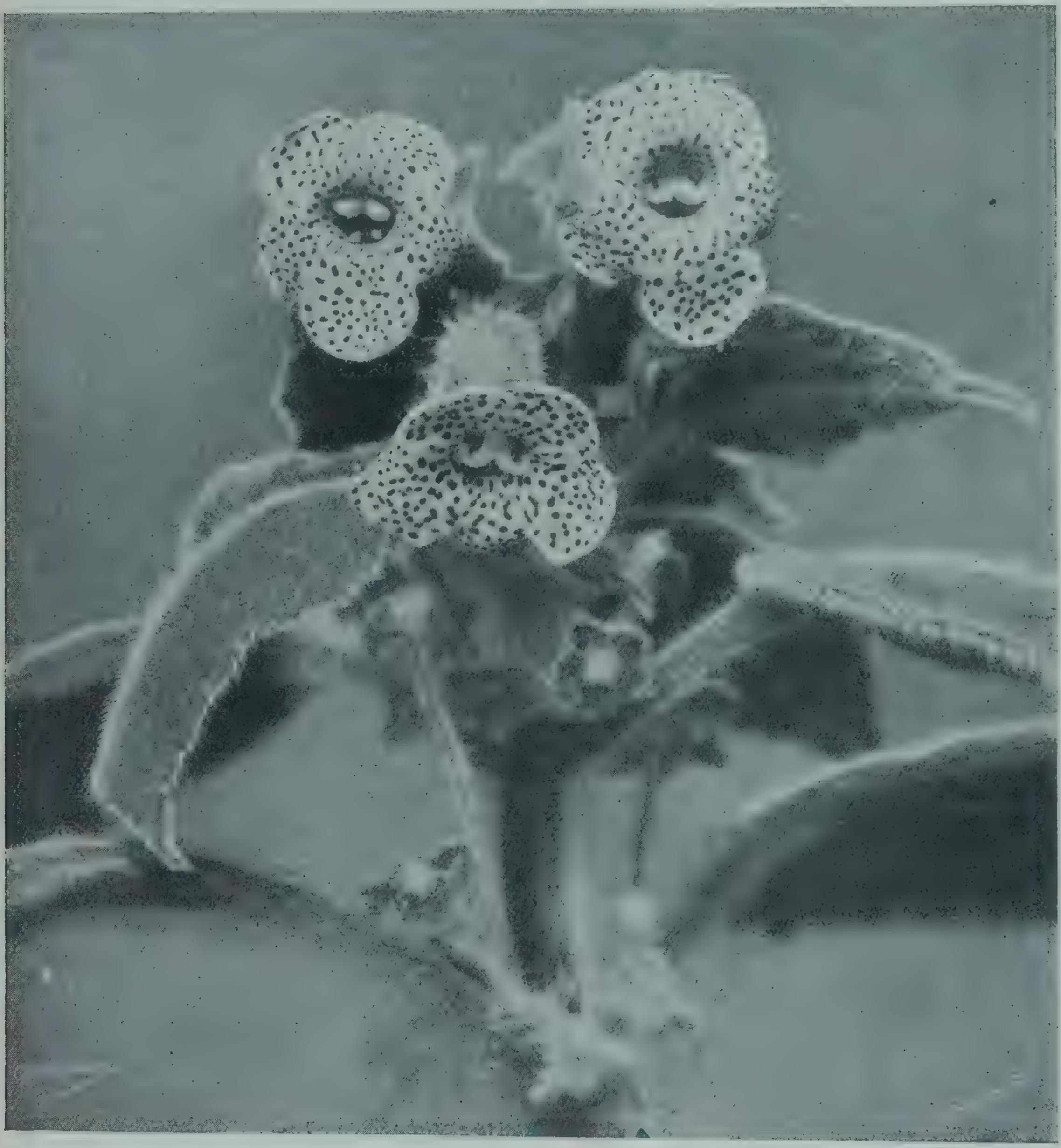

Fig. 62.—Tydæa amabilis, a neglected stove plant.

Carnation Souvenir de la Malmaison.—Those plants which were first to be layered will soon be ready for potting. The young plants should be supplied with plenty of light and air, and the shading which was necessary at the time of layering may gradually be removed. It is a good thing to cut the layers free from the parent plant a few days before potting. The compost to receive the young plants should consist of good loam, lime-rubble, sand, and a little wood ash. A small quantity of manure from an old Mushroom bed or some leaf-soil is often found advantageous to keep the compost porous, but neither is necessary if the loam is of the right quality. The potting should be done firmly, but the collar of the plant should not be too deeply buried. After potting, the plants should be placed, if possible, in a cool house. If this is impracticable, a cold frame is an efficient substitute, but the advantage of the house lies in the fact that the foliage retains a hardier nature, and is more likely to be immune from spot and rust throughout the winter than is the case with plants which have been kept in a frame, even for a few months. The plants should be well watered after potting, and light overhead sprayings are good for them until they are well rooted.

Hippeastrum (Amaryllis.).—The early-flowering specimens of this plant will by this time have finished their growth, and the amount of water to be given them should be lessened. For a time the plants should be allowed all the sun and air available; the best position for them is a shelf in a cool house, but if this is not to be had, a dry frame in the full sun will do quite well. Some of the later flowering plants may not be showing as yet any signs of drying off; these should be separated from the others and kept watered until the foliage begins to turn yellow. Seedling plants should be kept growing freely in a fairly warm temperature. It may be found necessary to shift them into larger pots for the winter; if so, they may be re-potted now into a slightly larger size, and again shifted (say, into 32-pots) in the early spring. This should ensure the plants attaining full flowering size by next autumn, if generous treatment is accorded them throughout the season.

Solanum.—The brightly-berried Solanum capsicastrum is of high decorative value. If planted out in frames or in the open ground, the plants should be well watered, as the flowers set much more freely when the roots are kept fairly moist. This also applies to plants in pots, but these latter need rather more manure than those which are planted out. In order to secure good-sized berries, the points of the shoots should be taken out as soon as sufficient berries are set. Towards the end of the month those planted out should be cut round with a knife or a sharp spade, preparatory to lifting them early in September for potting.

The Conservatory.—It often occurs that when the owners of a garden are in residence for a long time, the conservatory cannot be thoroughly overhauled, especially if it is near the house. When the opportunity occurs, therefore, give it a thorough turnout. The climbers are apt to become very dense, and these should be thinned out and tied, but not too stiffly—climbing plants always look best when left a little free. Many conservatories contain large Camellias in tubs—after these have made their growth, they may be placed out-of-doors for a month or so. If they are placed in a position where the sun will not be too powerful for them, they will be assisted considerably in the ripening of their wood and the setting of flower-buds. At this time of year, many plants may be introduced into the conservatory without fear of injury—for instance, large Crotons, some of the hardier Caladiums, Acalyphas, and Dracænas. These may often be left in the conservatory until they are unfit for further service, and then destroyed—that is, unless they are required for stock purposes. It is certainly an advantage to clear out some of the large plants from the greenhouses before the winter, and thus make room for younger specimens.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Hardy Vines.—The maturing of the fruit has been hampered of late by the wet and sunless weather. Mildew is attacking the fruit and foliage, and little can be done beyond cutting off the bunches, as the foliage is hardly ever dry for any length of time. It is well to cut off all laterals one leaf beyond the bunch, and leave only one bunch to a shoot; the bunches and foliage are thus as fully as possible exposed to the light and air. Leading shoots should also be checked or tied in, according to space, to encourage the ripening of the wood for next season's crop.

Raspberries.—Any old canes still remaining should be removed, and the number of canes for fruiting next season reduced. Those retained should be secured to stakes or wires to prevent any damage by strong winds. All suckers must be removed from autumn-fruiting varieties, and the canes tied up lightly, so that sunshine and air may reach all parts.

Strawberries.—Now that the fruit is removed from the young plantations, the sooner all runners, weeds, and damaged leaves can be cleared from those beds which are to remain until next season the better. It is well to avoid removing more foliage than necessary; but leaving the plants clean will encourage fresh growth, and good, healthy leaves will be produced before winter. Many of the plants have suffered badly from mildew this season, and all straw mulchings and mildewed leaves must be removed to the rubbish heap and burnt. The beds should afterwards be dusted over with a mixture of lime and soot, which will destroy mildew, slugs, and snails, and also stimulate the growth of the plants. Old plants which are to be destroyed should be taken away from the beds and burnt at the first opportunity. Runners which have been layered as recommended in a previous article will now be well rooted and ready for planting out. If the ground is well prepared, the soil in good condition, and the weather favourable, the sooner the planting can be done the better. A few plants might be planted on a south border, 15 inches apart each way, in cold frames

These will be found very useful, as the fruit will be ready just before the ordinary crop is gathered. Two feet to 2 feet 6 inches should be allowed between the rows for general planting, according to the variety, and 1 foot between the plants; and next season, as soon as the fruit is cleared, every other plant should be removed.

Nuts.—Remove all suckers from the Nut bushes, and keep a sharp look-out for squirrels, or these creatures may soon clear the whole crop.

Figs.—These trees should be examined at short intervals, and all weak shoots removed. Short-jointed shoots should always be selected in preference to long, sappy growths, as the joints of the latter are generally injured in a severe winter. Trees carrying heavy crops of fruit should be watered with liquid manure, if growing in well-drained borders; but young trees which are making too much growth should not be allowed much moisture. The fruits should be protected from birds and wasps with muslin.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Pot Vines.—Young vines which have been grown for fruiting in pots next year should be strong canes by this time. In these circumstances the chief consideration now will be to get the wood well matured by the end of the season. For very early forcing it is essential to get the canes ripened as early as possible, or they will not respond kindly to forcing; therefore, during cold, dull weather, it is desirable to slightly heat the hot-water pipes. On such occasions syringing should be discontinued and the atmosphere kept less moist. Let there always be a free circulation of air, more or less in degree, according to the condition out-of-doors. When the vines have made sufficient growth and the wood is fairly well hardened, the ripening process will be greatly accelerated by placing the vines out-of-doors in a sunny situation, partly plunging the pots in ashes. The roots will still need frequent supplies of moisture, and stimulants must also be given them two or three times a week. The longer the foliage can be retained in a healthy condition, the better it will be for the vines. A sharp look-out must be kept for red spider, and, should it appear, syringe the foliage with a strong solution of soft soap and sulphur.

Figs.—There will be no difficulty in keeping up a continual supply of ripe fruits all through the autumn if the trees are allowed to develop a second crop. This crop will be as satisfactory as the first, except that the fruits will not be so large. Do not let the trees get overcrowded with growth, and give the fruits a further thinning if it is considered they are too numerous. Afford water and stimulants to the roots as often as appears necessary, discontinuing the stimulants when the fruits commence to ripen. During dull or wet weather, slightly heat the water pipes, and ventilate the house with extra care. When the fruits are ripening, it will be necessary to have a little heat in the pipes during cold nights, also in the day time when the weather is unfavourable.

Fig Trees in Pots.—The earliest trees required for placing into heat in November or December, with a view to obtaining ripe fruits early in the spring, should be overhauled now, and those which are in need of repotting treated in this manner without delay. Figs do not require to be repotted every year, therefore those which are already in very large pots or tubs will need only to be top-dressed with some rich compost. The drainage must be examined, and, if necessary, made good. Remove as much of the old soil as convenient to make room for the new materials. The compost should consist chiefly of fibrous loam, with a liberal mixture of lime-rubble, wood ashes, and crushed bones. A little well-decomposed horse manure will also be beneficial if the loam is poor. Young, healthy trees which need repotting may be given slightly larger receptacles. The roots will not then need so much disturbance as is the case when the trees are repotted into the same-sized pots. See that the pots are thoroughly cleaned and well-drained. The compost mentioned above for top-dressing will be suitable for the potting. If the compost is in proper condition, the soil must be [illegible] and to ensure that the whole of the space between the side of the pot and the ball of roots is perfectly filled with soil, a thin rammer should be used for the purpose. After potting, place the trees in a shady position until they have recovered from the check. They must be carefully watered till the roots are again active, but the syringe must be freely used during hot, dry weather. If heavy rains occur frequently, the trees should be given the shelter of a house.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Onions.—In many districts Onions sown in heat and planted out early in the year will now be nearing maturity. It is a mistake to allow these to remain too long on the land, though the showery weather may cause them to continue green and in a growing state. One of the principal points in relation to their keeping properties is that they should be ripened and lifted early, certainly during the present month, and they should be handled very carefully, so that the bulbs do not become bruised. The beds should be examined and all deformed bulbs taken out, also the rough skins carefully removed from the perfect bulbs to prevent them holding water, when the outer skin will ripen to a nice brown colour, which is so important to the future of the bulb. By about the 20th of the month the whole of the crop should be lifted and carefully harvested. Those that were sown in drills in the open ought by now to have their tops turned down, which is best done with the hands, exposing the bulbs as much as possible to the sun.

Late Peas.—These are doing remarkably well since the wet weather set in. To prolong the season as far as possible thin out the growths, and keep them well supported in an upright condition. Should there be dry weather keep the roots well supplied with moisture and damp over the growth late in the afternoon. Autocrat and Masterpiece are still amongst the best varieties for late supplies.

Runner Beans.—Runner Beans do best when the growths are not allowed to become overcrowded. After the top of the supports is reached, the shoots should be stopped to induce some of the bottom growths to break away strongly. Never lose sight of the fact that the bean is a moisture-loving plant, and it can hardly be given too much water at the roots, even though the weather may be showery. Excepting those required for seed purposes, the pods should be gathered immediately they become fit, as nothing tends to weaken the plants more than allowing the seeds to mature.

Spinach.—Continue to sow seed of the best varieties, at frequent intervals, on well-manured, deeply-dug ground in different parts of the garden. The ground should be broken down very finely, and the surface thoroughly dressed with soot and burnt garden refuse, and the whole raked down to a very fine tilth.

Parsley.—Make another good sowing on finely-prepared ground on a south border. These will furnish good plants for placing in cold frames for winter use. Thin out earlier sowings, and apply frequent dustings of fresh soot.

Lettuce.—Continue to plant out seedlings of both Cos and Cabbage varieties in the most sheltered parts of the garden, and make further sowings in skeleton frames for a winter supply. Amongst the best varieties of Lettuce for present sowing and later are three old favourites, namely, Hick's Hardy White Cos, a good selection of Brown Cos, and the old Hammersmith Cabbage. So far as I know, the latter variety is still the most hardy in cultivation, and may be successfully grown in almost any locality.

Potatos.—I hear most unfavourable accounts from many districts as to the prevalence of the Potato disease, the low temperature and continued rains being all in favour of this scourge spreading. Lose no time in lifting all varieties as fast as they mature, and place them under cover, sprinkling a little fresh lime between each layer of tubers.

Beetroot.—Immediately the roots of this crop become of a fair size they should be lifted and stored away in sand or fine cinder ashes for future use. It is a mistake to leave them in the ground after August.

THE APIARY.

By Chloris.

Hints to Exhibitors.—In exhibiting honey the first point to attend to is the flavour. This should be of a definite nature, mellow, and so well defined that the judge, on tasting it, can tell its source. The colour is important, for the novice often enters his honey in the wrong class through having no guide to enable him to judge it correctly. A mistake of this kind can be avoided by purchasing two grading glasses of the British Bee Keepers' Association. One piece of glass, held up to the daylight, not sunlight, gives the lightest shade desirable, and the two pieces together the darkest shade allowed in the medium-coloured extracted honey. Some imagine that water-white honey is the correct colour for the lightest class, but this is an error, bright amber being correct. The density needs attention, for the honey should be as thick as possible; thin honey has no chance of being placed in the successful division. There should be a delicate aroma observable immediately the cap is removed, so much so that a good judge can recognise from what plants the bees gathered it. For this reason the exhibitor should use screw-top jars, not tie-over, and insert a wad beneath the cap to make them airtight when screwed down, so that the delicate aroma may not evaporate. The honey for show purposes should have remained on the hive until it is quite ripe, i.e., sealed, and if ungranulated honey is desired the earliest production will supply this want. In order to secure the required density above mentioned, care must be taken to wipe the uncapping knife every time it is used after putting it in the hot water. Thoroughly strain the honey as it runs from the extractor. Care must be taken not to fill the honey with air globules as it passes into the bottle, and this can be best prevented by holding it at an angle. The air bubbles would eventually rise to the top and cause a scum, which judges regard a fault. Immediately after bottling place the honey in a cool, dark room or cupboard. The general finish of the exhibit tells in its favour; for this reason the bottles should be well polished before use, the metal caps should be similarly treated, and all tarnish rubbed off just prior to the show. When granulated honey is aimed at, it should be the very best and quite ripe. To make the honey granulate, avoid heating it, if possible, and place it, when bottled, in a cool, light place. When granulation has commenced turn the jars occasionally and stir it, as this makes it of a smoother grain. The process will take a year, and if warmth is applied in any way it may cause fermentation to take place. The best honey for granulation is obtained from Turnip flowers, Clover, Mustard or Charlock. When granulation is complete it should be pure white. If there is any tendency to flakiness this will tell against it. Sections should not be travel-stained, so those for exhibition should be removed as soon as they are capped. To prevent the bees puncturing the cappings use as little smoke as possible, and never omit to employ the Porter escape super-clearer for the purpose. The cells should be of the worker type in preference to those constructed on drone base. There should be as few holes as possible, and should be worked to the wood all round if it can be managed. The cappings must be transparent, raised a little, and thin. If possible select sections of one colour of cappings, e.g., Sainfoin honey have yellow, while Clover and Heather have white cappings. The wood must be thoroughly freed of stains and propolis by scraping, and this can be best done by using a piece of glass rather than a knife. The sections are then ready for glazing, and in doing this an edging of white paper lace may be used by way of ornamentation, with a uniform width not exceeding $\frac{3}{8}$ inch. To produce a good wax exhibit, cappings should be saved; when these are carefully melted there will be no sediment, and the resulting wax will be pale yellow. Cast the wax in pound cakes in plain moulds. Place the mould in a basin of hot water, and strain the molten wax into the floating mould. When the wax has set on the top of the mould, pour in more warm water to completely cover the wax. When the block floats out allow it to remain in the water until it is quite cold.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

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Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, AUGUST 21—
Shropshire Hort. Soc.'s Sh. at Shrewsbury (2 days). Caerphilly Fl. Sh. Weston-super-Mare Fl. Sh. Margam Fl. Sh. Cowbridge Fl. Sh.

THURSDAY, AUGUST 22—
Aberdeen Fl. Sh. (3 days). Peebles Fl. Sh. Preston Hort. and Industrial Soc.'s Sh.

SATURDAY, AUGUST 24—
West Birmingham and District Hort. Soc.'s Sh. Copartnership Festival in the Brentham Garden Suburb, Ealing.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—61·3.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, August 14* (6 P.M.) : Max. 63°; Min. 40°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, August 15* (10 A.M.) : Bar. 29·5° ; Temp. 60° ; *Weather*—Fair.
PROVINCES.—*Wednesday, August 14* : Max. 56° Aberdeen; Min. 52° Mayo.

SALES FOR THE ENSUING WEEK.

MONDAY—
Special Sale of Bulbs, &c., for the Trade, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.

MONDAY, WEDNESDAY, AND THURSDAY—
Great Trade Sales of Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.

Double Standards in Sweet Peas.

The disqualifications which took place at the recent Show of the National Sweet Pea Society have brought into sudden prominence the subject of double standards. Rightly or wrongly, the Society determined that in most of the classes the presence of flowers possessing more than one standard should be treated as a disqualification, an explicit direction which left the judges no option in the matter. Numerous groups of flowers, including some of the finest in the show, were ruled out of order for noncompliance with the regulation, and some of these were staged by well-known exhibitors, who have but little appreciation for double-standard flowers, and may be credited with having taken considerable pains to eliminate them from their collections.

The matter is certain to be brought up at the future meetings of the Society, and members should utilise the interval to think out what is best to be done in a situation of extreme difficulty. It may very well be urged that it is impossible to divide Sweet Peas into two clearly-defined classes consisting in the one case of varieties that have one standard only and in the other of varieties in which the standard is duplicated, for these characteristics are not fixed. There is no variety that can be depended upon to give double-standard flowers with anything like persistency; the so-called duplex varieties have disappointed those to whom this type appeals most, for they have always a tendency to produce single flowers. Whilst it may be claimed that, the conditions being equal, certain varieties are more capable than others of producing a greater proportion of flowers with double standards, nevertheless this particular duplication is very often merely an indication of high cultivation attended with a very liberal use of manures. There is no reason why the attempt to produce varieties with fixed habit of doubling should not be pursued by those cultivators thereto inclined; and provided such flowers are found to be popular for market and decorative purposes, a prominent place will doubtless be found for them in exhibition schedules. In the meantime it is irritating to exhibitors that a fine bunch of flowers of such varieties as Mrs. C. W. Breadmore or Elfrida Pearson should be disqualified because in a very few instances the specimens are found to possess twin standards. We have mentioned these two varieties on account of their proneness to produce double-standard flowers, and because they cannot be dispensed with for exhibition purposes, for they are the best of their respective classes.

We know that many object to the hard-and-fast rule contained in the schedule because they regard the presence of double standards as a sign of good culture; indeed, it has been said by those who opposed the inclusion of the rule that its adoption put a premium on bad cultivation. The opposite view is that in so far as doubling is the result of cultivation it is also the index of excessive culture. There are very few Sweet Pea lovers who would be willing to sacrifice beauty of form, grace and colour in their flowers in order to obtain mere size. Coarseness in any shape or form can never be tolerated in Sweet Peas, yet there is the danger of its appearance in the collections of those who seek after great size in their blooms, the frequent result being a collection of badly-placed flowers, too far apart on the stems to appear graceful or natural. We have heard of a proud grower who boasted that he had flower stems 27 inches long! Such an abnormality is most undesirable, and Sweet Peas have everything to lose and nothing to gain by high feeding.

It is not altogether impossible that the public will some day prefer double Sweet Peas to single flowers; indeed, many profess to think that if the regulation were withdrawn the single flowers would soon form but a minor feature at the exhibitions. Alterations of taste are not to be prevented by even such a stringent regulation as that of the Sweet Pea Society, but unless the fear referred to can be shown to be groundless the Society can scarcely relax the rule without some misgiving. At present there are three classes reserved expressly for double flowers.

Whilst writing on the subject of Sweet Peas, we may refer to the streak disease. From time to time, an outcry is raised in one quarter or another that the disease has broken out, and for a while there is a scare lest it assume the proportions of an epidemic. When, however, a visit is paid to the Royal Horticultural Society's garden at Wisley, and it is seen how splendidly Sweet Peas are grown on the light soil there, without a trace of disease, and when it is remembered that similar excellent results are attained by the best growers in every county of England, we suspect that methods of culture have more to do with the attacks of the disease than is commonly believed.

Park Gardening in America.

An interesting account is given by Mr. Schmitt in the *American Florist* of the progress of park gardening in America, as illustrated by Fairmount Park, Philadelphia. The account, which is based on a paper read by Mr. Schmitt before the Florists' Club of Philadelphia, describes the change which has come over park management in recent years, since the time when "keep off the grass" was the invariable order, to the present day, when visitors are not only encouraged but lured to inspect and study the plants grown for their pleasure. Fairmount Park exhibits all the various styles of gardening, from carpet-bedding to water-gardens. The tendency in recent years with respect to the former is to adopt narrower borders or beds than were in vogue formerly. The advantages of the newer method consist in economy of plants and reduction of the difficulty of preserving the formal shapes.

Cluster beds of evergreens for colour effect enter largely into the scheme of gardening adopted at Fairmount Park. Such beds, planted along the drives and interspersed with beds of annuals and perennials, make for the enjoyment of those who pass daily along the walks. The requirements for the annual bedding in this park are given in detail, and include:—

Pelargoniums (in eight varieties)	22,700
Coleus (in four varieties) ...	10,000
Ageratum	1,400
Alternanthera	47,000
Tulips	135,000

and correspondingly large numbers of such subjects as Echeverias (11,000), Sedum aureum, Eranthemum atropurpureum, Abutilon, Acalypha tricolor, Salvias, Cannas, Pansies, Chrysanthemums (4,000), and many others.

Among the aquatics are Nymphæas and Nelumbiums. Cacti and other succulents are grown largely (500 species and hybrids), and prove of fascinating interest to visitors. Rambler Roses are employed for covering embankments and unsightly cliffs, the chief varieties being Lady Gay, Dorothy Perkins, Gardenia, Evergreen Gem, and, indeed, all the Wichuraiana hybrids, as well as many others.

Mr. Schmitt

article with the following wise remarks:—I believe from an educational point of view the public park and its system has much to do with the education of the people, as well as of that of the children of the many schools in and around our city. They visit the park very frequently by entire classes accompanied by their teachers, to study plant life from nature. The visitors imbibe civic pride, and adopt, as nearly as means will permit, better conditions surrounding their own homes. The recreational value of the opening of the whole park to the public and allowing the freedom of every part of the grounds for public use (with us there are only a few places where people are not allowed on the grass) cannot be over-estimated from the point of view of the health of the community. Park gardening requires many-sided abilities, which, when practised by the up-to-date gardener, give to the visitors from other cities impressions deep and lasting.

National Hardy Plant Society.—The second annual conference of the National Hardy Plant Society will be held at Shrewsbury on Thursday, 22nd inst., the second day of the Shropshire Horticultural Society's show, at the George Hotel, at 3.30 p.m. Mr. T. W. Sanders will read a paper on "Are Flower Shows Advancing Hardy-plant Culture as They Might and Ought to Do?" There will also be a discussion on the herbaceous species and varieties of the genus Veronica. All visitors to the show interested in hardy plants are cordially invited. Particulars of plants entered for certificates should be sent to the secretary, Mr. F. Bouskell, Market Bosworth, Nuneaton, not later than the 20th inst.

"The Botanical Magazine."—The issue (No. 92, fourth series) for this month contains illustrations and descriptions of the following plants:—

Hydrangea Sargentiana, tab. 8447.—This distinct species was introduced by Mr. E. H. Wilson from Western Hupeh, where he found it at an elevation of 5,000 to 6,000 feet above sea-level in 1907, but, unfortunately, it does not appear to be hardy, for several young plants at Kew failed to withstand the cold of the winter of 1909-10. Since then winter protection has been afforded the species, and it is just possible that older and more woody plants may survive winters out-of-doors. As its flowering season is towards the end of July, when flowering shrubs other than those with yellow flowers are scarce, the present tenderness is very unfortunate, for Hydrangea Sargentiana would be a valuable acquisition. From the gardener's point of view, this species is distinct on account of the conspicuous, bristle-like hairs which cover its stems and petioles, but, botanically, it is very near to H. Rosthornii. At maturity, H. Sargentiana becomes 6 to 7 feet high; the ovate-acuminate leaves are unequally toothed, and are often 12 inches long by 6½ inches wide. The corymb is composed of numerous flowers; some, sterile and white, are 1 to 1½ inch across.

Aloe Steudneri, tab. 8448.—The portion of inflorescence figured shows this to be a remarkably beautiful Aloe, the individual flowers being about 2 inches long, the three outer segments deep red, the inner ones recurved at the tip, rose-pink below with dark yellow on the recurved with red veins. The species was originally discovered by Dr. Steudner in the Ghaba Valley at about 11,500 feet altitude. Its affinities have greatly perplexed botanists: one authority believes the plant to have a close relationship with A. Scholleri. A specimen in the Kew collection has failed to produce flowers; but a plant in the Cambridge Botanic Garden flowered in March, 1901, and another at La Mortola, Italy, in April, 1911. Notwithstanding its shyness in blooming, it is, like most other Aloes, a handsome plant, and well worthy of cultivation. The leaves are about 2 feet long, and margined with a narrow band of rose colour.

Muehlenbeckia complexa, tab. 8449.—This is an old plant in gardens, but it does not appear to be generally known; specimens are frequently received by us for naming. The plant is not perfectly hardy in Great Britain, but it survives the winters in favoured districts. It is usually met with as a climber in the rock garden, but there are forms which have a dense tufted growth several feet in diameter. Plants at Kew are liable to partial injury from frost, but the species grows well in Mr. Hill's garden at Herm Island, Guernsey, and this gentleman supplied the material for the *Botanical Magazine* plate. The stems are reddish-brown, and bear small roundish leaves, from the axils of which the spikes of greenish-white flowers are produced.

Pycnostachys Dawei, tab. 8450.—This species was first described by Mr. N. E. Brown in *Gardeners' Chronicle*, January 12, 1907, p. 18. The flowers are blue, of the shade seen in Coleus thyrsoideus, and produced in terminal elliptic-ovoid spikes from 1¼ to 5 inches long and from 1¼ to 1¾ inch across.

Agave disceptata, tab. 8451.—This plant was presented to Kew Gardens in 1893 by the late Mr. W. B. Kellock, of Stamford Hill, under the name of Agave Leopoldii, and was regarded by that gentleman as a hybrid between A. filifera and A. princeps. On flowering, there was no evidence of any such parentage, but the characters pointed to the plant being a distinct species. The scape is about 5½ feet high, the flowers being borne in a rather loose spike. The perianth lobes are greenish with rosy-purple edges. The plant grows well in the Succulent House at Kew.

A Neglected Garden.—The Parks Committee of the London County Council have had under consideration a memorial from some of the occupiers of the houses surrounding the garden or ornamental ground between Blenheim Crescent and Elgin Crescent, Kensington, praying that the Council will take charge of the garden, in accordance with the provisions of the Gardens in Towns Protection Act. The garden is neglected, and the Council is under a statutory obligation to comply with the request of the memorialists. It will eventually be vested in a committee of the rated inhabitants of the surrounding houses for the use of such inhabitants, the cost of maintenance, &c., being raised by the Kensington Royal Borough Council, by an addition to the general rate assessed upon the occupiers of the houses or in the borough council for the use of the public.

Importation of Beeswax into South Africa.—It is notified that the prohibition which has for some time past existed in regard to the importation of beeswax and foundation comb into the Union has now been annulled, but its introduction is still contingent on the issue of a permit by the Department of Entomology, which before doing so will require very definite and precise information regarding its purity and freedom from disease. Honey and second-hand bee appliances remain absolutely prohibited, and the right to introduce bees is reserved exclusively to the Government.

Winter Work in London Parks.—The General Purposes Committee of the London County Council recently asked the Parks Committee to consider what works at parks and open spaces under the control of the Council can be offered to the Central (Unemployed) Body for London for execution during the winter of 1912-13. A list of works, consisting chiefly of digging, levelling, and returfing playing and other grounds, has accordingly been prepared, but as such works could not be regarded as being required, or likely to be undertaken either in the immediate future or at any other time, the Council do not propose to make any contribution towards the cost of such works.

Influence of Light and Temperature on the Germination of Seeds.—According to the *Journal of the Board of Agriculture*, investigations recently carried out at the Munich Institute have shown many valuable and interesting facts concerning the behaviour of different seeds. Fresh seeds of Nigella sativa did not germinate in a seed bed when exposed to the light, but when darkened all the seeds germinated in 10 days. The seeds of many Liliaceæ behaved similarly, but in these cases germination was only seriously hindered by light when the temperature was over 68° Fahr. On the other hand, about 200 species (including Veronica officinalis) did not germinate in the dark; when brought suddenly into the light, however, after being kept for three years in the dark, they germinated in a very short time. In many cases only a small amount of light was necessary for germination. Lights of different colours were noticed to produce different results. A blue light was found to have the same influence as darkness, and had the additional effect of preventing the growth of harmful fungi and bacteria; 100 seeds of Tofieldia were kept for four years under a blue light and not one died. Germination ensued immediately on changing the blue to a red or white light. A blue light seemed to favour germination in the case of seeds which germinate in the dark, whilst red was unfavourable. The sudden appearance of large numbers of some varieties of weeds in fields seems to be explained by the fact that in many cases germination is more complete and rapid where seeds have been kept for a considerable time in unfavourable conditions, and then brought suddenly into conditions which favour germination. Thus it was found that seeds of Digitalis purpurea took eight months for the whole to germinate in the light in the ordinary way; but where they had been kept in the dark for three years the whole germinated in ten days after the admission of feeble light. Species of Veronica behaved similarly; only 50 per cent. germinated in three years, when the seeds were exposed to the light, but when kept in the dark for some time, and then suddenly placed in the light, the whole of the seeds germinated. In the case of Verbascum nigrum, 21 per cent. of the seeds kept in the light for three years germinated, while 75 per cent. germinated where the seeds had been kept in the dark for three years and then placed in the light. Rostrup's and Dorph Petersen's experiments have established the fact that the seeds of 350 species of wild plants need frost for germination. Gentians (as a rule) and Primulas are well-known examples of seeds requiring frost before germination can take place. It is considered to be practically certain that all species of Gentiana can be caused to germinate by a long period of frost if sufficient moisture is present, but if kept in a dry condition the full effect is not produced. A frost which lasted over eight days in April caused Cuscuta europæa and C. Viciæ to germinate. It is stated that a frost lasting over a whole winter would doubtless result in the germination of many species of seeds which had lain dormant for some considerable time. A noticeable point in connection with these experiments was the different behaviour of different species of the same family, and it is evident that seeds are able to adapt themselves to varying conditions of climate, soil and light.

Publications Received.—***Vines and How to Grow Them,*** by William C. McCollom. (London: William Heinemann.)—***Insect Pests of the Lesser Antilles,*** by H. A. Ballou, M.Sc., (West Indies: Imperial Department of Agriculture.) Price 1s. 3d.—***Popular Official Guide to the Royal Botanic Gardens, Kew.*** (London: The Royal Botanic Gardens.) Price 6d.—***Monthly Magazine and Circular of the North of England Horticultural Society.*** August.—***Directory for Higher Education, 1912-1913.*** Staffordshire County Council Education Committee.—***The Philippine Agricultural Review.*** July. (Philippine Islands: Bureau of Agriculture.)—***Growing Crops and Plants by Electricity,*** by E. C. Dudgeon. (London: S. Rentell & Co., Ltd.) Price 1s. net.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

The Weather at Lambay Island.—On Monday, August 5 we registered 2.04 inches of rain. The rain and strong winds were most disastrous to vegetation. Many plants in exposed positions, such as Antirrhinums, Gladiolus, and Dahlias, were broken. The weather continues showery, the amount of sunshine is small, and the conditions generally seem more in keeping with the month of October. The Apple crop is good here. Small fruits have been heavy crops, with the exception of Strawberries, which were only moderate. Potatos are a heavy crop and of excellent quality. All the Brassica family are now growing freely. Some time ago they were standing for want of rain, the land being light and porous. *C. Ruse, Lambay Island, co. Dublin.*

Storm of Rain and Hail at Redditch.—The district of Redditch was visited on the 4th inst. by the most severe storm that the "oldest inhabitant" can remember. The crops of different kinds were almost battered to pieces. Just before 1 p.m., rain started to fall in such torrents that it was difficult to see any object even a few yards distant. This was followed by large hailstones. I managed to get five, and the largest measured 1½ inch long; the five placed in a row measured just 6 inches. Such plants as Brussels Sprouts have been completely broken down, and tender leaves, like Vegetable Marrow, have been riddled with large holes. Out-door Tomatos have had their leaves cut to shreds; the pods of culinary Peas have been pitted in a way that is difficult to describe. During the storm, which lasted 20 minutes, my rain gauge registered just 1 inch of rain. The course of the storm seems to have been a somewhat narrow tract of country, not exceeding 2 miles in width, from south-west to north-east, and in its greatest severity extended about 10 miles. Owing to the drought last summer, and the rains this year, these have been the most difficult seasons of my lifetime. The rainfall for this year to date (August 10) has been 26.31 inches, and for the same period last year 7.62 inches, divided as follow:—

1911.		*1912.*	
January ...	0.72	January ...	4.40
February ...	1.52	February ...	2.80
March ...	1.82	March ...	3.88
April	0.90	April	0.01
May	0.57	May	3.98
June	1.43	June	5.07
July	0.30	July	2.97
To August 10	0.32	To August 10	3.20
Total ...	7.62	Total ...	26.31

J. G. Blakey, Holmwood Gardens, Redditch.

Peaches Out-of-Doors.—Duke of York and Peregrine, two of the newer varieties of Peach, promise well for culture out-of-doors. Young trees which were planted on a south-east wall three years ago have this season carried good fruits. Those of the first-named variety were gathered the third week in July, being of excellent flavour, quality and colour. This variety is a great improvement on the old early sorts, which have flesh of a woolly nature and poor flavour. The variety Peregrine is now ripe. The tree is a strong grower, and bears good-sized, well-flavoured, highly-coloured fruits. There is no other variety at present approaching ripeness out-of-doors, which is due to the unfavourable season. The fruits of Peregrine seem to withstand the effects of the wet weather. Hale's Early will not be ripe for a fortnight, but the trees are carrying good crops of fruit. Waterloo, which is one of the earliest, and Early Grosse Mignonne, we have discarded as useless both for kitchen and dessert purposes. Other sorts which are doing well in these gardens are Royal George, Crimson Galande, Violette Hâtive, Dymond, Stirling Castle, and Barrington. The variety named last is one of the best late Peaches. The trees have been afforded no protection since the fruits set, and are free from blister, which is probably owing to the protection afforded them in spring. The soil is loam or heavy clay. *A. B. Wadds, Englefield Gardens, Reading.*

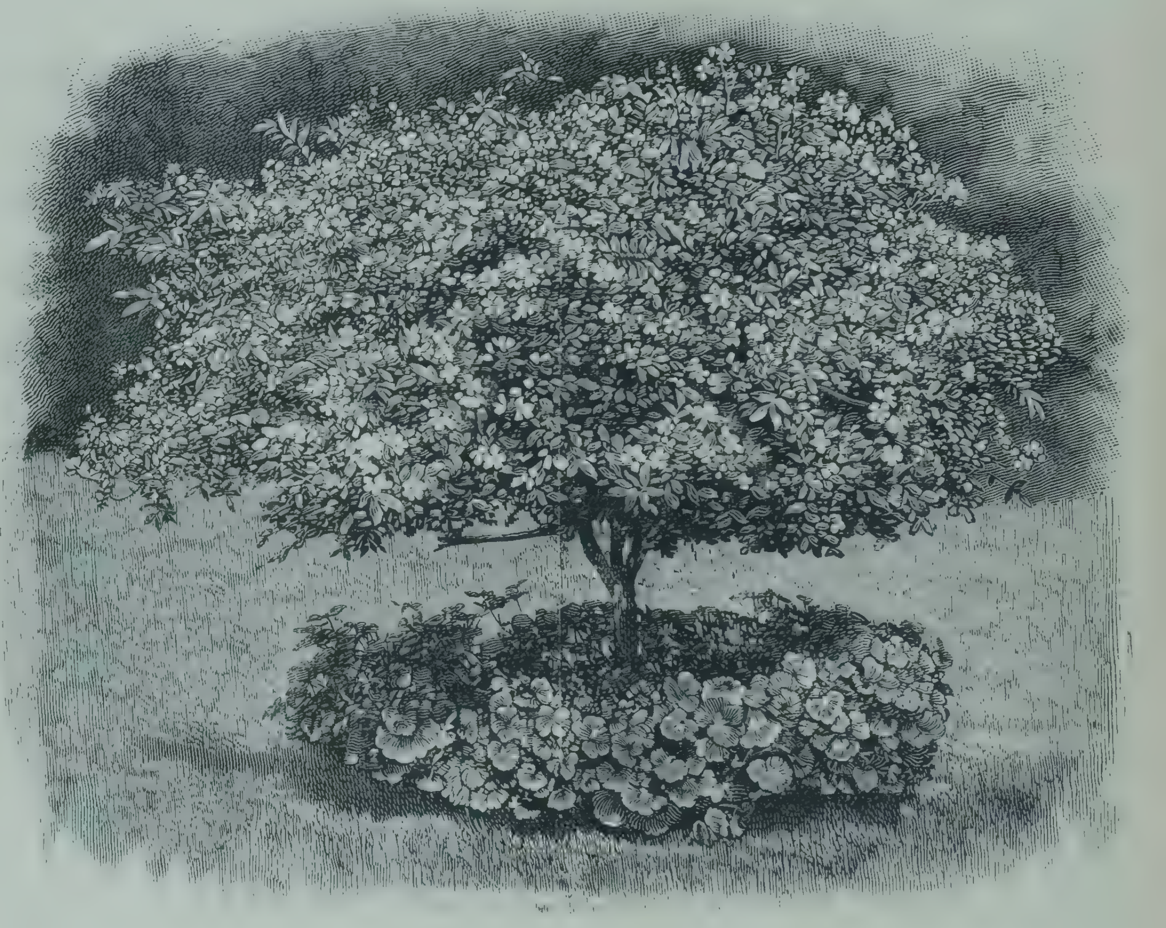


FIG. 63.—AN OLD ILLUSTRATION OF CASSIA CORYMBOSA TRAINED AS A SPECIMEN PLANT.

Black Currant Boskoop Giant (see p. 122).—My experience is the same as that of *Mr. Pearson* and *Yorkshire Gardener.* In a garden under my charge eight years ago we planted a number of young trees in a good condition. From about the third year of planting and each succeeding year, one or more of them developed the same form of growth as Mr. Pearson described. Such growths produced no fruit, but they remained free from the bud mite which to some extent attacked the other bushes. It should be stated that none of the parent trees from which the stock was obtained showed the barren form, neither did the mite attack the bushes. *E. F. H.*

Meconopsis Wallichii in Ireland.—I was greatly interested in the notes on "Plant Collecting in Yunnan," printed in the issue for July 6, especially the remarks on the natural habitat of the Cambridge Blue Poppy. At Belvoir Park, Belfast, the residence of Mrs. W. H. Wilson, about 50 plants of Meconopsis Wallichii are growing in a shady part of the rock-garden in ordinary garden soil. The plants have attained a height of over 7 feet, and have borne over 300 blooms, each 3 inches across. The flowers are of a beautiful Cambridge blue colour. This Meconopsis is a hardy biennial, and thrives best in a cool, moist, shady situation. It is a lovely plant, with browny-green, velvety, hirsute foliage. The moisture clings to the leaves all the winter, producing a glistening appearance. The species is much hardier here than Meconopsis integrifolia. *T. Young, Belvoir Park, Belfast.*

Cassia corymbosa.—A fine plant of Cassia corymbosa was exhibited at the annual show of the Howden Horticultural Society, held recently. It was growing in a 12-inch pot, trained as a large bush, with a flattened upper surface, which was almost covered with the very effective yellow flower-spikes. I do not remember seeing the plant grown in this way before. The exhibitor was Mr. Charles Lawton, gardener at Welton House, Brough, who is probably the oldest grower of specimen stove and greenhouse plants in this county. This was the 41st year he had exhibited at the show in question. My first knowledge of Cassia corymbosa was gained in the late fifties of last century from a specimen growing up a part of the roof of a warm conservatory in a Yorkshire garden. Its cultural requirements are simple. It should be planted in a mixture of friable loam, a little good leaf-mould and sand, with good drainage. The roots should be afforded plenty of water in the growing season. *Yorkshire Gardener.* (We reproduce a figure which illustrates the same kind of bush described by our correspondent. It was grown by Mr. O. Goldsmith at Polesden Lacey, Dorking, in 1887.—Eds.)

The American Gooseberry-mildew.—A rapid spread of this disease here has to be noted, notwithstanding all our efforts to destroy the pest. Depending largely on "tipping," never once have we hesitated to adopt this method, but I find that the wet season is causing the "tipped" shoots to break into growth, and these fresh shoots are affected with disease. What will be the condition of the bushes for fruiting another season it is hard to foretell. This year, as last season, a bad patch has been rooted up and burnt, but burning cannot be done on a large scale. On July 29 the inspector informed me that he should be compelled to schedule a fresh portion of our farm. I cannot make out where the disease comes from. We have many acres of bushes free from infection. These are of the same variety, and they are growing in similar conditions. Why does one plantation escape contagion and not another? *Stephen Castle, Walpole St. Andrew, Wisbech.*

AN AUSTRALIAN BUSH HOUSE.

The illustration in fig. 64 represents a bush house, which is utilised for the cultivation of Ferns in Mr. Hutchinson's nursery at Brighton, Victoria, Australia. The roof is built on posts and Ti tree (Cordyline australis) branches laid on the top, but the sides are open to all weathers. It speaks well for the climate here when I say that Palms and hardy Ferns are grown in beds all the year round, as they are shown in the illustration. The Palms in the foreground are seven years old. Both the Palms and Ferns are lifted as required, and potted and established in pots before they are sold. Last year the extremes of temperature were 110° in the shade in summer and 29° in winter. *E. Hayler, Brighton, Victoria.*

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 66-71.)

(Continued from p. 121.)

4—MIDLAND COUNTIES.

Bedfordshire.—Most of the Apple trees produced a good crop of bloom, but many flowers were destroyed by frost early in May. The deficient crop of Strawberries is, I believe, due to the poor season we had last year, which prevented good crowns being formed, hence there have been many "blind" plants this year. The soil is Oxford clay. The nut crop is the heaviest I have ever seen. *W. H. Neild, Ridgmont, Aspley Guise.*

—— The soil in these gardens is inclined to be of a light, loamy nature, with a very heavy subsoil of clay. It is difficult to keep fruit trees in a healthy condition more than three or four years, unless they are lifted and root-pruned, for as soon as they reach the clay the foliage shows signs of yellowing, and growth is greatly diminished. Currants and Gooseberries grown on the single-stem system do not answer here but for a short time, so young trees are grown without being disbudded, with the result that they last longer and fruit better. Strawberries generally do very well, but this season they were scarce, owing to the drought of last season. Two varieties provided good crops, namely, Bedfordshire Champion and Waterloo. Fruit trees of all descriptions are very free from blight this year. *Wm. Clayton, The Gardens, Melchbourne Park.*

——The season of 1912 is exceedingly disappointing to the majority of those having the management and care of fruit trees. Pears, Plums and Cherries flowered abundantly up to the late frosts of April, and gave the cultivator high promise of record crops. But, alas! sanguine hopes were shattered after registering 10°, 11° and 13° of frost. The garden soil here is of a sandy loam, resting on a subsoil of sand and gravel. *George Mackinlay, The Gardens, Wrest Park, Ampthill.*

Buckinghamshire.—The fruit crops in this district are greatly below the average this season, with the exception of Pears, Cherries, and bush fruits. There is an exceptionally large quantity of Filbert Nuts. I have counted as many as 18 in a bunch on a single stalk. The soils of this district include gravel, clay, and chalk. *G. Baston, Butler's Court Gardens, Beaconsfield.*

——Practically all the fruit crops in this neighbourhood are much under the average, the spring frosts having destroyed the greater part of the blossom. With the exception of green fly, the trees are fairly clean, and the growths healthy. At the time of writing, the Gooseberry trees in these gardens are entirely free of the dreaded American mildew, there being not the slightest sign of its presence. The trees have been kept under close observation for several months past. Our soil is of a very cold, heavy nature, resting upon clay. *W. Hedley Warren, Aston Clinton Gardens, Tring.*

—— The fruit crops in South Bucks. are under average. Cherries, which are largely grown, are not more than half a crop. Apples are a deficient crop, but the fruits are fine and the trees clean. Pears are a full crop, the fruit clean and good. Doyenne du Comice, Pitmaston Duchess, Durondeau, and Conference are good on pyramids and standards. Plums are very scarce, the only variety carrying a full crop here being Rivers's Early Prolific. Damsons are good in places. Strawberries were very scarce owing to the plants suffering from the intense heat during the autumn of 1911. The soil in this part of Buckinghamshire varies from light loam over gravel to strong loam overlying brick-earth. In this garden our Strawberries are grown on soil of the latter description. They were a good average crop of very fine fruit. *Chas. Page, Dropmore Gardens, Maidenhead.*

Cheshire.—The fruit crops in Cheshire appear fairly satisfactory, with the exception, in many cases, of late Apples and Plums. While these were in flower, exceptionally cold winds were experienced, and these hindered the process of fertilisation. *Charles Flack, Cholmondely Castle Gardens, Malpas.*

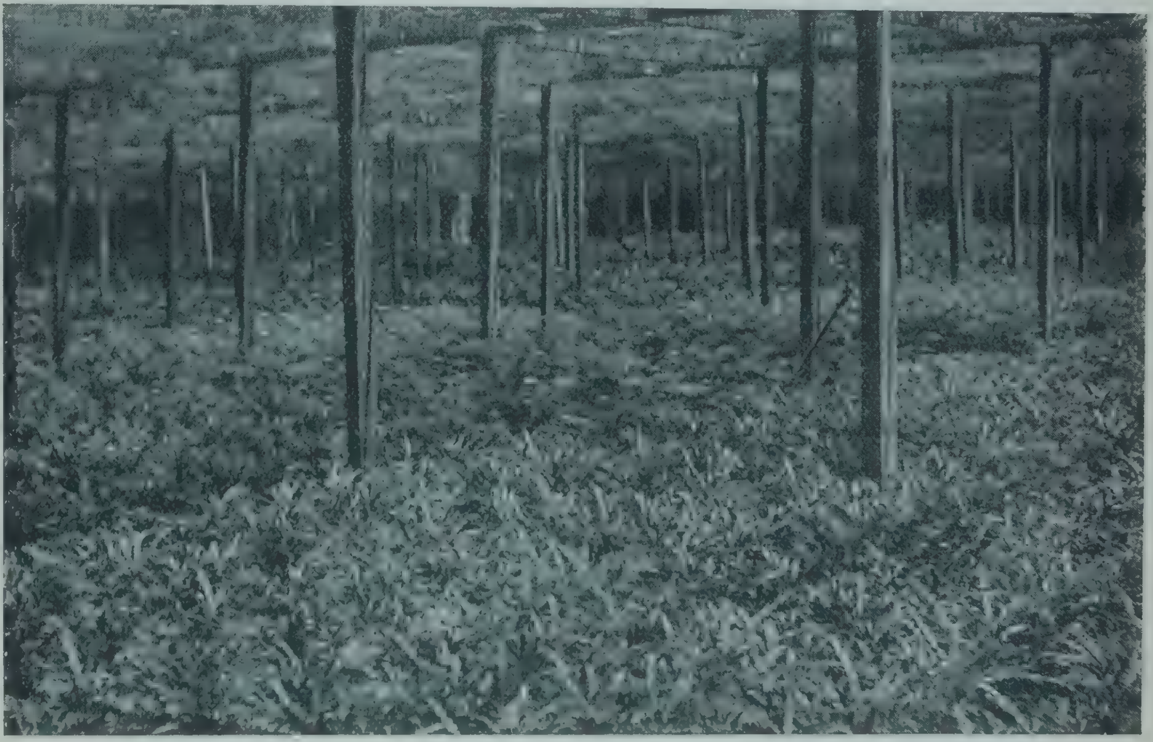


Fig. 64.—Method of cultivating ferns and palms in Australia.

—— This is a fairly representative Cheshire fruit district. Apples, Pears, Gooseberries, and Damsons are grown in large varieties. Pears are our best crop this season. Some varieties, such as Jargonelle, Hessle, Pitmaston Duchess, Easter Beurré, Louise Bonne of Jersey and Marie Louise, are laden to the breaking point. Apples were a grand show when in bloom, but the cold winds which occurred about setting time kept the bees in, and the blooms consequently, to a great extent, remained unfertilised, the result being only a very moderate crop. Plums, especially Victorias, are very good, also Damsons. Greengages set shyly, but are good in quality. Bush fruits flowered and set well, particularly Gooseberries and Black Currants. Strawberries set well, but the damp days early in June caused many fruits to rot whilst they were still green. Raspberries are a first-rate crop. Loganberries have fruited well, but the Loganberry is not earning a good reputation locally, being too acid. It may be noted that birds do not interfere with it. Morello Cherries are one of our staple fruits, hardly ever failing, and always good in quality. Sweet Cherries are adversely affected in this neighbourhood by the chemical fumes, as also are Peaches, Nectarines and Apricots. On the whole, the fruit crops in this part of Mid-Cheshire are good average ones *A. N. Jones, Marbury Hall, Northwich.*

Derbyshire.—In this district the fruit crops were much damaged by the heavy rainfall and storms of June. I measured rain on 24 days; there was 5.91 inches for the month. On the 10th, a very heavy hailstorm did much damage to Apples, Pears and Loganberries, and the leaves of many plants looked as if they had been riddled with shot. Royal Sovereign and other early varieties of Strawberries were most damaged by the wet weather. Black Prince and Givon's Late Prolific were the least damaged. The growth of plants since the end of June has been very rapid. Peas, Beans, Potatos, and other vegetables are looking remarkably well. *Bailey Wadds, Uttoxeter New Road, Derby.*

—— Apples are a good average crop, and Pears are far above the average. Plums also are very good. Strawberries were less than an average crop, and the berries were small and deficient in flavour. Gooseberries are a heavy crop and doing well. Raspberries, Black and Red and White Currants are plentiful and good. Cherries also are a heavy crop, and the trees this season are wonderfully free from blight. The soil is of a light, gravelly nature, and the subsoil light clay and gravel. *J. Tully, Osmaston Manor Gardens.*

Hertfordshire.—Fruit trees generally never looked better than during the flowering season; but no doubt the sharp frosts on the mornings of April 11 and 12 seriously affected the crops. With the exception of black fly on the Cherries, crops are clean and fairly free from pests. Strawberries, especially early varieties, suffered greatly in 1911, the result being that they produced very light crops this season. Later varieties, such as Givon's Late Prolific and Trafalgar have succeeded better. Gooseberries, Currants, and Raspberries are good. Nuts (Filberts and Cobs) are excellent. Walnuts are also good. Our soil here is chiefly a heavy, retentive loam on a clay subsoil. *Thomas Nutting, The Gardens, Childwickbury, St. Albans.*

—— The fruit crops here are the best for several years. Apples and Pears are abundant and good. Small fruits are also heavy crops, especially Red Currants. Strawberries were almost a failure. Peaches are a moderate crop. The large-petalled varieties set like Damsons, whilst the small-petalled varieties almost failed. Twelve large trees of the latter, covering 18 feet by 15 feet of wall each, do not average a dozen fruits each. Luckily, they are in the minority numerically. I attribute this failure to set to a hailstorm which occurred just as the flowers were opening, the smaller petals giving insufficient protection to the essential organs. The soil is a medium loam on a gravel subsoil. *J. G. Walker, Oak Hill Park, East Barnet.*

—— Apples at first promised to be better than they actually are. The fruits set freely, but many are deformed and are falling. However, there appears to be sufficient good fruits for a fair crop. Pears are a fine crop of very good quality. Stone fruits generally are good, Cherries particularly so. The early varieties ripened earlier than usual. Owing, possibly, to the hot, dry weather last year, and to the dry spring this year, when we registered only .92 rainfall from March 31 to May 31, Strawberries were only half an average crop, though some fruits were remarkably good. The Bedford, Utility, Givon's Late Prolific, and Laxton's Latest were amongst the best varieties. *H. Prime, Hatfield House Gardens, Hatfield.*

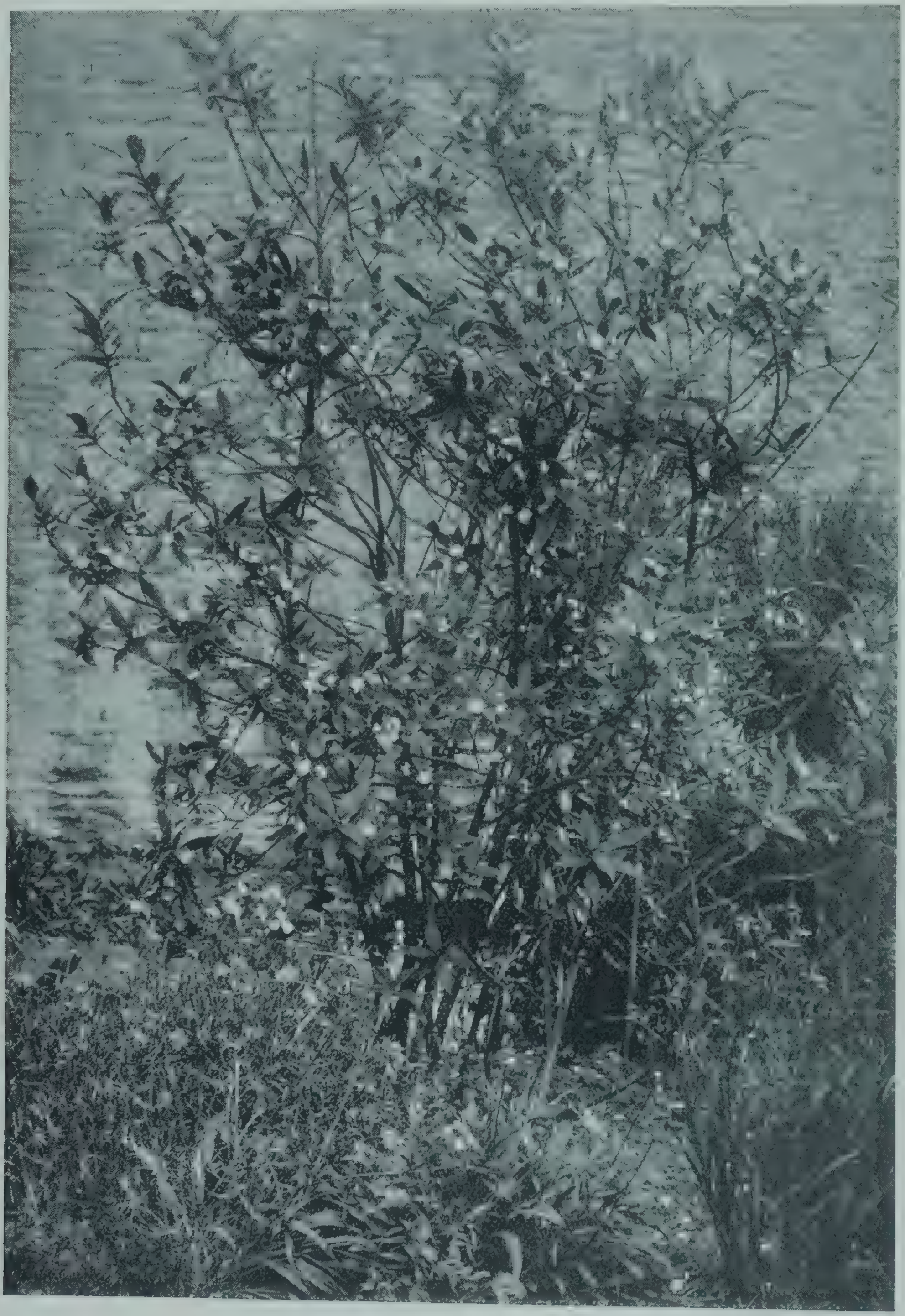


Fig. 65.—BOWKERIA GERARDIANA FLOWERING IN A DEVONSHIRE GARDEN.

—— The fruit crops generally in this district are quite up to the average, especially Apples and Pears. The trees bloomed abundantly, and I never remember seeing the foliage so healthy at this season. The Plums on walls suffered much more severely from spring frosts than standard trees in the open, on which we have good crops of Monarch, Desire, Early Rivers, Victoria, and all kinds of Damsons. Peaches and Apricots, though protected, failed to set satisfactorily. Strawberries were good, though the season was somewhat short. Gooseberries and Currants were plentiful and good. I never remember seeing Pears more plentiful, both on the walls and bush trees. Apples are a good crop. Amongst the best are Blenheim Pippin, Ecklinville Seedling, Lane's Prince Albert, Scarlet Pearmain, Keswick Codlin, Dumelow's Seedling, King of the Pippins, and Small's Admirable. The rainfall during April and May was much below the average, and we have had to afford water copiously. The soil is a stiff, retentive clay. *Edwin Beckett, Aldenham House Gardens, Elstree.*

Leicestershire.—The fruit crops are not up to expectation after the wealth of bloom in the spring, and this is due to frosts which occurred in April. Raspberries are a full crop. Apples and Pears are variable; some trees have numerous fruits, others none. Bramley's Seedling has failed completely. The best flowers of Strawberries were blackened by frost, consequently the crop was limited to the secondary flowers, which were small. Of stone fruits, Peaches and Cherries are the best. The soil is of rather a heavy loam, with a subsoil of red clay. *D. Roberts, Prestwold Gardens, Loughborough.*

—— The soil here is a heavy clay on middle lias formation, and the situation—260 feet above sea-level—is sheltered by timber trees, &c. Apples flowered abundantly, as did all other fruit trees. The partial failure of Apples and Plums is not easily explained; very little frost occurred during the flowering period, and the weather was bright and dry. Pears are the heaviest crop we have had for several years. Plums on walls have good crops, but standard trees in orchards have very few. Damsons have a heavy crop. Peaches and Nectarines are bearing well. Apricots are a thin crop, with the exception of the Roman variety, which generally bears well. Cherries have the heaviest crop we have had for a long time. Strawberry plants were much exhausted by the drought last year, and a large proportion of the fruit decayed, owing to frequent rains. Raspberries and Loganberries are bearing heavily. All kinds of fruit trees are remarkably free from insect pests. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

Nottinghamshire.—Apples are an average crop. Pears are a very heavy crop, and the fruits are of good quality. Apricots, Peaches, Nectarines, and Plums are scarce, although all the trees were covered with blossom, and at one time promised to yield heavy crops. Owing to the cold winds which prevailed the flowers failed to set. Strawberries looked well for a time, but, owing to the wet weather when they were ripening, many of them rotted. Sweet Cherries were a heavy crop, but Morello Cherries and Black Currants are only average. All other small fruits are plentiful and of good quality. Early Potatos were injured by frost while coming through the soil, consequently the crop is deficient; second earlies are splendid. All crops are quite a fortnight earlier this season than usual. Our soil is light and porous, and rests on a sandy subsoil. *James B. Allan, Osberton Gardens, Worksop.*

—— There was an immense set of nearly all hardy fruits, but most of the fruits fell off during the drought in April and May. *J. R. Pearson & Sons, Lowdham, Notts.*

(To be continued.)

BOWKERIA GERARDIANA.

This rare South African shrub was formerly known as Bowkeria triphylla, owing to its leaves being borne in threes, and this name is such a descriptive one that it seems a pity that it has been superseded by that of B. Gerardiana. The leaves, borne in groups of three, are lanceolate in shape and deeply corrugated. The flowers are pure satin-white and shaped somewhat like those of a Calceolaria with a hood and a lip. The blossoms are borne at the axils of the leaves on the old wood, sometimes singly and sometimes as many as seven on a branching raceme. The lower lip is three-lobed, the three lobes being closely folded over the tube of the corolla, thus effectually preventing the access of insects. The pollen is shed while the flower is still in the bud. The blooms measure an inch across and the same from the top of the hood to the base of the lip, and are flattened in shape, being not much over ¼ inch in depth. Plants flower in a very small state; my specimen bloomed freely when it was only a foot high. To show the freedom with which it flowers, it may be stated that a spray 13 inches in length, which was cut, carried 30 fully-expanded flowers and 21 buds. The Bowkeria is a very rare shrub and, as far as I know, is catalogued by only one firm. Kew possesses a plant which is grown in the temperate house, but it does not appear to flower freely. The species is a native of Natal, where it is said to flower in the month of December. Here it generally blooms early in August, but this year it was in full flower before the end of July. The blossoms, which are gummy to the touch, have a peculiar faint odour, disliked by some people. The specimen illustrated in fig. 65 has been in my garden for eight years, and is rather over 8 feet in height and 7 feet through. It is fairly hardy, as the severe frost which was experienced here on February 2, though it killed numbers of rare and tender plants, including two examples of Leonotis Leonurus, also a native of South Africa, had no injurious effect upon the Bowkeria. It is said that this species was cultivated at Messrs. Bull's nursery at Chelsea 20 years ago. *Wyndham Fitzherbert.*

SOCIETIES.

ROYAL HORTICULTURAL.

August 13.—The Vincent Square Hall, on the occasion of the fortnightly exhibition of the Royal Horticultural Society, on Tuesday last, was much better filled than was the case at the previous meeting. The outstanding floral features were the large collection of cut shrubs shown by the Hon. Vicary Gibbs; the magnificent Montbretia "Star of the East," which evoked the greatest admiration and was awarded a First-class Certificate, and Messrs. Felton's imported Nelumbium blooms. The Floral Committee awarded seven medals, one First-class Certificate, three Awards of Merit, and one card of Cultural Commendation.

The Orchid Committee awarded one Silver Banksian Medal, two First-class Certificates, and four Awards of Merit.

The Fruit and Vegetable Committee awarded one medal, two First-class Certificates, and four Awards of Merit.

With the exception of three pairs of Vegetable Marrows from the Wisley trials, which received Awards of Merit, there was no exhibit of vegetables.

The exhibits of the affiliated National Gladiolus Society made a very attractive display.

Floral Committee.

Present: Henry B. May, Esq. (in the Chair); and Messrs. G. Reuthe, Chas. T. Druery, John Dickson, E. H. Jenkins, J. T. Bennett-Poë, W. P. Thomson, R. W. Wallace, W. J. Bean, George Gordon, John Jennings, John Green, Chas. E. Pearson, R. Hooper Pearson, and C. R. Fielder.

The Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. Edwin Beckett), filled one end of the Hall with an enormous collection of sprays of flowering and fruiting shrubs. The varieties of Buddleia variabilis, with long, densely-flowered spikes of sweetly-scented blossoms, were one of the features of this very large exhibit; the varieties rosea, lilacina, and superba were especially fine. There were also sprays of various sorts of Ceanothus, such as C. azureus "indigo" with flowers of a beautiful shade of blue. The branches of a Bladder Senna (Colutea) bore very large bladder-like fruits, and Coriaria terminalis was well furnished with its interesting racemes of transparent, yellow berries. The true Service Tree (Pyrus domestica) had plenty of its distinct fruits, and other species of the same genus present were P. lanata and P. baccata; the latter bears large, rose-coloured fruits. Sambucus pulverulenta has more silver-white on its leaves than green. (Silver-gilt Flora Medal.)

Messrs. R. Wallace & Co., Colchester, staged some exceedingly fine Montbretias. The varieties Hereward, Lady Hamilton, King Edmund, and Gem, which have shades of rich yellow, and Nelson and Germania, deep orange-yellow, are splendid varieties. (Silver Flora Medal.)

Messrs. T. S. Ware, Ltd., Feltham, Middlesex, again showed many of their splendid Pentstemons. (Silver Flora Medal.)

Mr. L. R. Russell, Richmond, staged many Fuchsias, growing in relatively small pots. These were mostly of the varieties seen so often in the milder parts of the country, and included F. americana elegans, F. pumila Thompsonii, and F. coccinea Florian; of the small-flowered section, F. Riccartonii Elysée, F. Brightoniensis and F. myrtifolia minor have larger flowers. The rare F. globosa, which is a valuable plant for the rock-garden, was also represented, and at the end of the collection there were several plants of Tecoma grandiflora.

In another part of the Hall Mr. Russell furnished a table with Celosias growing in 6-inch pots. The plants represented a very good strain of this pretty flower and exhibited excellent cultivation. (Silver Flora Medal.)

Mr. Amos Perry, Hardy Plant Farm, Enfield, Middlesex, exhibited a large quantity of cut flowers of Delphinium and Gladiolus. Considering the time of the year, the Delphiniums were excellent.

Mr. A. Ll. Gwillim, Cambria Nursery, Sidcup, Kent, staged border flowers and many excellent double-flowered tuberous Begonias; the varieties Lady Cromer, Seashell and Dragon

Mr. G. Reuthe, Keston, Kent, exhibited a selection of hardy plants and shrubs, amongst which were Clethra alnifolia, Robinia neo-mexicana, and Serissa fœtida, a neat-growing Japanese shrub with small double-white flowers; the specific name denotes the smell of the crushed leaves.

The Guildford Hardy Plant Nursery staged a very pleasing variety of border flowers, which comprised good spikes of Dracocephalum virginicum, Tritoma (Kniphofia) Yellow Hammer, Phygelius capensis and various Phloxes.

Messrs. Warnhaar & Co., Sassenheim, Holland, exhibited a dozen vases of decorative Dahlias; the flowers were large, but had not travelled well.

Messrs. Wm. Fells & Son, Hitchin, arranged a small rock-garden and planted it with appropriate plants.

Messrs. W. Wells & Co., Ltd., Merstham, Surrey, contributed stands of various cut border flowers such as herbaceous Phloxes, Heleniums, Linaria dalmatica and Gaura Lindheimeri.

Messrs. S. Bide & Sons, Farnham, Surrey, exhibited a beautifully fresh display of fine Sweet Peas interspersed with pot plants of Kochia triphylla. The most noteworthy varieties of Sweet Pea were R. F. Felton, Prince Edward of Wales, Lancashire, Edna Harland, Edrom Beauty, Mrs. Stewart Champion and Mrs. Hardcastle Sykes. (Bronze Flora Medal.)

Messrs. A. & M. Jones, Tilston, Malpas, Cheshire, also exhibited a collection of Sweet Peas.

Messrs. Felton, Hanover Square, London, exhibited imported Nelumbium blooms in varying stages of development, which attracted much attention; these were similar to those illustrated and described in the last issue of the *Gardeners' Chronicle*. (Silver Flora Medal.)

Messrs. H. B. May & Sons, Upper Edmonton, arranged a fine collection of shrubby Veronicas; the varieties Pearl (shaded rose-lilac), Lavinia (blue, large spike), Violette, Favourite (rich dark leaves), Conquete (mauve), Admiration (stout spikes of pale purple), Mont Blanc, and Eveline (rose) are especially desirable. (Silver Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited very attractive foliage Begonias of such good varieties as Mme. Marie Pernelle, Mrs. H. G. Moon, Marshaltin, Reta Schmeiss, and Meteor. Besides the Begonias, the firm showed various Coleus hybrids.

Messrs. Stuart Low & Co., Bush Hill Park, Enfield, showed a small collection of highly-coloured Codiæums (Crotons), Dracænas, and cut blooms of Carnations arranged with fronds of Nephrodiums.

Mr. Philip Ladds, Swanley Junction, staged a bright group of his new zonal Pelargonium "Champion."

AWARDS.

First-class Certificate.

Montbretia, Star of the East.—This splendid variety marks a great advance in this beautiful border flower. The widely-opened flowers, which are accompanied by stout foliage of corresponding size, measure 4 inches across, and are of a rich yellow colour, with a slightly paler shade in the centre. The under sides of the petals are of a deep orange-yellow. Shown by Mr. Davison, Westwick Gardens, Norwich.

Awards of Merit.

Kniphofia Unique.—A very floriferous variety, with medium-sized spikes of coral-red flowers. Shown by Messrs. Wallace & Co.

Cosmos White Queen.—A pure-white variety, with round flowers of good substance and 3½ inches across. Shown by Messrs. Dobbie & Co., Ltd.

Rhodostachys andina.—A Bromeliad of compact growth, bearing a small head of rosy-lilac flowers with orange-coloured stamens. Shown by J. T. Bennett-Poë, Esq.

Cultural Commendation.

Messrs. Barr & Sons were awarded this honour for well-grown specimens of Acæna microphylla, a rare and attractive dwarf, shrubby plant, suitable for culture as an Alpine in the crevices or flagstones of paths. The plant makes dwarf, cushion-like growths surmounted with round heads of crimson burr-like fruits.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair), and Jas. O'Brien (hon. sec.); Sir Harry J. Veitch, Messrs. Gurney Wilson, W. Bolton, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. P. Bound, W. H. Hatcher, W. Cobb, T. Armstrong, A. McBean, and W. Thompson.

Sir Trevor Lawrence, Bart, K.C.V.O., Burford (gr. Mr. W. H. White), staged a small group of rare species, which included the pretty little Theodorea gomezoides, with ten spikes of small greenish flowers with white labellums, a splendid specimen of the scarlet Lælia monophylla, Dendrobium glomeratum with 65 pretty rose flowers, a singular Bulbophyllum with compressed spikes of small flowers concealed in chaff-like bracts, a good specimen of the white Bulbophyllum odoratissimum, and two hybrids, namely, Odontioda Thwaitesii and Brasso-Cattleya Joan.

E. H. Davidson, Esq., Borlases, Twyford, was awarded a Silver Banksian Medal for a neat group of exceptionally well-grown plants. We noticed Lælio-Cattleya Feronia superba, a distinct flower of good shape and substance; Odontioda Thwaitesii Davidson's variety, the largest form with deep claret-coloured sepals and petals, and lilac-tinted lip; Lælio-Cattleya Venus Golden Queen, with flowers resembling a good Cattleya Dowiana aurea; L.-C. Colmaniana; two forms of Odontioda Schröderi, one of a very deep red colour, and several hybrid Odontoglossums.

Messrs. Charlesworth & Co., Haywards Heath, staged a select group, in which were noted Vanda Sanderiana, the rare and singular Stanhopea convoluta with yellowish flowers of peculiar construction, Platyclinis filiformis with many spikes, Angræcum Chailluanum, the true Oncidium luridum guttatum, Cypripedium Rossettii and C. Maudiæ. Among other hybrids was an interesting cross, Oncidioda cinnabarina, said to be raised between Oncidium monachicum metallicum and Cochlioda Noezliana, with red flowers about equal in size to the latter parent, but with stalked, Oncidium-like segments.

Mr. Sidney Flory, Tracy's Nursery, Twickenham, staged a small group, in which were Cattleya Gaskelliana alba, a white flower with a slight pink tinge on the lip, the dwarf Brazilian Oncidium Crœsus, Dendrobium Regium, a large form of Brasso-Lælia Helen with greenish sepals and petals and large white fringed lip prettily veined with purple, and a dark coloured Lælio-Cattleya.

AWARDS.

First-class Certificates.

Lælio-Cattleya Glaucus (L. purpurata × L.-C. Rubens), from Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A remarkable and showy hybrid, adhering closely to the dwarf habit and perfect shape of L.-C. Rubens, but superior to it in every way. The sepals and petals are bright rosy-mauve with darker veining, and the lip intense ruby-red, with bright, yellow disc.

Lælio-Cattleya Godmanii (C. Iris × L.-C. callistoglossa), from F. Ducane Godman, Esq., South Lodge, Horsham.—Flower of fine substance, large, and very distinct, especially in its massive, plain-edged labellum. Sepals and petals broad, of a deep purplish-rose. Front of the lip ruby-crimson, with yellow disc.

Awards of Merit.

Lælio-Cattleya luminosa var. Mandarin (L. tenebrosa Walton Grange variety × C Dowiana aurea), from Lieut.-Col. Sir George L. Holford, K.C.V.O.—A darker form of the Westonbirt L.-C. luminosa aurea, which previously secured a First-class Certificate. Sepals and petals bright chrome-yellow, lip claret-purple lighter towards the margin.

Brasso-Cattleya Ilene (C. Dowiana × B.-C. Mme. Chas. Maron), from Messrs. Jas. Veitch & Sons, Chelsea.—A grand flower, showing the advantage of second crossing of good primary hybrids. The large and well-formed flowers have the sepals and petals of a clear rose colour, with obscure silver veining. The broad-fringed lip is of a light rose tint with yellow disc, and purple rays from the base.

Odontoglossum Empress Eugenie (parentage unrecorded), from E. H. Davidson, Esq., Borlases, Twyford.—A large flower of beautiful shape, and probably a secondary hybrid of O.

Rolfeæ. The wax-like sepals and petals are white with a pale mauve or heliotrope ray and darker spotting. The lip is broad and flat white, with showily-arranged bluish spots in front of the yellow crest.

Odontoglossum nigrescens (Edwardii × cirrhosum), from Messrs. J. & A. McBean, Cooksbridge.—A very remarkable, small-flowered, attractive hybrid, unique in colour. In form it shows O. cirrhosum, but the segments are shorter and broader. The sepals and petals are velvety black, the recurved apiculata tips white at the backs, the petals also having small, white bases. Lip bronzy-chocolate with white tip and yellow disc.

Cultural Commendation

to Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George L. Holford, K.C.V.O., for a magnificent plant of Cattleya Tacitus (bicolor Grossii × Germania superba), showing rapid increase in stature and bearing a fine flower-spike on a growth 4 feet long.

Fruit and Vegetable Committee.

Present: Jos. Cheal, Esq. (in the Chair); and Messrs. W. Bates, H. H. Williams, J. Willard, Henry Hooper, A. W. Metcalfe, A. R. Allan, A. Bullock, James Vert, H. Markham, Owen Thomas, and Edwin Beckett.

Messrs. S. Spooner & Sons, Hounslow, displayed a meritorious collection of hardy fruit. The Apples included good samples of Early Strawberry, Worcester Pearmain, Red Quarrenden, Lady Sudeley, and Williams' Favourite. The fruits of the Japanese Strawberry-Raspberry possess rich, deep-red, vinous colouring. The American Blackberry had suffered somewhat from the persistent rains. (Silver Banksian Medal.)

Mr. H. Chandler, Easebourne, Midhurst, Sussex, submitted fruiting branches of "a natural hybrid between the wild Raspberry and the wild Blackberry." The exhibit, which was accorded a vote of thanks, did not appear to be of surpassing garden value, but in a better season may prove to be desirable.

The Superintendent, Mr. S. T. Wright, showed eight varieties of Melon that had been grown under trial at the Society's garden at Wisley.

AWARDS.

First-class Certificates.

Melons Hero of Lockinge and Frogmore Scarlet.—These well-known varieties were sent for trial by Messrs. J. Veitch & Sons, Ltd.

Awards of Merit.

Melon Royal Favourite.—A richly-flavoured, green-fleshed variety, sent by Messrs. Sutton & Sons.

Vegetable Marrows Moore's Cream (shown by Messrs. R. Veitch & Son), *Bush Green* (shown by Messrs. Barr & Sons), and *White Bush* (shown by Mr. Nutting, Southwark Street, London). The two last varieties are described by their names: the fruits shown were exceedingly good samples. The variety Moore's Cream appears to have all the merits of a popular exhibition variety. All these Awards were made after trial at Wisley.

Trials at Wisley.

A sub-committee of the Floral Committee inspected trials at Wisley, on the 26th ult., and recommended Awards of Merit to the following plants, which were subsequently confirmed by the Council:—

Hollyhock "Newport Pink" (strain) (Messrs. Dreer, Philadelphia, U.S.A.). *Sweet Peas*: "Hercules" (G. Stark & Sons), Great Ryburgh; "Isobel Malcolm" (Dobbie & Co., Edinburgh); "Mrs. Routzahn" (Dobbie & Co.); "Premier" (G. Stark & Sons); and "Tennant Spencer (Dobbie & Co.). *Violas*: "Bessie" (A. Dickson & Sons); "Edina" (Dobbie & Co.); "John Quarton" (J. Forbes & Co., Hawick); "Jubilee" (Mr. Cuthbertson, Rothesay); "Kingcup" (A. Dickson); "Lavender Queen" (Mr. Cuthbertson, Rothesay); "Maggie Mott" (Dobbie & Co.); "Mrs. Chichester" (Mr. Cuthbertson, Rothesay); "Mrs. Davidson" (John Forbes, Ltd., Hawick); "Palmer's White" (Mr. Palmer, Derby); "Snowflake" (Mr. Cuthbertson, Rothesay); "Walter Welsh" (Dobbie & Co.); and "W. H. Woodgate" (John Forbes, Ltd.).

THE BORDER SWEET PEA.

August 3.—This northern society held its second annual show at Coldstream on the above date. The entries were double the number of last year, and the exhibits showed a high standard of excellence.

The Landreth Silver Cup, open to all members, was won outright by Mr. J. Loan, Bughtrig.

The Challenge Cup offered by Mrs. Ronald Milvain, of Eglingham, for competition amongst amateurs only was won by Mr. W. T. Landreth.

The medal offered for seedling Sweet Peas was won by Mr. G. Little, of Ladykirk, for a dark purple variety with violet keel and named "Ladykirk."

Open Classes.

The best 12 bunches of Sweet Peas were shown by Mr. J. Loan, Bughtrig (who won the Landreth Cup); 2nd, Mr. J. J. Elliot, Pallinsburn.

In the class for six bunches of varieties put in commerce in 1911 and 1912, the Gold Medal was won by Mr. J. Loan, and the Silver Medal by Mr. J. J. Elliot.

Mr. W. T. Landreth arranged the best table decoration of Sweet Peas, and also won the 1st prize for a basket of Sweet Peas.

Amateurs' Classes.

Mr. J. D. Logan showed the premier collection of this year's novelties. The best three bunches of varieties taken from a published list were shown by Mr. J. J. Elliot.

This year classes for Carnations and Roses were included in the schedule. Mr. W. T. Landreth won the 1st prize for Carnations in the open as well as in the amateurs' class. Mr. J. Loan was the most successful exhibitor of Roses.

Messrs. Laing & Mather, Kelso, were awarded the society's Silver Medal for an exhibit of herbaceous Phloxes, new varieties of Sweet Peas and Roses.

BRITISH PTERIDOLOGICAL.

August 5.—The annual meeting of this society was held at the Albion Hotel, Arnside, Westmoreland, on the 5th inst.; Mr. Alex. Cowan, Penicuik, presided. Many of the members assembled on the Friday preceding the meeting in order to arrange Fern-hunting expeditions in the vicinity, but owing to the distance which it was necessary to travel to reach good ground, and still more to the cold and wet weather which prevailed during their stay, no "finds" of any special note are to be recorded. It was resolved that Devon or Dorset should constitute the area for hunting on the occasion of the next meeting, since the species in those counties are far more numerous than in the north. At the meeting the hon. secretary, Mr. Chas. T. Druery, reported that the membership was 150, and that the funds were in a very satisfactory position, fully justifying the establishment of the *British Fern Gazette*. A vote of thanks to the president and officers was supplemented by a special vote to the Editor, together with a testimonial in recognition of the services rendered by him to the society. A large number of fronds of very beautiful Ferns were exhibited. The hon. secretary's address is 11, Shaa Road, Acton, London, W.

DUMFRIES AGRICULTURAL.

August 6.—In conjunction with the show of the Dumfries Agricultural Society, which took place on the above date, a Sweet Pea exhibition was held in a marquee. There was a good competition, and in the leading class confined to professional gardeners, the flowers were excellent for the season, especially after the torrential rains. In the other leading class—that for those who had not won a first prize previously—there was also a good competition and some capital flowers. In the former class, the 1st prize was won by H. Keswick, Esq., Cowhill Tower, Dumfries (gr. Mr. C. Murray); 2nd, Mrs. Rankin, Dalswinton (gr. Mr. R. A. Grigor); 3rd, C. R. Dudgeon, Esq., Cargenholm (gr. Mr. T. Carruthers). In the other leading class, J. Smith, Esq., Netherholm House, was 1st, with J. M. Wyllie, Esq., Cresswell Place, Dumfries, 2nd.

SCOTTISH HORTICULTURAL.

August 6.—The monthly meeting of the above Society was held on this date, at 5, St. Andrew Square, Edinburgh. Mr. Massie presided, and 60 members were present.

The evening was devoted to a discussion on the training and education of young gardeners; the proceedings were opened with short papers by Mr. C. Comfort and the Secretary, on the practical and technical sides respectively.

Mr. Comfort stated that fewer lads were now offering themselves as apprentices than was the case some years ago. He suggested that they should be engaged at an earlier age than was usually the case. Lads who intended to become gardeners often became engaged at odd work for two or three years after they left school, until they reached the age at which they were generally taken as apprentices, with the result that the best of them often turned their attention to something at which a start could be made at an earlier age. The only reason for this putting back of the age in gardening, so far as he (Mr. Comfort) could see, was in order to obtain the services of a lad who was able to do a man's work at a boy's pay. There were few gardens, however, in which a boy of fifteen could not be profitably employed. The change suggested would be of great advantage to the young gardener, and if it were to come into vogue, the term of apprenticeship might, with advantage, be extended to four years, instead of three as at present.

Having secured his apprentice, the head gardener should realise that, not only had he taken upon himself the responsibility of teaching the lad his craft, but also of looking after his moral and physical welfare. The bothy, the place in which the young gardener had to live, and which for the time being became his home, should be in keeping with modern ideas of health and comfort, and a place to which an intelligent young man would not be ashamed to take his friends. Bothies should also be provided with some literature, and there should be facilities for recreation. During part of his time the apprentice should have the opportunity of seeing everything that is to be seen in the establishment, though it might not be practicable in a four years apprenticeship to take part in every operation. The establishment in which the young man serves his apprenticeship need not necessarily be a large one. In a well-appointed moderately-sized garden, under the charge of an efficient gardener, more would be found than the smartest apprentice could take advantage of, even in a four years apprenticeship. There was often a diffidence about asking questions, which might arise from natural shyness or from the fear of being considered ignorant. But those having the charge of young lads should so cultivate their relationships with them that they would have no fear of asking what might appear to the older person a silly question, so long as it was asked sincerely. His apprenticeship being completed, it would, as a general rule, be well for the young gardener to spend some time in other establishments where certain subjects calling for skill in their cultivation were treated as specialities. He should also visit other establishments and interchange views with his fellow-gardeners, whilst visits to flower shows should be made from time to time. The student should read at least one good gardening paper.

After contrasting the position of the young gardener of to-day, as regards the advantages which he enjoyed in the way of technical education and cheap literature, with forty to fifty years ago, the Secretary said that, though they had to find out many secrets of their success as cultivators by rule of thumb methods, and their knowledge was therefore largely empirical, the old gardeners would hold their own with the younger ones, either as cultivators or otherwise. Their average education, too, when they left school was better, he thought, than that of the average of boys leaving the elementary schools at present, and their efforts at self-instruction afterwards were more persistent than those of the present-day gardener. Mr. Comfort said it was a mistake to assume that teachers of practical subjects, such as horticulture, should be merely college graduates. All the better if they were college graduates, perhaps, but they should first of all be practical men, and the better they knew the practical part of their subject, the more successful would they be as teachers.

Awards to Exhibits.

The exhibits were:—A new Pentstemon, "Mrs. F. Fulford," and spikes of Kalanchoe flammea, cut from plants raised from leaf cuttings, inserted in July, 1911, and grown on in 3-inch pots, shown by Mr. F. Fulford, Montgomerie Castle Gardens, Tarbolton, Ayrshire (awarded a Cultural Certificate for Kalanchoe); Acalypha Sanderiana, from Mr. James Fraser, Bonaly, Colinton (awarded a Cultural Certificate); Ox-eye Daisies, from Mr. F. Baillie, Liberton; Strawberries, Gooseberries, and Black Currants from the City of Edinburgh Distress Committee's Farm at Murieston, Mid-Calder, per Mr. Cairns (awarded a Cultural Certificate); new Tomato, from Mr. G. N. Simpson, Edinburgh; Nephrolepis todeoides Smithii and Pteris incisa, from Messrs. James Grieve & Sons, Edinburgh (awarded a Cultural Certificate); plants of Onopordon Acanthium and Dipsacus fullonum, each about 6 feet high, from Messrs. Todd & Co., Edinburgh.

Seven life and 69 ordinary members were elected, being the largest number enrolled at any one meeting since the foundation of the association.

At the meeting to be held on September 3, Mr. J. Highgate, Hopetoun Gardens, South Queensferry, will read a paper on "How to produce effective displays with hardy plants."

NORTH OF ENGLAND HORTICULTURAL.

August 8, 9.—The above society held a show at Harrogate on these dates. The weather was beautifully fine, and as Harrogate was filled with visitors there was a good attendance. The exhibition was not of large dimensions, but the quality of the exhibits was better than was anticipated, in view of the unfavourable season. Mr. H. Webster, Chairman of the Harrogate Local Management Committee, offered a cup for the best exhibit from Yorkshire. There was no stipulation as to what class or kind of exhibit, and it was won by Messrs. Mansell & Hatcher, Rawdon, for a choice group of Orchids. In addition to the cup, Messrs. Mansell & Hatcher also received a small Gold Medal from the Orchid Committee. Lord Faber's Cup, offered for the best exhibit of fruit shown by an amateur employing a regular gardener, was won by J. Brennand, Esq., Baldersley Park, Thirsk (gr. Mr. J. E. Hathaway), and a small Gold Medal was also awarded this exhibit. The Challenge Cup, presented by Mr. Webster for the best exhibit put up by an allotment holder in the borough of Harrogate, was awarded to Mr. T. Wardman, St. George's Cottage.

Awards to Novelties.

First-class Certificate to Hybrid Tea Rose Danæ, and Third-class Certificate to Hybrid Tea Rose Moonlight, both shown by Rev. J. H. Pemberton. First-class Certificate to Cattleya Gaskelliana alba magnifica, and Second-class Certificate to Lælio-Cattleya Ivernia Muriel Wilson, both shown by W. P. Burkinshaw, Esq. (gr. Mr. J. T. Baker).

Trade Exhibits.

Gold Medals were awarded to Messrs. E. J. Batchelor & Sons, Harrogate, for a group of well-grown Ferns, Liliums, and Spiræas, and to Messrs. Sutton & Sons, Reading, for an exhibit of flowers, fruit, and vegetables.

Large Silver-gilt Medals were awarded to Messrs. Young & Co., Cheltenham, for a collection of Carnations, including A. S. Montgomery, a variety of a beautiful shade of lilac-pink; Mr. A. J. Hall, Harrogate, for a collection of hardy and other flowers; Messrs. W. & J. Brown, Peterborough, for a group of Roses; Messrs. Jas. Backhouse & Son, Ltd., York, for a rock garden; Messrs. G. Gibson & Co., Bedale, for a group of hardy flowers, in which varieties of Chrysanthemum maximum were shown well; Messrs. Clibrans, of Altrincham, for a collection of vegetables; Messrs. Harkness & Sons, Bedale, for a collection of hardy flowers (Gaillardia Mrs. MacKellor was well shown in this exhibit); and Messrs. Wm. Bonsall & Son, Harrogate, for Carnations.

Large Silver Medals were awarded to Messrs. Dobbie & Co., of Edinburgh; and Messrs. Dickson, Brown & Tait for Carnations.

Silver Medals were awarded to Mr. Wm. Lawrenson, Yarm-on-Tees, for Phloxes and Carnations; and Messrs. Charlesworth & Co., Haywards Heath, for a small but choice collection of Orchids.

Large Bronze Medals were awarded to Messrs. Dicksons, Chester, for hardy flowers; Messrs. Kerr & Sons, Liverpool, for greenhouse plants; and Messrs. Jos. Firth & Sons, East Keswick, for a new Zonal Pelargonium named Rising Sun.

SOCIÉTÉ ROYALE D'HORTICULTURE DE BRUGES.

August 11-18.—The exhibition of this Belgian Society, opened on the 11th inst., was a most remarkable one. The cultivation, as evidenced throughout the show, was of a high degree of merit, and the extent of the exhibits was specially noteworthy. Bruges is renowned for its cultivation of the Bay Laurel (Laurus nobilis), but Palms were also exhibited in large numbers, these rivalling the Bays in health and vigour. Large numbers of Orchids were shown, although these plants are not usually seen at their best in August. The nurserymen around Bruges excel in the cultivation of plants suitable for terrace gardens; the Pomegranate, Clethra, Eugenia, Orange, Metrosideros, Myrtle, Araucaria, and allied subjects were shown in large numbers. Of other choice foliage plants there were many fine examples of Cordylines, hardy Palms, and Phormiums. The hardier plants were chiefly arranged within an enclosure fenced off in the market place, which provided ample room for diversity in arrangement, the effect being enhanced by the picturesque appearance of the houses surrounding the square, with the well-known belfry of Bruges on one side. The stone-paved square was covered by a good depth of sea sand, which afforded some assistance in the grouping and effective display of the plants by means of broad walks and turfs laid down to form the beds. This large square was lighted by electricity at night, and presented a gay appearance. An overflow exhibition of hardy plants was held in the courtyard of the building connected with the belfry. The tender or exotic plants were all arranged in the large rooms of the same building, which suited the purpose admirably, the only disadvantage being the inadequate light during the evening.

In the section for Bay trees 20 classes were provided. Messrs. Sander & Sons, St. Albans and Bruges, were awarded the 1st prize in the class for specimens of diverse forms and sizes, showing a magnificent collection of plants; 2nd, The Flandria Co., Bruges, who also won prizes in other classes. Messrs. Sander & Sons were also successful in several other classes for pairs of Bay trees grown as standards and varied forms of pyramids. M. Vincke-Dujardin exhibited large specimens of Laurus nobilis, not for competition. Messrs. Sander & Sons exhibited the best specimens of hardy Palms, terrace plants, and specimen Cordylines. The Flandria Co. exhibited the finest collection of diverse varieties of Cordyline australis and its forms: this was a fine exhibit, and the plants were well grown, C. lentiginosa, C. lineata, C. Parryi, and C. Doucettii being conspicuous. The best pair of plants of Clethra arborea was shown by M. Ch. Steinmetz, the same exhibitor being successful in the classes for Pomegranates, Eugenias and Myrtles. Specimen Palms staged in the large rooms entered by the belfry were of immense size and in the most robust health. The 1st prize was won by Messrs. Sander & Sons in the class for a collection of 10 specimen plants; these included Latania aurea, L. borbonica robusta, Phœnix canariensis, Raphis flabelliformis, Kentia Belmoreana, K. gracilis, and Phœnix Roebelinii. The Flandria Co. were placed 2nd with well-grown plants, consisting, for the most part, of Kentias. These exhibitors won in the same order in the class for 10 new or rare Palms. Messrs. Sander & Sons included in their exhibit Linospadix Petrickiana, the young leaves being of a beautiful bronzy-red colour), Kentia Belmoreana gracilis, Chamaedorea stolonifera, Ptychoraphis sp., and Rhopaloblaste hexandra, with narrow leafage closely set upon the leaf-stalk. The Flandria Co. exhibited the very distinct Cyrotostachys Renda "variety Duvivier," with the stems and base of the leaves of a bright-red colour, the rare Veitchia Johannis, Kentia Lindenii, Ravenia Hildebrandtii, Phœnicophorium Sechellarum, and Kentia compacta.

Classes for Palms were also provided for amateurs. Mons. Dumon de Menten showed well in the class for 10 specimens. In the classes for single specimens of Palms, the Flandria Co. and Messrs. Sander & Sons were keen competitors, whilst M. Vincke-Dujardin showed large plants of Rhapis humilis in the best of condition.

Orchids.—In the section devoted to Orchids, the finest individual group was shown by Messrs. Sander & Sons, part of this group being for competition and part non-competitive. This firm also excelled in the class for 50 Cypripediums; they also showed the finest Cattleyas and Lælias and the best single specimens of a Phalænopsis and of a Cypripedium. This firm had also plants in flower of Dendrobium superbiens and a new species of Acineta. Messrs. Charlesworth & Co., Hayward's Heath, exhibited a group of choice hybrid Cattleyas and Lælias, also Odontiodas and Odontoglossums. The plants had all travelled well. Fine plants of Miltonia vexillarium were shown by M. Vuylsteke and M. Jules Hye. M. Lambeau exhibited hybrid Cattleyas. A good group of Orchids was also shown by M. Vincke-Dujardin.

Besides many new plants Messrs. Sander & Sons showed specimens of Disa grandiflora, Dendrobium Sanderi, and Crossandra undulæfolia, all freely flowered. With these were Fourcroya Watsonii, a fine plant of Dracæna Broomfieldii, a distinct Alocasia, a good plant of Coccoloba pubescens, another of Dracæna Sanderi, and Vanilla aromatica variegata.

Cut flowers were not shown in large variety. There were, however, several fresh and bright collections of Roses and Gladioli. Those who exhibit cut flowers at Bruges need a little more insight into the best methods of staging them. Bottles were used in many instances, and these receptacles, unless placed on the ground, are not attractive.

Fruit and vegetables were scarcely represented. *J. Hudson.*

ABERDEEN SWEET PEA.

August 9, 10.—A successful exhibition was held under the auspices of the Aberdeen and Northern Counties Sweet Pea Society on these dates in the Music Hall Buildings, Aberdeen. The entries exceeded those of last year, when the first exhibition of the society was held. In a speech made at the opening ceremony, Major Davidson, of Dess, deplored the loss of scent in the newer varieties, and expressed the opinion that when two exhibits were otherwise of equal merit preference should be given to the more fragrant flowers.

Despite the exceedingly bad weather, the blooms shown were of excellent quality. The silver cup presented by Lady Fleming, and offered for the 12 best vases of waved Sweet Peas, was won by Lady Burnett, Crathes Castle, Aberdeenshire (gr. Mr. J. Petrie), with a very fine collection, which included such varieties as R. F. Felton, Nubian, Elfrida Pearson, Thomas Stevenson, Edrom Beauty, and Charles Foster. Mrs. Dunbar Dunbar, of Seapark, Forres (gr. Mr. J. Grigor), was placed 2nd. 3rd, Mr. A. M. Williamson, Monboddo (gr. Mr. J. Tullo).

In most of the other professional classes, Mrs. Dunbar Dunbar was very successful.

For the best three vases of novelties for 1911-1912, Lady Aberdeen was awarded the 1st prize.

Amateurs' Classes.

The Rev. E. V. Kissack, Aberlour Orphanage, Banffshire, won the 1st prize in every class but one, that for the best bunch of white Sweet Peas, when Mr. James Mitchell, Arbeadie Terrace, Banchory-Ternan, was the successful exhibitor, with exceedingly choice flowers.

The section devoted to floral decorations, which was restricted to ladies and judged by ladies, proved to be one of the most attractive features of the show, many good arrangements being displayed. In the class for best decoration of a dinner table, the premier award was won by Miss May Fleming, Dalmuinzie, for a simple and attractive arrangement. The flowers used were all of creamy-pink-coloured Sweet Peas, interspersed with sprays of Gypsophila. 2nd, Mrs. Porter, Monaltrie Gardens, Ballater, Aberdeenshire.

Mrs. Sinclair, Wellbrae Terrace, Aberdeen, who was placed 1st in the class for the best bowl of Sweet Peas, showed a good arrangement of lavender and mauve varieties.

Good taste was shown in the class for the best display of Sweet Peas arranged for effect. Mrs. Dunbar Dunbar was placed 1st.

NATIONAL GLADIOLUS.

August 13.—An exhibition of late-flowering Gladioli was held at the Royal Horticultural Hall, under the auspices of the National Gladiolus Society, in conjunction with the R.H.S. fortnightly meeting and exhibition. The show was far better than the exhibition last year; the Continental exhibits, especially from the Dutch Society, were especially good. The management of the Gladiolus Society leaves much to be desired; the judging was not completed until a late hour, and in many cases there was no indication of the classes to which the exhibits belonged.

Messrs. Kelway & Son, Langport, Somerset, were awarded a Gold Medal and the Silver Cup offered for the premier group for a splendid collection of 24 varieties of named late-flowering Gladioli. Amongst the choicer varieties were Princess Louise, John Churchill Craigie, Prince of Orange, Lady Francis Cecil, and Brooklands. The Silver-gilt Medal offered in the same class was awarded to Mr. Wilhelm Pfitzer, Stuttgart. This collection included Goldquelle, a yellow-flowered variety, and "Schwaben," a Gandavensis hybrid of much merit.

Messrs. Warnaar & Co., Sassenheim, were awarded the Silver Trophy offered for the best collection of 12 varieties. The varieties Princeps, Willy Wigman, America and Ida were especially fine.

The Silver Cup offered for two spikes of a new seedling Gladiolus was awarded to Mr. Pfitzer for the variety Goldfinder, a beautiful yellow flower.

Mr. K. Velthuys, Hillegom, Holland, received Awards of Merit for Gladiolus Empress of India, a very dark variety, and Baron Hulot, a fine flower of a blue-purple shade.

A Silver-gilt Medal was awarded to Mr. E. Stewart, U.S.A., for Michigan, a bright-red variety with purplish lines on the falls.

The Dutch Gladiolus Society sent an exceedingly fine exhibit, which was attractively arranged; the spikes of the varieties Badenia, Rosea superba, Faust (uncommon crimson shade), Empress of India, Willy Wigman and Sulphur King were splendid.

A Silver-gilt Medal was awarded to Mr. Wilhelm Pfitzer for a very good group of Gladioli arranged in their different shades of colour.

Messrs. Barr & Sons, Covent Garden, displayed numerous varieties of Gladioli pleasantly arranged with sprays of Bocconia cordata, Gypsophila paniculata fl. pl., and purple Statice. The Gladioli were nearly all hybrids of G. gandavensis, and included such valuable sorts as La Comète, Etincelle, Michigan, Vèdrines, and Safrano, a nankeen-yellow flower with crumpled petals. The Primulinus hybrids, which are derived from that species crossed with G. Nanceanus and G. Lemoinei, are very dainty flowers of chaste and attractive colouring. Messrs. Barr exhibited good stems of Lilium sulphureum, L. tigrinum splendens and several Crinums.

Messrs. Kelway & Son, Langport, Somerset, displayed a great variety of large-flowered Gladioli, filling two lengths of tabling. Of the many sterling varieties shown in this collection, Capt. Clive Coates, Alexander Edward, Hazelbeech, Richard Milner, Lady Haddo, Pius X., Lemberg and Rienzo were amongst the best. The large, stout spikes bore very large flowers of clear and distinct shades of colour.

Premier Spikes.

In four classes a Silver Medal was awarded as a 1st prize and a Bronze Medal as a 2nd prize for the premier spike of Gladioli grown naturally without shade. The awards were as follow:—

Yellow.—1st, Schwaben, shown by Mr. W. Pfitzer; 2nd, Golden Measure, from Messrs. Kelway & Son.

Pink.—1st Panama, exhibited by Mr. F. Banning; 2nd, Evolution Perfection, shown by Mr. H. H. Grogg, Canada.

White.—1st, Europa; the exhibitor's name was not given.

Blue.—1st, Badenia, shown by Mr. Velthuys; 2nd. La Nuit, shown by Messrs. Kelway & Son.

STREATHAM SWEET PEA AND ROSE.

July 11.—The fourth annual exhibition of this society was held on the above date in the Streatham Town Hall.

The Challenge Cup, open to competition amongst all growers in the British Isles, was won by Messrs. D. Prior & Sons, Colchester; 2nd, Messrs. F. Cant & Co., Colchester.

The best collection of 12 Roses was shown by Mr. W. Hall, who also exhibited the best two vases of Roses, and Mr. W. Martin won the 1st prize in the class for six distinct varieties.

In the class for 18 bunches of Sweet Peas, the President's Cup was awarded to Mr. A. Winter; 2nd, Mr. W. Hall.

Mr. J. W. Ayres showed the best nine bunches and the best six bunches of Sweet Peas.

There was very keen competition in the class for a vase of 25 sprays of Sweet Peas, in which Mr. Winter won the 1st prize; 2nd, Mr. Martin.

In the class for a miscellaneous group of plants, excluding Orchids, Mr. F. Stanley exhibited the best arrangement; 2nd, Mr. W. Weatherby.

In the ladies' classes, Mrs. A. Curtis won the 1st prize for a decorated basket of any flower and foliage, and Miss Mary Rathbone arranged the most tasteful epergne.

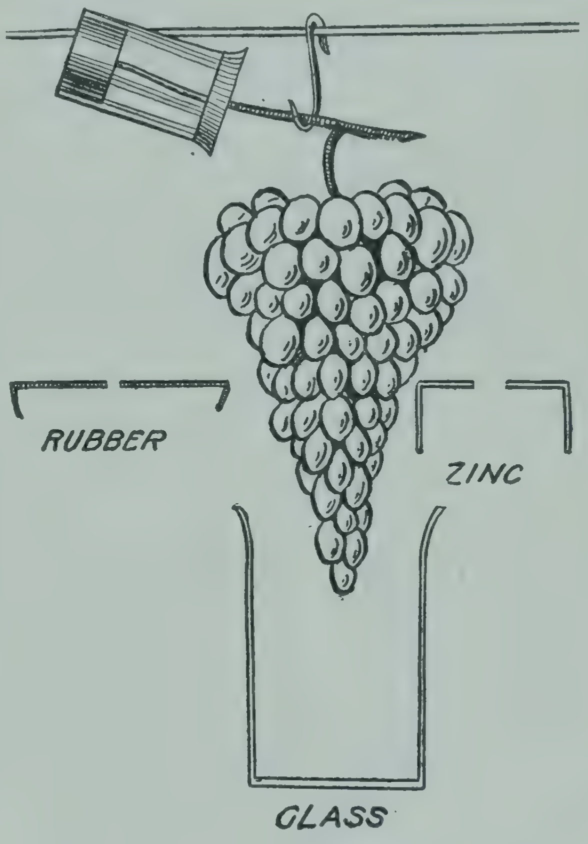


Fig. 66.—Bottle for preserving grapes.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

August 12.—The monthly committee meeting of this society was held at the Royal Horticultural Hall, Westminster, on this date. Ninety-one new members were elected, making about 300 enrolled since July 8. Mr. W. Collins is resigning the secretaryship on September 9, and Mr. A. C. Hill, of 35, Alexandra Road, West Kensington, W., has been appointed temporary secretary.

NEW INVENTION.

A NEW GRAPE BOTTLE.

Mr Wm. Taylor, of Bath, has provisionally protected a very ingenious receptacle for preserving cut bunches of Grapes in a fresh condition (see fig. 66), which appears to be an excellent contrivance. The bottle measures only 3 inches high, and is about 1½ inch wide. A rubber cap, which closes the mouth of the bottle, has a small perforation to admit of the Grape stem, and the bottle is then perfectly water-tight, so that it can be safely tilted at any angle. Evaporation is said to be very trifling, so that time is not expended in refilling, and there is no likelihood of the berries being rubbed, which often happens when replenishing the water in ordinary bottles.

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending August 10, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—The general condition was again very inclement. Rain fell daily in the south-east of England, and on most days over the Kingdom as a whole. Thunderstorms occurred frequently in some parts of the country, and were fairly general over England on the 4th, 7th, 8th and 10th.

The *temperature* continued below the average, the deficit being more than 5° in Ireland, and about 4° over all the southern and south-western counties of England. The highest of the maxima were registered on various dates, and ranged from 72° in England S.E. and 71° in England E. to 65° in Scotland E. and Ireland S. The lowest of the minima, which were also recorded on irregular dates, varied from 36° in Ireland N., and 37° in Scotland E. and Ireland S., to 46° in England S.E., and to 48° in the English Channel. The lowest grass readings were 32° at Markree Castle, 33° at Dublin and Crathes, and 34° at Balmoral. At 1 foot below the surface of the soil the temperature was considerably below the normal, and at nearly all places it was also below it at a depth of 4 feet.

The *rainfall* exceeded the average, and in Scotland E. and most of the English districts the excess was very large. Falls of an inch or more in 24 hours were experienced in many parts of the Kingdom. On the 4th 1·4 inch fell at Douglas (I.o.M.) and Crieff, 1·5 inch at Dublin, 1·6 inch at Armagh, and 1·7 inch at Crathes; on the 5th 1·9 inch at Newquay and Plymouth, and 2·0 inches at Scilly; on the 6th, 1·2 inch at Arlington; on the 7th, 1·3 inch at Killarney; and on the 8th, 1·0 inch at Wick.

The *bright sunshine* was much below the normal. The percentage of the possible duration ranged from 34 in the English Channel and 25 in England S.E. to below 20 in Ireland, Scotland, and the north-east of England, and to only 5 in Scotland E. In the last-mentioned district the mean daily duration was less than an hour, and in Scotland generally only about 2 hours, while it was less than 4 hours in all districts except the English Channel.

THE WEATHER IN WEST HERTS.

Week ending August 14.

Another exceptionally cold and gloomy week.—Since the present month began there has not occurred a single unseasonably warm day, and only one warm night. During the past week the temperature in the thermometer screen never rose above 66°, while on the last three nights the exposed thermometer fell respectively to within 1°, 7° and 5° of the freezing-point. At 2 feet deep the ground is at the present time 4° colder, and at 1 foot deep 6° colder, than is seasonable. Rain fell on each of the first five days, but the total measurement only amounted to about half-an-inch. On the morning of the 7th rain was falling for eight minutes at the average rate of nearly 1 inch an hour. During the week 1½ gallons of rainwater has passed through the percolation gauge on which short grass is growing, and 2 gallons through the bare soil gauge. The sun shone on an average for less than 3¼ hours a day, which is only about half the usual duration for the second week in August. The winds proved, as a rule, light, the mean velocity in no hour exceeding 9 miles. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by 5 per cent. *E. M., Berkhamsted, August 14, 1912.*

GARDENING APPOINTMENTS.

[*Correspondents are requested to* **write the names of persons and places as legibly as possible.** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.*]

Mr. S. Gilthorpe, for 14 months Gardener at Yeo Vale, Fairy Cross, Devonshire, as Gardener to G. S. Lysaght, Esq., Nynehead Court, Wellington, Somerset.

Mr. W. Adams, from Veitch & Sons, Chelsea, and late of Dorin Court, Warlingham, and Weir House, as Gardener to J. A. Levy, Esq., The Mount, Maidenhead, Berks. (Thanks for 1s. 6d., which has been placed in the R.G.O.F. box.—Eds.)

Mr. C. J. Jones, for the past 6 years Gardener to G. Kirby, Esq., Woodview, Watford, as Gardener to J. W. Pyman, Esq., Raithwaite, Penarth, S. Wales.

Mr. Wm. Atkin, for 20 years Gardener to the late R. W. Monro, Esq., Oakfield, Kingston Hill, as Gardener to Mrs. Kyrle Chapman, Shillingstone Grange, Blandford.

Mr. T. Warrington, for the past 3 years General Foreman to His Grace the Duke of Sutherland, Lillieshall Gardens, Newport, Salop, and previously at Osmaston Manor, and Temple Newsam, as Gardener to H.S.H. Princess Hatzfeldt, Draycot House, Chippenham, Wiltshire.

Mr. W. G. Newman, for the past few months temporary Gardener to the Hon. A. G. Davey, Esq., Ockford House, Godalming, and previously at Fullbrooks, Worcester Park, as Gardener to G. W. Stephens, Esq., Cuckoo Hill, Pinner, Middlesex.

Mr. J. Radley, for the past 10 years Gardener to J. Hellerby, Esq., Alderslade House, Aston-on-Trent, as Gardener to F. Swindell, Esq., White Cottage, Aston-on-Trent, near Derby.

DEBATING SOCIETY.

CARDIFF GARDENERS'.—The annual outing of the members of this association took place on the 12th inst., when a visit was made to The Hendre; the seat of Lord Llangattock. The party lunched at Abergavenny, and then drove to The Hendre, a distance of 14 miles. Mr. Coomber conducted the party through the residence and gardens.

MARKETS.

COVENT GARDEN, *August 14.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Achillia, per doz. bunches	1 6- 2 0
Alstroemeria	3 0- 4 0
Arums (Richardias)	2 0 —
Asters, white	1 6- 2 6
Bouvardia, per dz. bunches	6 0- 7 0
Carnations, p. doz. blooms, best American var.	0 9- 1 3
— smaller, per doz. blooms	0 4- 0 8
— Carola, crimson, extra large	1 6- 2 0
— Malmaisons, p. doz. blooms:	
— — pink	8 0-15 0
Centaurea, (sweet Sultan) mauve and white, per doz. bunches	2 0- 3 0
— yellow	1 6- 2 0
Chrysantheumms, per dozen:	
— white	1 0- 2 0
— pink	1 0- 2 0
— yellow	1 0- 2 0
— bronze	1 0- 2 0
— white, per doz. bunches	4 0- 6 0
— maximum, per doz. bunches	0 9- 1 0
Coreopsis, per doz. bunches	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches	0 6 -0 9
Gardenias, per box of 15 and 18 blooms	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	2 0- 2 6
— Bride, white per dz. bnchs:	3 0- 4 0
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
— paniculata	3 0- 4 0
— double	6 0- 8 0
Lapagerias, white, per dozen	1 6- 2 0
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	1 6- 2 0
— — short	1 6 —
— lanciforium alba, long	1 0- 1 3
— — short	1 0 —

	s.d. s.d.
Lilium speciosum rubrum, p. dz.,	
— long	1 3- 1 6
— short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches	4 0- 5 0
Montbretia, pr. dz. bunches	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	12 0-15 0
— Cattleya Harrissonii, p. doz.	6 0 —
— Odontoglossum crispum	3 0- 4 0
Pancratiums, p. dz. blooms	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms,	
— Bridesmaid,	0 9- 1 0
— C. Mermet	0 9- 1 0
— Frau Karl Druschki	0 9- 1 0
— General Jacqueminot	0 9 —
— Liberty	0 9- 1 0
— Madame A. Chateney	0 9- 2 0
— Niphetos	1 0- 1 6
— Richmond	1 0- 2 6
— Sunburst	1 6- 2 0
— Sunrise	0 6- 0 9
— President Carnot	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegan	1 0- 1 6
— Kaiserine	0 9- 1 6
Scabious caucasica, per doz. bnchs.	0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve,	3 0- 4 0
— white & yellow	3 6- 4 6
Stephanotis (72 pips)	1 6- 2 0
Stock, p. d. bnchs:	
— white	4 0- 5 0
Tuberoses p. doz. blooms, long	0 4 —
— — short	0 3 —
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches	1 6- 2 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Carnation foliage, doz. bunches	4 0 —

	s.d. s.d.
Croton foliage, various, per dozen bunches	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, p.dz.	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Asters, per dozen	4 0- 5 0
Chrysanthemum coronarium, 48's, per dozen	3 0- 5 0
— various colors., per dozen	6 0-12 0
Coleus, per doz.	3 0- 4 0

	s.d. s.d.
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, doz.	6 0 —
— choicer sorts per doz.	8 0-12 0

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Heliotropes	6 0- 8 0
Hydrangeas white 48's, per dozen	18 0-21 0
— pink	8 0-12 0
— blue, each	2 0- 5 0
— paniculata, per dozen	18 0-24 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0-18 0
— lancifolium alba	15 0-18 0

	s.d. s.d.
Lilium longiflorum, per dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
— yellow	10 0-12 0
Mignonette, 48's, per dozen	6 0- 8 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargoniums, per dozen	9 0-12 0
— Ivy-leaved	7 0 9 0
Phœnix rupicola, each	2 6-21 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0
Verbenas, pink	6 0- 8 0
— scarlet	8 0- 9 0
— white	8 0- 9 0
— blue	8 0- 9 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— English ½ bshl.	2 0- 2 6
— Cooking, bshl.	2 0 —
— Tasmanian per case	16 0-18 0
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured	5 6- 6 6
— Jamaica Giants, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Figs (Guernsey), per dozen	1 6- 4 0
— English	1 6- 4 0
Grape Fruit, case:	
— 96's — 80's — 64's — 54's	18 0-20 0
— English (new) per lb.	0 9- 2 6
— Canon Hall	1 6- 5 0
— Muscats	10- 3 0
— Gros Colmar	1 2- 1 6
— Black Alicante	0 8- 1 6
— Madresfield Court	1 0- 2 6
— Gros Maroc	1 0- 2 0
Greengages, ½ sieve	14 0-18 0
— Cooking	5 0- 6
Lemons:	
— Messina, per case	20 0-22 6
— ordinary, per case	17 0-25 0

	s.d. s.d.
Lemons:	
— Naples	28 0-45 0
Limes, per case	6 0 —
Melons (Guernsey)	1 0- 2 0
— (English)	1 0- 2 0
— Canteloupe	1 6- 4 0
Nectarines, per dozen:	
— selected	6 0- 8 0
— best — seconds	2 0- 3 0
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 3 —
— Filberts, per lb.	0 2- 0 3
Oranges:	
— Italian per case	20 0-22 6
— Cape, per case	20 0-25 0
— Naartjees, per box	4 0- 4 6
Peaches	
— French, boxes	1 0- 2 0
— English, dozen:	
— selected	6 0- 8 0
— best — seconds	2 0- 3 0
Pears:	
— French, per case	3 0- 4 6
— English, ½ bushel	3 0- 3 6
Pineapples, St. Michael	2 6- 5 0
Plums, French, ½ sieve	5 0 —
— English, ½ sieve	4 6- 5 0

Vegetables : Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen	2 0- 3 0
Aubergines, p. doz.	2 6- 3 0
Beans:	
— French, ½ bshl.	1 0-1 6
— Scarlet Runners, per bushl.	2 0 —
Beetroot, per ½ bushel	2 0- 2 6
Cabbages, p. tally	5 0- 7 0
Carrots (English), pr. doz. bun.	2 0- 3 0
Cauliflowers, per dozen	3 6- 4 0
Cucumbers, per flat	4 0- 6 0
Celery, bundle	0 6- 0 8
Endive, per dozen	2 6- 3 0
Greens, p. bushel	1 6- 2 0
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles	12 0-15 0
Leeks, per doz.	1 6- 2 0
Lettuce (English), Cos, per box	1 0- 1 6
Cabbage, per box	1 0- 1 6
Marrows, per tally	2 0- 3 0

	s.d. s.d.
Mint, per dozen bunches	2 0 —
Mushrooms, cultivated, per lb.	0 10- 1 0
— field, per lb.	0 4- 0 6
Mustard and Cress, p. dz. punnets	1 0 —
Onions (English) per bushel	5 6- 6 0
— (Spring), per doz. bunches	1 6- 2 0
Parsley, ½ sieve	2 0- 3 0
— per doz. bun.	2 0 —
Peas (Eng ish), per bushel	3 6- 5 0
— bags	6 0- 9 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen	0 10- 1 6
Spinach, ½ bushel	1 6 —
Tomatos, per doz. lbs.:	
— (Guernsey),	2 6- 3 0
— (English)	3 6- 4 0
— seconds	1 0- 1 6
Turnips (English), per dz. bunches	2 6- 3 0
Watercress, p. dz. bunches	0 6 —

REMARKS.—English culinary Apples appear to be a very heavy crop, 2s. per bushel being the highest price obtainable. Dessert varieties consist principally of Worcester Pearmain, Quarrenden (a record crop), Lady Sudeley and Langley Pippin. All early varieties of English and French Pears are very plentiful, and meet with a good trade. English and Channel Island Grapes remain a very heavy supply. The holiday season and cold, wet weather are unfortunately limiting the demand for Melons and Figs, and the supplies are exceeding the demand. Cherries are finished, with the exception of a few Morellos. Filberts and Cobnuts are arriving. The consignments of Peaches and Nectarines are much in excess of the demand. Tomatos, both home-grown and from the Channel Islands, have been a much shorter supply, with a consequent rise in prices. The market is well supplied with Plums, Victoria and Prince of Wales, which appear to be much larger crops than was anticipated. English and Dutch Scarlet Runner Beans and outdoor Mushrooms have been very plentiful during the past week. *E. H. R., Covent Garden, August 14.*

New Potatos.

	per cwt. s.d. s.d.		per cwt. s.d. s.d.
Bedfords	3 9- 4 3	Blacklands	3 6- 3 9
Kents	4 0- 4 9	Lincolns	3 6- 4 0

REMARKS.—Trade is quieter this week. There is a good supply of tubers, and prices remain about the same as last week. *Edward J. Newborn, Covent Garden and St. Pancras, August 14, 1912.*

LAW NOTE.

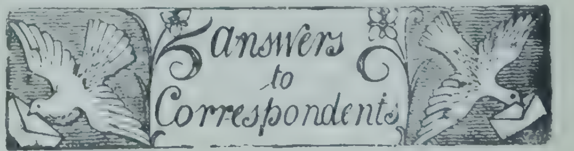
CLAIM FOR HEDGE TREES.

AT the Godalming County Court on the 8th inst., Robert Donkin, nurseryman, Cranleigh, sued F. H. Barrodale, architect, of Waverley, Cranleigh, for £11 14s., the price of 78 trees at 2s. 6d. each, and £1 19s., for the labour of planting them.

It appeared from the evidence that defendant purchased from plaintiff trees to make a hedge. The trees, or most of them, died, and plaintiff attributed this to the bad season, and to the lack of proper attention. Defendant, on the contrary, alleged that Mr. Donkin was negligent in the planting of them, the ground not being properly prepared, with the result that under the roots, when the trees were taken up, were found large lumps of clay and turf, so hard that it would be impossible for the trees to take root. After evidence had been given at some length on behalf of both parties, his Honour Judge Harrington said it seemed to him that the plaintiff's responsibility for the state of the trees ended as soon as he planted them. It appeared that a month or so after they were planted they began to die, and it was found when they were removed, a long time afterwards, that the condition of the ground was such that it might have been due to bad planting, or it might equally have been due to other circumstances. The onus was on the defendant to satisfy him (the judge) that there was neglect, but he had failed to discharge his onus. On the other hand, plaintiff failed to supply trees of the stipulated height, and therefore, a reduction would be made in the amount claimed. He gave judgment for the plaintiff for £7 8s. 10d.

ENQUIRY.

NYMPHÆA FLOWERS.—Can any reader recommend me a good means of preventing Nymphæa flowers closing? I know that when a solution of a salt, unknown to me, is injected with a syringe into the flower-stalk closely beneath the cut flower, the flower is made very durable. Are there any other means of preventing the closing of Nymphæas? *P. W. Magdeburg.*



Answers to Correspondents

ACALYPHA LEAVES: *H. G.* The punctures are due to some insect pest. Spray the plants with an insecticide, or, if practical, dip the foliage in the specific. If this treatment proves unsuccessful, send us fresh specimens for a more critical examination.

BOOKS: *G. D. G. Fruit Ranching in British Columbia*, by J. T. Bealby.—*F. H. P., Oxon. A Handbook of Tropical Gardening*, by H. F. Macmillan, 12s., or *Gardening in the Tropics*, by G. Marshall Woodrow, 11s. Either may be obtained from our publishing department. —*J. D. H.* The best inexpensive work of value to teachers and lecturers on practical gardening is *The Calendar of Garden Operations* (price 7d.). Other useful works are *The Book of Garden Pests* (price 2s. 10d.), *A Primer of Horticulture* (price 1s. 1½d.), and *The Chemistry of the Garden* (price 1s. 1½d.). These may be obtained from our publishing department. The price includes postage.

CYANIDING GLASSHOUSES: *Dianthus.* This can be done by the use of either potassium cyanide or sodium cyanide, but it is preferable to use the latter. Hydrocyanic acid is liberated when sulphuric acid is poured on to the cyanide of soda. The operation requires great care, owing to the *extremely poisonous* nature of the acid. The chemical is placed in an earthenware vessel, and the acid arranged above it in a bottle or other glass receptacle, with a string attached leading outside the building, say, through the keyhole. This is to enable the operator to liberate the acid from the outside. For delicate subjects, and for vines in full leaf 1½ ounce of the cyanide, 3½ ounces of sulphuric acid, and 10½ fluid ounces of water may be used with safety. The work should be done in the evening and not in the strong sunlight, whilst the temperature of the house should not exceed 60°, and the plants and surroundings should be dry. The glasshouse should be kept closed during fumigation from three-quarters of an hour to an hour, and then the ventilators and doors should be opened from the outside, the operator taking care not to inhale the escaping fumes. It is best to do the work on a calm day. Close any crevices in the house through which the fumes might escape. The horticultural sundriesmen supply outfits and material for the purpose.

Employment in Kew Gardens: *A. K.* Application for admission as gardener in the Royal Botanic Gardens, Kew, must be made on a form furnished by the Director of the Gardens. Applicants must be unmarried, between the ages of 19 and 24, and must have been employed for not less than four years in good gardens or nurseries. They must be healthy, free from physical defects, and not below the average height. Applicants are informed whether their names have been entered for admission, and on a vacancy occurring will receive a notice to that effect. Should an applicant not be appointed within three months after the date of his application, he should write again, if he still desires admission. Those selected for appointment as gardeners, who are British subjects, if they render approved service, are eligible to remain at Kew for a period of two years from the date of joining. At the termination of two years' experience in the Royal Botanic Gardens, a gardener ceases to be employed at Kew, unless he has in the meantime been selected for service as a subforeman for a further definite period of strictly limited duration. Gardeners whilst at Kew receive an allowance of 21s. per week to meet the cost of subsistence. Sub-foremen are paid 27s. per week.

Exhibiting Hardy Herbaceous Flowers: *Anxious.* It is not correct to exhibit Hydrangea hortensis in a class for six bunches of hardy herbaceous flowers. Hardy herbaceous flowers, for some reason or another, are generally regarded as perennials, notwithstanding the fact that many annuals and biennials are both hardy and herbaceous. According to the R.H.S. *Code of Rules for Judging*, annuals and biennials are excluded from a class entitled hardy herbaceous plants.

German Gardeners' Society: *H. Z.* The Secretary is Mr. E. Morell, 41, Upham Park Road, Chiswick, London, W.

Grapes Spotted: *F. C. N.* Probably the minute punctures are caused by some winged insect, or it may be the commencement of a fungus disease. If the spotting spreads send further specimens, when the fungus disease may be identified.

How to Make a Lawn: *Dianthus.* After having selected the site for your lawn, it will be advisable, unless the soil is naturally well-drained, to provide for the free passage of superfluous water. The soil should be well worked, bearing in mind that good cultivation is as necessary for grass plants as for those in the borders. Bastard-trench it, and add well-rotted farm-yard dung at the rate of 15 cartloads to each half-acre of land. If chemical manures are preferred, use superphosphate of lime, Peruvian guana, and bone-dust, or one of the special lawn manures sold by the nurserymen. Whenever possible it is a great advantage to allow the land to lie fallow for a short period before sowing the grass seed. When dealing with very weedy soils we have found it useful to plant the ground intended for lawns with early Potatos in the spring so as to thoroughly clean the soil before sowing the grass seed in the autumn. The surface of the ground must be levelled perfectly and made fine, so that the seed may be lightly covered with fine soil. About two bushels of seed will suffice for half an acre of land. Choose a dry, calm day for sowing, and when this is done lightly rake over the surface again and roll it. It is often necessary to cover newly-sown lawns with fish-netting to protect the seeds from birds. Mice, especially field mice, must also be guarded against. The kinds of grass (for a mixture of several different species is advisable) to sow will depend on the nature of your soil, and the use for which you intend the lawn. You should send a small sample of the soil to one of the leading nurserymen who specialise in lawn mixtures, telling him the kind of lawn you intend making, and seeking his advice as to the selection of the seed. The after-treatment of the lawn consists of weeding, rolling, and mowing. At least the first and second cuttings should be done with a sharp scythe, and not with a machine.

Insects Feeding on Nymphæa Leaves: *G. W., Surrey.* From your description we suspect that you are troubled with the larvæ of the Caddis fly, but if you will send specimens of the insects we will identify them for you.

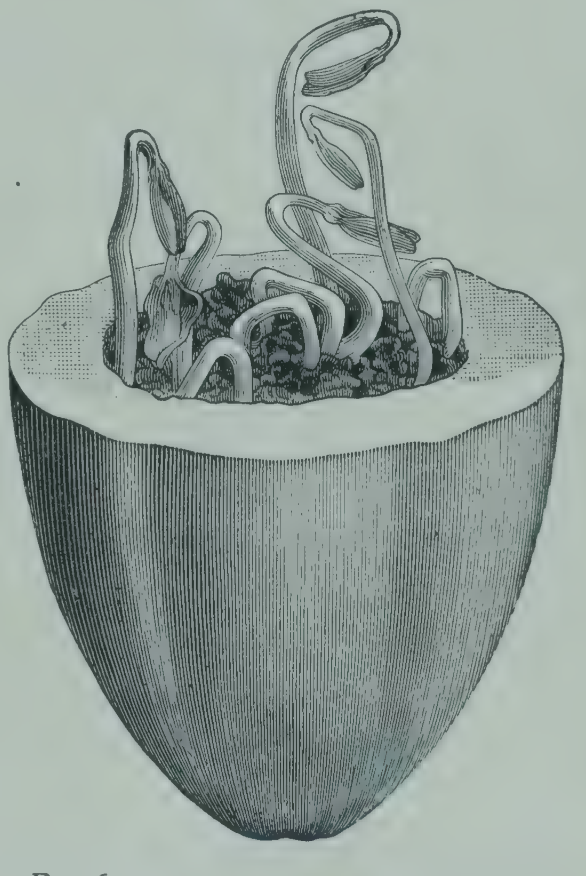


Fig. 67.—Seeds of Carica germinating within the fruit.

Lobelia Sporting: *J. H.* A batch of seedling Lobelias generally exhibits a wide range of colours in the flowers. The specimen received was too faded to recognise the depth of the mauve colouring, but as the plant has a desirable habit, and is free flowering, you should perpetuate the variety. Pot the plant, and winter it in a cool house. Next spring it should furnish a plentiful supply of cuttings.

Manures for Sweet Peas: *A. G.* As a dresssing for Sweet Peas, nothing is better than basic slag, finely ground, used at the rate of 10 to 12 lbs. to the square rod, and kainit at the rate of 6 to 8 lbs. per square rod, which should be applied in the autumn. In the spring use sulphate of potash at the rate of 3 lbs. to the square rod, and superphosphate at the rate of 6 lbs. to the square rod. If the soil needs nitrogen mix sulphate of ammonia and nitrate of soda in equal proportions, and use 3 lbs. to the square rod, forking these materials into the top 8 inches of soil in the spring. Soot may be applied to the rows before the blossoms have opened.

Marl: *H. F., Worcester.* The sample of marl you send is not at present suitable for top-dressing a lawn. If you use it, it will be advisable to first expose it to the influence of the sun and winter frosts, but unless the soil of your lawns is of an exceedingly light nature, we should not recommend you to use any of the substance. Any finely-sifted soil that is free from the seeds of weeds would be preferable as a top-dressing. Your sample bears only a superficial resemblance to the Nottingham marl which is used for top-dressing cricket pitches.

Melon Seeds Germinating within the Fruit: *J. E. C.* Intracarpellary germination is not unusual in Melons. It also often takes place in other plants, including Carica (see fig. 67), Citrus, and Pernettya.

Names of Fruits: *W. Evans.* Emperor Alexander.—*J. M. Ireland.* Mr. Gladstone.—*C. H. P.* Mr. Gladstone.—*Arthur Horton.* 1, Decayed; 2, Dymond.

Names of Plants: *Rubrum* 1, Sedum hybridum; 2, S. stoloniferum; 3, S. hispanicum; 4, Oxalis corymbosa.—*J. H.* *a*, Lychnis coronaria; *b*, Geum coccineum; *c*, Veronica spicata alba; *d*, Sedum spurium; *e*, Vincetoxicum japonicum; *f*, Epilobium angustifolium.—*F. R., Warblington.* The tree is the common Hornbeam, Carpinus betulus. The other specimens were insufficient. If you send again please pack them so that they will reach this office in a fresh condition. Certain kinds of herbaceous plants in flower wither very quickly after packing in dry materials.—*Hurlock.* The Carnation blooms were faded beyond recognition. Send fresh specimens, packed in damp moss, to some grower who makes a speciality of these flowers.—*P. H. R.* Gongora armeniaca.—*F. T.* 1, Pleurothallis Barberiana; 2, Octomeria diaphana; 3, Gongora portentosa; 4, Odontoglossum aspidorhinum; 5, Bulbophyllum rufinum.—*Orchis.* Dendrobium Pierardii.—*R. V., Exeter.* The form of Moræa iridioides well illustrated in the *Gardeners' Chronicle*, February 8, 1908, and a variety of Tritonia crocata.

Orchid Leaves Diseased: *Anxious.* The leaves are affected with "spot," which generally arises from some defect in the houses or unsuitable temperatures, and more particularly excessive warmth at night-time. Non-observance of drier and cooler conditions during the plant's resting season is a contributory cause. Remove the damaged leaves and old pseudobulbs. After the plants have completed their growth, afford less water to the roots.

Potatos: *A. K. D.* The Potatos are affected with the warty disease (Œdomyces leproides), which is illustrated and described in *Gard. Chron.*, July 31, 1909, p. 79, figs. 33, 34. You cannot save affected tubers by any treatment. Remove and burn diseased plants before they produce resting spores.

Rose: *R. Powell, Sherring.* The variety appears to be that known as Cloth of Gold, and the foliage is particularly healthy.

Sweet Pea "Countess Spencer": *M. A. F.* The unusual number of blooms on your spike of Countess Spencer Sweet Pea is due to fasciation, an abnormal development resulting from a monstrous growth of several stems into one. Fasciation is often found in Sweet Peas, and is common amongst many other plants.

Tomatos Diseased: *J. B.* The unhealthy condition of the plants is due to a disease, most probably "sleepy disease." It is too late to adopt remedial measures, but to prevent the spread of the disease the plants should be destroyed by burning. Do not grow Tomatos in the same house again until the old soil has been removed and the house disinfected by spraying with a solution of iron sulphate or some other strong fungicide.

Worms in Lawns: *H. T.* (1) Dissolve half-an-ounce of corrosive sublimate (poison) in 15 gallons of water, and apply it over the lawn; when the worms come to the surface sweep them up. Do not allow fowls to eat the dead worms as they are poisonous. (2) If you mix a peck of freshly-made quicklime in 40 gallons of water, allowing it to stand until clear, and then apply the liquid from a rose watering pot, it will serve to bring the worms to the surface, and the fowls may eat them.

Communications Received. — A. Harwood (many thanks, but the information arrived late)—D. C.—T. S.—R. V. & S.—H. M.—Ajax—A. G. B.—A. E. J.—W. M., Buxsted—Dr. M.—J. W. T.—G. H.—S. G.—J. H., Burton—L. M.—W. B., Cornwall—M. A. K.—A. H. S.—C. H.—E. W. & Sons—E. A. B.—R. A. M.—F. C., Banagher—

THE
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MISTLETO IN SHENSI.

THE Sin-ling range, which reaches substantially across China from Tibet to the coast, separates not merely the two greatest rivers of China, but divides the country into northern and southern halves, both as regards its people, fauna, and flora.

I need not institute comparisons between northern and southern floras, but it may be interesting to note one feature in particular which came under my notice when crossing the Sin-ling range in the province of Shensi, western China.

The range here consists largely of limestone in the valleys and on the lower slopes, with granite capping the higher ridges, as though it had been squeezed up from below, bursting through the limestone.

Ascending from the Han river, one of the largest tributaries of the Yangtze, I passed through mountain valleys which had been entirely deforested by the people, and even at the very sources of the smallest torrents evidence of terrible destruction by the rains was not lacking; but the more appalling results of the ruthless deforestation showed themselves

the Yangtze itself. I was surprised at the number of flowers in bloom in these mountains, though we were already well into November, with sharp frosts every night; but the radiant autumn days were warm yet, and the bitter winds with driving snow do not come till mid-December.

The mountains are covered on their lower slopes with "Spear Grass," a species of Stipa, and one of the most widely-distributed plants in China. Certainly it is the bane of the traveller, for not only do the needle-pointed fruits attach themselves to one's clothes, but they work right through and penetrate the flesh sometimes to a depth of a millimetre or more, causing most painful sores. The long awn breaks off as soon as the fruit has got a purchase, and every movement drives the latter further in, for the backward projecting hairs which occur just behind the steel-hard point prevent any movement in that direction.

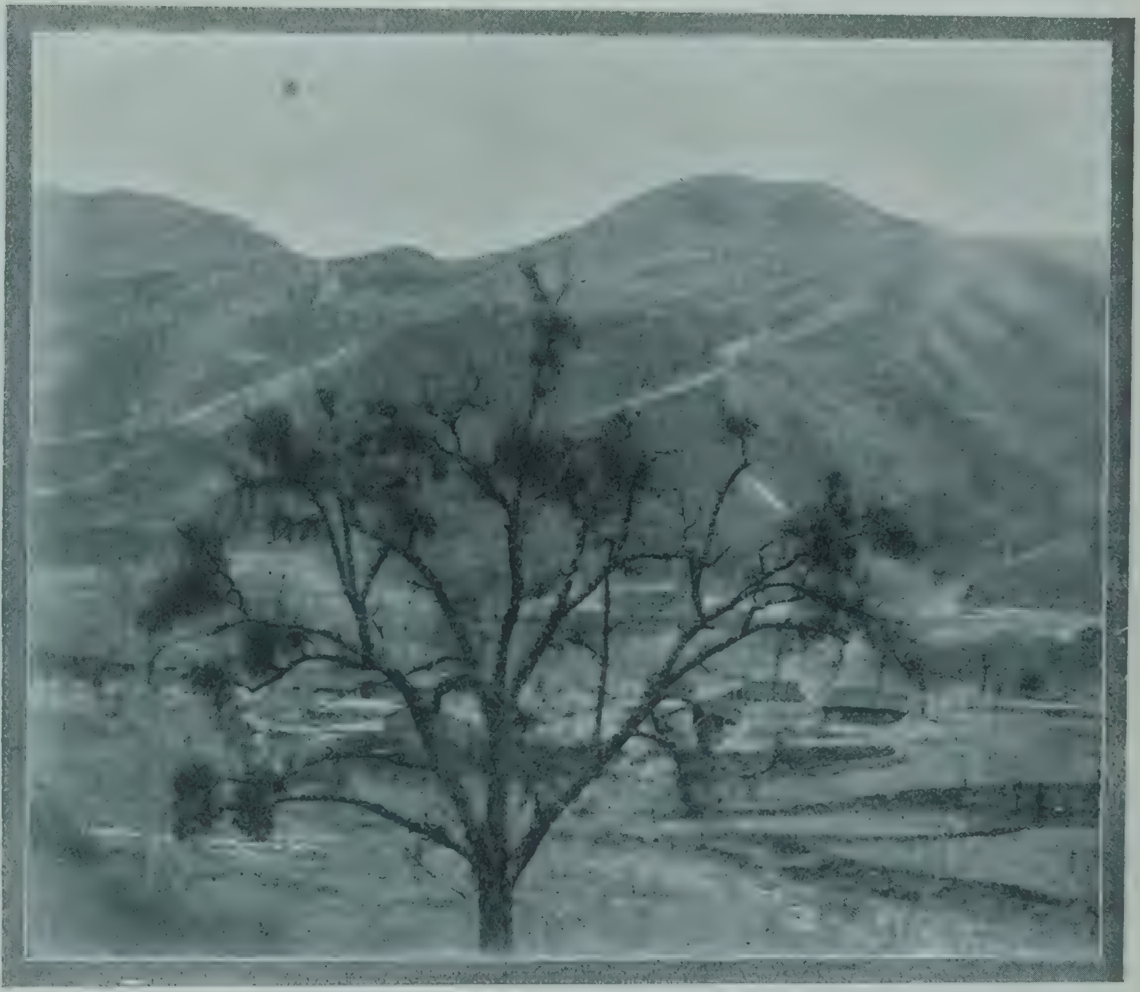
Fig. 68.—MISTLETO, CHIEFLY VISCUM ALBUM, ON A PERSIMMON TREE IN SOUTHERN SHENSI.

Higher up on the tops of the ridges is a dense scrub of Oak, Birch, Hazel, Castanea, Rosa multiflora, and many other shrubby genera, with such climbers as Smilax and Clematis, and a rich undergrowth chiefly composed of Monocots, such as Iris tectorum, species of Lilium, and numerous Grasses; here and there are spinneys of Fir trees, Oaks, or mixed deciduous forest, and on the graves occur such species as Cupressus funebris, Taxus baccata, and other sombre Conifers.

In the inhabited valleys are Pears, Per-

Aleurites and other specially-cultivated trees, with Poplars and Willows planted along the stream sides, and an occasional Ginkgo hidden away in some old temple court. In the lower valleys are Rice fields, but Millet and Maize are the chief autumn crops in the mountains; both are cultivated at over 8,000 feet, and occur in tiny patches in the steepest places.

On the hillsides there were still in flower species of Gentian, Dianthus, Sedum, Salvia, Primula, Anemone Pulsatilla, and purple Asters, the last making a brave show; by the streams, Myosotis, Cardamine, and other marsh plants; and in more rocky places species of Delphinium 5 or 6 feet high, numerous Ferns, chiefly Polypodiaceæ, and Lycopodiums. But it is of the Mistleto rather than of the general vegetation that I wish to write.

Before crossing the main watershed by a low pass 4,500 feet above sea-level, I did not see, so far as I remember, a single plant of the Mistleto.

From the pass I descended into the broad alluvial valley of the Lo river, and, continuing northwards, began the ascent of the next ridge, entering a picturesque region of limestone developed into towers and gorges. It was here that the Mistleto made its appearance in such extraordinary abundance as to constitute quite a feature of the landscape; never previously have I seen trees attacked by this pest with such virulence. The foliage of the tree was, in fact, hidden completely by that of the parasite.

Three species were observed: our native Viscum album, a very similar species but with much larger leaves, and lastly, and most beautiful of all, a deciduous-leaved species bearing great numbers of almost orange-coloured berries in dense terminal spikes.

Many, perhaps all, species of trees were attacked, especially Poplars, Willows, Walnuts, Pears and Persimmons, the cultivated fruit trees being commonly attacked most viciously of all, though the Poplars also ran them close in this respect.

The large-leaved species seemed to occur exclusively on Willows, but the other two species were much less fastidious and occurred indiscriminately everywhere and frequently both together on the same host. Viscum album was, however, the commonest of all. Continuing northwards over this secondary, though more lofty ridge, we descended to the Loëss plain of Shensi, where these parasites again became far less common, and crossing the plain from east to west, eight days' journey, I noticed very few plants of V. album on the Persimmon trees. Even when plunging once more into the Sin-ling range further west I came across no such outbreak again, but here the range was much higher and wilder, and covered with vast Conifer forests. Once, indeed, I came across a fourth species with beautiful scarlet berries like Holly.

The interpretation of the facts is by no means easy, though we may be tolerably sure, since Mistleto is distributed exclusively through the agency of birds, that any explanation is likely to be bound up with problems of bird distribution.

In this connection I may mention that no sooner did we cross the pass, than starlings, which we had not seen since some distance down the Han river, suddenly appeared again in flocks, and it was just these birds which invaded the Mistleto trees. Their absence from the mountains on the other side of the pass may account for the lack of Mistleto there, but will not alone account for the peculiar distribution of Mistleto over China and its absence (I believe) from the whole Yangtze valley. Moreover, the starling is of course capable of crossing this low range when it likes, hence the problem of the restriction of the range of the plant, though connected with that of the birds, is at present only partially solved. *F. Kingdon Ward, F.R.G.S.*

NEW OR NOTEWORTHY PLANTS.

KOELREUTERIA HENRYI,* DÜMMER, SP. NOV.

While examining the material appertaining to the genus Koelreuteria at Kew, my attention was drawn to a fruiting specimen gathered by Dr. Augustine Henry on the Bakinsing Mountains, in Formosa (No. 1594), which was identified by him as K. bipinnata, Franchet, but which, on comparison with the type specimen of the latter species, appears to be wholly distinct, nor does it afford any agreement with the remaining species known, viz., K. paniculata, Laxm, and K. minor, Hemsley. It must therefore be regarded as new, and as such I have pleasure in associating it with the name of one intimately connected with the exploitation of the Chinese and Formosan floras.

K. Henryi exhibits affinities to the species hitherto confounded with it, but is easily distinguished by the smaller, fewer-leafletted leaves, the absence of any indumentum on the midrib and lateral nerves of the leaflets and the reduced state of their axil-tufts, the shorter, less-spreading panicles and much smaller capsules and correspondingly smaller seeds. Flowering specimens may subsequently reveal additional correlative differences.

Its salient characters are incorporated in the following diagnosis: A spreading tree 50 feet high; ultimate branchlets stout, glabrous and terete towards the base, slightly puberulous and angulate at their extremities, rich reddish-brown, dotted with conspicuous pale brownish lenticels; leaf scars broadly oval-crescentic, buds small, depressedly hemispheric with densely ciliolate scales. Leaves bipinnate; rachis compressedly tetragonous, dorsally ridged, 9 inches long, reddish brown, glabrous except for a minute yellowish pubescence in the vicinity of the nodes; secondary axes opposite, 5 inches long, composed of 5 to 11 leaflets, entirely glabrous or pubescent at the insertion of the leaflets. Leaflets alternate petiolulate, obliquely narrowly ovate, caudately and acuminately cuspidate, 3 inches long, 1 to 1 1-12th inch broad, subcoriaceous, wholly glabrous except for the reduced axil-tufts on the lower surface, the margin coarsely serrate with slightly incurved serratures, entire towards the base (rarely quite entire on the posterior margin); petiolule 1-12th to 1-10th inch long, crimson-red. Panicle short, sparingly branched, 4 to 5 inches long, minutely puberulous. Capsules borne on short pedicels, $\frac{1}{8}$ inch long, membranous, three-winged, when compressed oval and rounded or almost orbicular, 1 to $1\frac{1}{2}$ inch long, 1 to 1 1-10th inch broad; seed solitary in each loculus, ovoid-globose, smooth and black, $\frac{1}{8}$ inch diameter. *R. A. Dümmer.*

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* K. bipinnatae, Franch., affinis sed foliolis paucioribus subtus costa et nervis lateralibus glabris, paniculis abbreviatis, capsulis seminibusque minoribus distat.

Henry, *List Plants of Formosa*, 28 (1898). Matsumura and Hayata, *Enum. Pl. Ins. Form.*, 94 (1906).

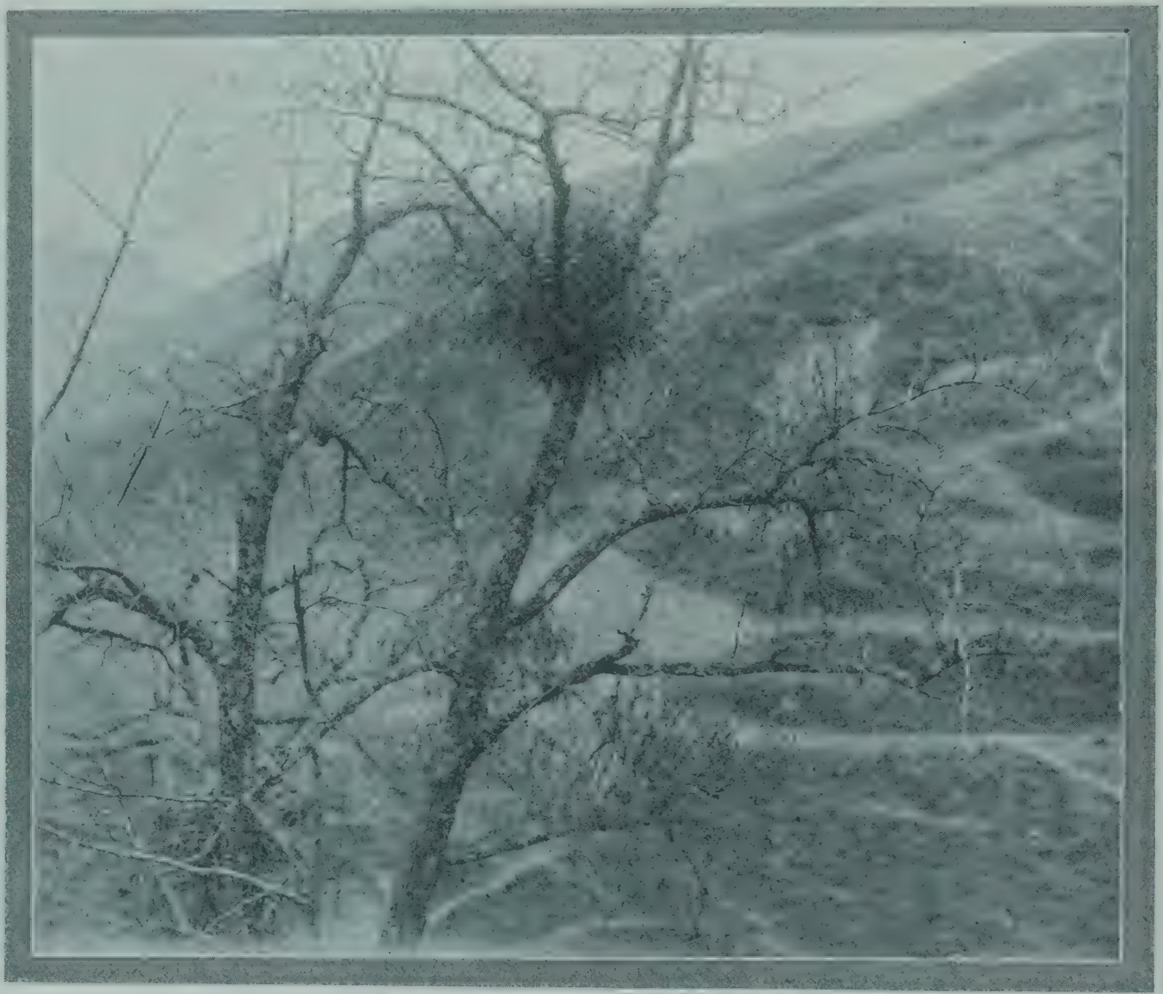


Fig. 69.—Two species of Mistleto (Viscum album above) on a Persimmon tree in Southern Shensi.

PLANT NOTES.

BROWALLIA VISCOSA.

A Browallia that has advanced a good deal in popular favour within the last few years is B. speciosa major, a native of Colombia. It is of a half shrubby character, and flowers with more or less freedom throughout the greater part of the year. The flowers, which are about 1 inch in diameter, are, when first expanded, of a purplish-blue colour, but they become pale somewhat afterwards and also increase in size. For the embellishment of the greenhouse during the summer, or of a somewhat warmer structure at other seasons, this Browallia is of considerable value, while it is also sometimes used in mixed beds for summer bedding. The species which is the subject of this note (Browallia viscosa) is not nearly so well known as the other, but it is quite distinct therefrom and decidedly attractive. The flowers are smaller than those of B. speciosa major, and of a much deeper and richer blue, with a small clear white centre. The habit of growth is somewhat looser than that of B. speciosa major. The contrast between the two colours forms a notable feature of B. viscosa. It has been referred to as an annual, but though it can be raised from seed, cuttings may also be employed for propagating purposes. B. viscosa is a native of Colombia; indeed, nearly all the members of the genus occur in the Andean region of South America.

ISOLOMA HIRSUTUM.

This is a comparatively old-established garden plant, having been introduced from Colombia and distributed by the late Mr. William Bull, of Chelsea, in 1881. It is an exceedingly useful decorative plant, and one that has of late gained many admirers. By some authorities the Tydæas are merged into the genus Isoloma, but from a garden standpoint they may well be kept distinct, though the cultural requirements are the same for both. The flowers of the Tydæas grown in gardens keep the mouth of the tube open, the spreading lobes are usually marked with dots or flakes. Isoloma, on the other hand, has a more contracted mouth, with small lobes and a more uniform colouring. I. hirsutum forms an upright-growing plant, which will flower freely when from 18 inches to 3 feet in height. The flowers, which are 2 inches long, are of a bright vermilion colour, and are consequently very attractive when seen in masses. A notable feature of this Isoloma is the fact that the entire plant—stems, leaves, and blossoms—is thickly covered with brownish hairs. Its flowering season is not limited to any particular period of the year; its bright-coloured blossoms being produced at almost any time. Throughout the summer the plants will bloom in the greenhouse, but in winter an intermediate temperature suits them best. Propagation is readily effected by division of the underground rhizomes or by cuttings, which strike readily in a gentle bottom heat. Before removing them from the propagating case care must be taken that they are well rooted, as they often grow at the points before any roots are produced. A compost made up of equal parts of loam and leaf-mould with a liberal dash of sand suits this Isoloma and its numerous allies. Though the specific name of hirsutum is in common use in gardens and in many works of reference, it is, according to the late Col. R. Beddome, in *Gesneraceae, Annotated List of Genera and Species*, published a few years ago in the *Journal* of the Royal Horticultural Society, not the true hirsutum of Humboldt and Bonpland, but really I. erianthum.

PAVETTA CAFFRA.

This is a very pretty, freely-flowering greenhouse shrub, introduced from South Africa about 90 years ago. Though seldom seen, it is well worth employment for the decoration of the greenhouse or conservatory. It forms a freely-branched bush, clothed with smooth obovate leaves, while the flowers, which are borne in compact, rounded, terminal heads, are white, with long, prominent anthers. The usual season of blooming is during the summer months, and extends over a considerable time. The plant is not at all difficult to cultivate, and succeeds in an ordinary greenhouse during the summer. In winter it should be given a minimum temperature of 50°. A mixture of loam, peat, and sand will suit it well. Though now a little-known plant it was formerly grown fairly frequently in the form of large specimens. In the *Floricultural Cabinet* for 1845, in a description of the summer show at Chiswick, mention is made of a specimen of P. caffra, shown by Mr. Robertson, gardener to Mrs. Lawrence, of Ealing Park. The specimen referred to was 8 feet high and 4 feet in diameter. These ancient specimens must have demanded a good deal of attention and trouble. *W. T.*

NEWLANDS, HARROW ON THE HILL.

Sir Arthur Fenton Hort's charming garden at Newlands, situated on a sunny slope of the hill, is very interesting to the lover of rare hardy plants. A friend of the late Sir Michael Foster, and sharing with him the love for Irises and the interesting pursuit of crossing the different species, Sir Arthur has of late years brought together a remarkable and beautiful collection of Irises, which in the springtime furnish a most varied and delightful spectacle. The genus being widely distributed and the different species requiring different conditions, it is only in the garden of an enthusiast who studies each of his subjects that a general collection is to be found in a thriving condition. In his efforts to get the best results, Sir Arthur Hort is materially aided by his knowledge of the conditions in which many of the species grow in their native habitats, and some of the most beautiful Irises and other Alpine plants in the garden have been collected wild by Sir Arthur and Lady Hort. Earlier in the year there was a fine show of Oncocyclus Irises, together with some charming hybrids; large clumps of the germanica section produced a wealth of showy flowers; I. juncea and its allies; I. Albertii, introduced to England by the late Sir Michael Foster, and some promising hybrids; I. ensata, I. kashmiriana, I. Hookeri, I. longipetala, I. balkana, I. Leichtlinii and variety vaga, I. Korolkowii, and scores of other species and pretty hybrids have continued an interesting show of flowers. The garden has spacious borders for the stronger-growing hardy perennials, with beds of flowering shrubs, rockeries arranged to suit the requirements of the plants, and lately a moraine has been arranged which promises to be a great success.

Earlier in the year the Tulips made a fine show, some of the species, such as T. Sprengeri, seeding freely and coming up in patches between the clumps of Iris.

The old walled-in garden is mainly devoted to the Irises, every section being well represented, and hybrids of some of the most important arranged with the species. Several new crosses have flowered for the first time this year. A huge mass of a large form of I. ochroleuca, which had a dozen or so heads of bloom all open at the same time, was a charming object.

The soil of the district is clay, hence the advantages of the rock and moraine garden, which provide nooks with suitable aspects. On the occasion of a visit, Rosa indica ochroleuca, growing against a wall, was well furnished with its large, salver-shaped blooms, the bright-scarlet Pentstemon cordifolius was blooming freely, and other interesting wall shrubs were noted.

On the terrace, with many lesser beauties, was a fine specimen of Lactuca Bourgaei, with large heads of stellate, pale-blue flowers.

In the rockery and moraine the most striking objects were the large collection of species of Saxifraga of the S. Aizoon and S. longifolia class, many of which, from small scraps, have now become dense tufts. Gentians, also collected wild, brought experience, for those planted in the grassy tufts as collected soon got smothered by the grasses, while those from which the grasses had been removed became strong tufts. One of the arts in growing G. verna, G. acaulis, and others of the class, is to keep them firm in the soil and to sprinkle a little gritty soil among the growths when they tend to run up. G. septemfida was well in bloom.

The Alpine Pinks have made a fine show, and were still blooming in great masses; a charming set of dwarf Campanulas gave a profusion of flowers; C. carpatica (white and blue), a fine form of C. rotundifolia collected in the Pyrenees, and others of the C. pulla class being specially bright, while in a sheltered nook a patch of Platycodon grandiflorum Mariesii gave bright-blue colour. All the hardy Primulas thrive well; P. Auricula, P. rosea, P. Cockburniana, P. japonica, and P. farinosa have all bloomed unusually well. On one side of the rock-gardens is an interesting collection of varieties of Iris Pseudacorus, a common species which is not supposed to vary much, but specimens of which here show the most extraordinary dissimilarity in the width of the leaves and in the size and colour of the flowers. Among a large number of very interesting plants noted as being unusually well represented were Meconopsis Wallichii, with 6-foot stems of blue flowers; Geranium pratense flore pleno; G. Robertianum alba, studded with white blooms; Œnothera Nuttallii, with its pretty flowers nestling among its Fern-like foliage, Catananche caerulea alba, a mass of white flowers; some showy Potentillas and scarlet Geums; a collection of Cistus, a batch of Cyclamen europæum in bloom; Veronica salicifolia, a bush with narrow, green leaves and slender sprays of white flowers; patches of blue Sisyrinchium Bermudiana, and S. chilense; fragrant cushions of the different rock Thymes, Silenes, and Androsaces; the bush Convolvulus Cneorum; and innumerable other floral treasures.

THE ROSARY.

ROSES IN SOUTHERN SCOTLAND.

In previous contributions I have occasionally endeavoured to emphasise the value of many of our older Roses—especially at this season—such as La France, Caroline Testout, Capt. Hayward, Clio, Viscountess Folkestone, and Margaret Dickson. They are for the most part distinguished by vigorous growth, floral reliability, and freedom in flowering. Some of the newer varieties, which, when they appeared, were greatly overrated, by reason probably of their brilliant colouring, have not since given evidence, after adequate culture, of possessing the essential attributes to which I have referred. There are, nevertheless, among comparatively recent introductions, some notable exceptions; these include Pharisaer, General McArthur, Viscount Carlow, and Florence Haswell Veitch. Pharisaër is a very desirable variety, and even in the month of September its flowers are often very beautiful. No sooner are its first blooms over than its beautiful chocolate-coloured shoots appear for the approaching autumnal bloom. As much may be said of a Rose of radiant colour and wondrous floriferousness, General McArthur, to whose great merits I was attracted last autumn by a eulogium by *White Rose* in the *Gardeners' Chronicle*, which, as I have since discovered, did not over-estimate the importance of this Rose. Florence Haswell Veitch, though not quite so full in the centre as its predecessor Salamander, is an extremely beautiful and trustworthy Rose. Among Irish Roses of this colour that have achieved great distinction, my favourites are Hugh Dickson, Lady Helen Stewart, and the radiant Leslie Holland, which, for intense colour, fine form, and exquisite fragrance, could not easily be excelled.

Noisette Roses do not, as a general rule, succeed well in the south-west of Scotland. I have tried both Cloth of Gold and Maréchal Niel in my garden without success; their constitution is much too delicate and exacting for our climate and in this region they require conservatory cultivation. Some years ago there was a splendid specimen of the lovely Maréchal Niel at Chapel Rossan, the residence of Mr. David A. McClew, factor on the Logan Estates, which in one memorable season had several hundred glorious flowers, but it was grown under glass. Lamarque, I have found, is much more satisfactory, and has been grown here very successfully for many years on a sheltered south wall. Very reliable also are Aimée Vibert, Rêve d'Or, Bouquet d'Or, L'Idéal, Mme. Pierre Cochet, and William Allen Richardson. Among Tea Roses the most effective this season have been the White Maman Cochet, a large and exquisitely-tinted Rose, though somewhat sparing of its beautiful flowers; Lady Roberts, which may be similarly described; Anna Olivier, almost equally beautiful, and much more floriferous, and Comtesse de Nadaillac, extremely effective, but difficult of culture, unless the weather be exceptionally fine.

No Roses are more valuable, especially at this season, than the Hybrid Teas. It is hardly too much to say that they have, to a great extent, superseded the so-called Hybrid Perpetuals, by reason chiefly of their marvellous flowering facility, their splendid dimensions and attractive fragrance; qualities strikingly exemplified in such varieties as Viscountess Folkestone, Caroline Testout, Clara Watson, and the incomparable La France. The latest acquisition is a white Caroline Testout, recently introduced by Messrs. Dobbie and Co., which, though not so commanding in aspect as its parent, is nevertheless a beautiful and fascinating Rose. The chief glories of our gardens at the present period are the Wichuraianas, of which some of the loveliest and most luxuriant are Hiawatha, Christian Curle (pale salmon-pink in colour), Dorothy Perkins, the White Dorothy Perkins, and the graceful Lady Gay. *David R. Williamson, Manse of Kirkmaiden, Wigtownshire.*

HYBRID WICHURAIANA ROSE MINNEHAHA.

In the Dorothy Perkins shade of colour I know of no Rose amongst the Hybrid Wichuraianas that stands better, and flowers in greater profusion, in cold and exposed situations, than Minnehaha. It thrives and blossoms in positions where neither Dorothy Perkins nor Lady Gay are capable of giving a good account of themselves. In the National Rose Society's *Annual* for 1911, this Rose is described as a sport from Dorothy Perkins. It is fairly obvious that this cannot be the case, as the wood and foliage are distinct from the reputed parent, and the characters of the two Roses are altogether different. I have made some enquiries regarding the parentage of Minnehaha, and find that it was distributed by Walsh, the raiser, as a Hybrid between R. Wichuraiana and the Hybrid Perpetual Paul Neyron. There is strong evidence in the general character of this Rose of such a parentage, and the strong, broad foliage is altogether different from that of Dorothy Perkins. I am quite aware that Hybrid Perpetual blood is reputed to be present in Dorothy Perkins, for Mme. Gabriel Luizet has been credited as the pollen parent, but on this point there does not appear to be any satisfactory evidence. Minnehaha is a very vigorous grower, and is earlier in flowering than Dorothy Perkins. There is little, if any, difference between the colours of the two Roses, but, on the whole, I think Dorothy Perkins is the brighter of the two. Minnehaha, however, is the better variety where a Rose is required for an unsheltered position, either upon an arch or grown as a hedge. In a very cold, open aspect in Midlothian, this Rose never fails, and is decidedly more attractive than Dorothy Perkins upon an adjoining pillar. *George M. Taylor, Midlothian.*

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 66-71.)

(Continued from p. 140.)

4, MIDLAND COUNTIES.

Oxfordshire.—Apples are a poor crop, but Gooseberries, Raspberries and Currants were fine and plentiful. Pears, Plums and Peaches are disappointing. Strawberries, owing to the extreme dryness of last year, were only half a crop, but the fruits we have are very fine. The soil here is a light loam, on gravel and chalk. *J. A. Hall, Shiplake Court Gardens, Henley-on-Thames.*

—— The hot, dry summer of last year was very favourable for the formation of fruit buds, and the result was an abundance of bloom on all kinds of fruit trees—especially Plums and Pears—but the cold winds and frosts damaged the blossom. The dry spring was also harmful, especially to stone fruits. A heavy crop of Strawberries could not be expected when it is remembered that the plants were dried up last July and August; but the quality was good. The Raspberry crop is very good and prices are high. Gooseberries and Currants also are good and clean. The Apple crop is variable; occasionally one sees a tree well cropped, but usually fruits are few or nil. *A. J. Long, Wyfold Court Gardens.*

—— All kinds of fruit trees bloomed freely, but were badly damaged by the spring frosts, except those that were protected. Morello Cherries, on a north wall, were not in flower, and so escaped the frost. The first blooms on the Strawberries were all killed before opening, and owing to heavy rains many of the Strawberry fruits rotted. The soil here is a light loam. *C. E. Munday, Nuneham Park Gardens.*

—— We have a very heavy clay soil, and the drought of last year was very detrimental to the Strawberry plants, but the buds of fruit trees ripened well. Apple trees promised to give good crops, but many failed to set their flowers. Pears are not a heavy crop owing to the ravages of the Pear midge (Diplosis pyrivora), which pest destroyed quite three-quarters of the fruits. The winter wash (alkali) does not seem to prevent the fly from attacking the fruit. Plums are almost a failure, and, owing to the continuous wet weather, the trees are forming large shoots, which will not ripen, and will result in next season's crop being small. Cherries cracked very badly; this also was due to the wet weather. The trees of Peaches and Nectarines are also making more growth than usual; these fruits are good, as also are Apricots. Gooseberries, Raspberries and Loganberries are very heavy crops. Currants of all kinds are not so good, and Strawberries proved the most disappointing crop of all. *F. W. Pearce, Eynsham Hall Gardens, Witney.*

—— With the exception of Pears, the orchard trees, which carried good crops last year, are disappointing. There was a splendid show of bloom and plenty of fruit set, but it dropped later. The soil here is of a very sandy nature. *T. W. Whiting, Shotover Park, Wheatley.*

Shropshire.—On April 1 we registered 6° of frost, followed by dry, cold winds. On April 6 there was a little frost, and on the 8th 2° of frost. These periods of cold were followed on the 10th by storms of hail and rain. On April 11 the thermometer registered 6° of frost after rain, and on the 12th 8° of frost. Many fruit trees were in full bloom during those 12 days, and, excepting those on walls or such as were sheltered from winds, they suffered severely. Later blossoms gave a small crop on many trees, whilst others are almost fruitless. As usual, there are exceptions; the varieties Bismarck, Ecklinville Seedling, and Duchess of Oldenburgh are laden with good fruit. In one orchard there are no Damsons, whilst in gardens two miles away trees are bearing an immense crop. The soil is a fairly heavy, clayey loam. *Alex. Haggart, Moor Park, Ludlow.*

—— Pears are the best crop of the season. Damsons are good in some districts, but very scarce in others. The crop of Apples is disappointing after the great promise in the spring. Young trees planted about 18 months ago set fruits so heavily that it was necessary to thin them severely, but the ground around them was hoed regularly during the dry weather of 1911. The poor crop of Apples this year may be attributed to dryness at the roots. Apples and Plums have suffered from attacks of aphis, and autumn spraying will be necessary as soon as the crops are gathered. The soil is a stiff loam and better suited to Apples and Plums than to Pears, and Black Currants, Raspberries and Strawberries thrive better than Gooseberries and Red Currants. *G. T. Malthouse, Harper-Adams Agricultural College, Newport.*

—— Apples are scarce generally in this neighbourhood; the trees bloomed well, but the flowers did not set. The trees which are carrying good crops are those that did not bear well last year. It is many years since I saw standard and bush Pears so heavily fruited. A remarkable crop of Damsons is reported throughout this locality. Strawberries were a complete failure owing to the effects of the drought last year. Insect pests have been very troublesome; we have used different insecticides, some of which have done more harm than the insects. *J. Taylor, Hardwicke Grange, near Shrewsbury.*

Staffordshire.—The fruit crops are, on the whole, below the average. Apples are only a moderate crop, and Pears are scarce. The Strawberry crop has been very good; the berries were large and of good quality. Small fruits, such as Gooseberries, Currants, Raspberries and Morello Cherries, are satisfactory and of good quality. The soil here is of a light nature, and the subsoil is gravelly. *E. Gilman, Ingestre Gardens, Stafford.*

——Of Apples, Cox's Orange Pippin, growing on medium loam, is a failure this year. King of the Pippins is bearing moderate crops. The varieties Newton Wonder and Bramley's Seedling fruited magnificently last year, but are bearing no fruits this season. Allington Pippin, James Grieve, and Warner's King are very good. Lane's Prince Albert and Blenheim Pippin are both poor crops, whilst Ecklinville Seedling is a moderate crop. Gooseberries were plentiful but poor in quality, and were a failure in many gardens. Of Pears, Doyenné du Comice is very good, but there are only moderate crops of Pitmaston Duchess and Williams's Bon Chrétien. The crops in the county experimental fruit plot are practically a failure. Most varieties of Apples and Pears flowered splendidly, but many varieties failed to set fruit, and in other instances the fruits dropped after setting. The soil is of a gravelly nature. *J. Stoney, Horticultural Instructor, Staffordshire County Council.*

Warwickshire.—The continued wet, cold weather just after the fruit had set was very unfavourable to Apples; the swelling of the fruits was delayed, and, in consequence, many dropped. The crop was further thinned by the sawfly grub, and in some districts by leaf-curling aphides. The prospects are therefore not so good as earlier in the season. As a rule, the only varieties of Plums cropping well are Magnum Bonum and Pershore, but in the Bidford-on-Avon district the Plum crop is in many instances a heavy one, including the varieties Victoria and Early Prolific. Black and Red Currants and Raspberries are in splendid condition. *H. Dunkin, Warwick.*

—— The fruit crops generally in this locality are very disappointing, especially those of Apples, Pears, and Plums, but Damsons are a heavy crop, and bush fruits are good. Strawberries were an average crop, but owing to the wet, sunless weather the fruits rotted. Our soil is light and sandy, with a gravelly subsoil. The gardens are situated 150 feet above sea level. *Chas. Harding, Ragley Hall Gardens, Alcester.*

——The fruit crop generally promised well. The Apple crop is not nearly so heavy as last year, but it appears to be much earlier. Pears are very plentiful, being the heaviest crop in this district for some years. Plums and Apricots flowered freely, but were spoilt by frost and east winds. Strawberries were good in quality, but the quantity was much under the average. Small fruits are plentiful, and very good in quality, especially Black Currants and Gooseberries. *H. F. Smale, Warwick Castle Gardens.*

5, SOUTHERN COUNTIES.

Berkshire.—Pears here being grown chiefly on walls escaped the frost, but standard Apples suffered greatly. Ten degrees of frost, just as the trees were in full bloom, damaged large numbers. The sweet Cherries suffered from the same cause, but Morello Cherries on north walls are very good. I had scarcely a Black Currant; this crop being destroyed in the same way. Red Currants, Raspberries and Loganberries are very good. Figs outside, on a south wall, are fruiting well. Our soil is a mixture of gravel and clay. With the aid of farmyard manure we usually have an abundance of fruits of the finest quality. *F. Capp, Charters, Ascot.*

—— The fruit crops generally vary in the immediate neighbourhood, but although there are a few exceptions, Apples are very much below the average. In these gardens they are very deficient, even Lane's Prince Albert (a dependable variety) is almost a failure. Most kinds of stone fruits promise well. Bush fruits are good crops, although Black Currants dropped freely. Raspberries are a good crop, but Strawberries were much below the average, and owing to the unsettled weather many rotted before they came to maturity. Walnuts are very scarce with me, but Cobnuts and Filberts are both fair crops. *J. Howard, Benham Valence, Newbury.*

—— The fruit crops generally are fairly good. Apples are not a heavy crop, but the quality is good. This also applies to Strawberries; the earliest blooms here were destroyed by the frost. Pears are a good, clean crop, especially the variety Doyenné du Comice on cordon trees. Peaches and Nectarines are rather thin but good; all bush fruits, including Raspberries, are good and clean. The soil here is light on a clay subsoil. *A. B. Wadds, Englefield Gardens, Reading.*

Dorsetshire.—Apple trees which failed to crop last season are heavily laden, whereas those which fruited well are carrying few fruits. As cider orchards generally were heavily cropped last season, the crop is now a partial failure. The Pears are in every respect better than last season; and this applies more particularly to such varieties as Doyenné du Comice, Thompson, Marie Louise, Glou Morceau, and Josephine de Malines. Of Plums, the varieties Victoria, Early Prolific and Czar are heavily cropped, but the choicer dessert kinds are not so good. Sweet Cherries are an enormous crop, but Morellos are under the average. Peaches, Nectarines and Apricots are disappointing after the fine autumn of 1911. Of small fruits, Gooseberries are an enormous crop, as also are Red Currants. Raspberries are the best crop that I can remember. This I attribute to the continuous rains. Young plantations of Strawberries were the greatest failure I have known. The hot, dry weather at planting time last season prevented the plants making satisfactory growth, with the result that they lacked sufficient foliage to protect the bloom from the severe frosts in April. Nuts of all kinds are abundant. *T. Turton, Castle Gardens, Sherborne.*

—— Apples of such sorts as Beauty of Bath, Belle de Pontoise, Coronation, Duke of Devonshire, James Grieve, Keswick Codling, Houblon, Irish Peach, Lady Henniker, Lord Derby, Peasgood's Nonesuch, Ribston Pippin, Rival, and Striped Beefing are very good. Pears are mostly a heavy crop, the varieties Beurré Alexandre Lucas, Beurré Diel, Catillac, Le Lectier, Fondante de Thirriot, Glou Morceau, Marie Louise, Madame Treyve, and Williams's Bon Chrétien are all bearing well. Plums of the culinary sorts are a very heavy crop; such varieties as Orleans, Pond's Seedling, The Czar, and Victoria are very plentiful; and there is a fair crop of Belgian Purple, which hardly ever fails. The variety Golden Drop and the Gages are not so plentiful. Damsons are an enormous crop. Both Sweet and Morello Cherries are heavy crops. Gooseberries bear exceptional crops; Currants are very fair, Black Currants being especially fine. Strawberries, owing to the drought last season and to the frosts when the plants were in flower, have been a light crop, fair in quality, but soon over. *Thos. Denny, Down House Gardens, Blandford.*

—— Black Currants are nearly a failure, but Red and White Currants are plentiful, and Gooseberries and Raspberries very plentiful. The Apple blossom made a splendid show, but the fruits set badly, and many have dropped since. This is, I believe, due to the extraordinary weather experienced in April and in early May, when hot sunshine and east winds in the daytime were followed by frost at night. Pears promise well, as also do Figs. The Pears are on walls. This garden slopes sharply to the south-east. The soil is rather shallow, with subsoil of chalk and flints. *J. Jaques, Bryanston Gardens, Blandford.*

—— The fruit crops are very uneven. In a few cases good all-round crops, with the exception of Strawberries, which were a failure generally, are seen. Apples flowered splendidly, but in most cases the greater number of the blooms either did not set or fell shortly after setting. This is, I think, attributable to exhaustion, the result of general overcropping and the climatic conditions of 1911. In most districts the weather was favourable at blooming time, but in a few cases the flowers of Pears and Plums were badly frozen. Gooseberries are a very heavy crop, and Raspberries and Currants are well above the average. In those few gardens where thinning was practised during 1911, the top fruit is a good crop, and where labour conditions allowed effective watering, the Strawberries were fairly satisfactory, although lighter than usual. *E. C. Parslow, Dorchester.*

—— There are many complaints of a shortage in the Strawberry crop, due, no doubt, to the drought of last summer. Our best results have been obtained from young plants, which were well looked after, the variety Louis Gauthier ex[illegible] Gooseberries have been plentiful, also Raspberries. Currants have been much infested with aphides, owing, no doubt, to drought and cold weather in the early part of the season. Apples looked splendid when in blossom, but the trees have not all set fruits freely. There was an abundance of Pear blossom, but we experienced from 5° to 8° of frost on several occasions when the flowers were fully out; still, many Pear trees look well. Plums seem to be our lightest crop. Peaches and Nectarines are not grown out-of-doors here. Our soil is fairly light in texture and on friable clay. *A. Shakelton, Forde Abbey Gardens, Chard.*

Hampshire.—Strawberries suffered from the effect of last season's drought, and have been a light crop; the quality was good. Royal Sovereign and Sir Joseph Paxton are still the best sorts, although the latter does not succeed so well as formerly. Plums are variable. In some plantations the crop is a very heavy one; in others there is a deficiency. Apples also are variable; the trees suffered much from infestation of aphis. The best crops are on trees of Lord Grosvenor, Worcester Pearmain, Warner's King, Bramley's Seedling, Golden Spire, Allington Pippin, and Ben's Red. Black Currants (Boskoop Giant) have borne extra heavy crops of fine fruit. Red Currants and Gooseberries are also very satisfactory. The soil in this neighbourhood is very variable, being heavy, light and chalky in different places. *E. Molyneux, Swanmore Park Farm, Bishop's Waltham.*

—— The Apple crop generally is, after such fine promise at the blooming season, somewhat disappointing. We have a good average crop of Apples, but more particularly of the earlier and more regular-bearing varieties, such as Ecklinville Seedling, Stirling Castle, and Lord Derby. The trees are very clean and healthy, and growing strongly. Pears are a full average crop of good, clean fruits, as also are Plums. Apricots are a failure. Peaches and Nectarines are not grown outside. Small fruits were good, especially Gooseberries and Raspberries. Strawberries were the worst crop I have known during the twelve years I have been here. This may be attributed in part to the drought of last season. which very much enfeebled the plants, and to the frost during the blossoming period. Our soil is of a clayey nature, resting on London clay. *H. G. Nichols, Strathfieldsaye Gardens, Mortimer, R.S.O.*

—— The Apple and Strawberry crops were badly damaged by severe frosts during April. Small fruits are abundant crops, with the exception of Raspberries, which suffered through drought in April and May. The soil is gravelly, resting on clay. *R. Learmonth, Sherfield, Basingstoke.*

—— Our general fruit crops are especially good. Pears are a splendid crop and of good quality. Apples are fairly plentiful, but the fruits of many sorts are of inferior quality. Plums are an average crop; much of the early blossom was spoiled by frost in April. Strawberries were a good crop, but the rains damaged the berries considerably. All small fruit crops are abundant and of excellent quality. The soil is light and sandy with a subsoil of sand and gravel. *A. Legge, Dogmersfield Park Gardens, Winchfield.*

—— Apples are on the whole below an average quantity, but Pears are very plentiful. Loganberries, Raspberries, and Gooseberries were all very good, whilst Filberts and Cobnuts are both heavy crops. Figs are the heaviest crop we have had for many years past. *Henry Martin, Bartley Lodge Gardens, Cadnam, Southampton.*

—— The Apple crop varies considerably; in some districts the fruit is very plentiful, whilst in others the crop is almost a failure. Plums, Peaches, and Nectarines flowered well, but, as usual, far too early to ensure a good crop. Cherries, with the exception of Morellos, have not done well this season. Apricots never do well out-of-doors in the Isle of Wight, and are not planted in quantity. Owing to the long spell of drought last summer the crowns of Strawberries did not develop sufficiently to produce a good crop this season. Gooseberries have done exceedingly well on gravelly soils; the heavy rainfall during June assisted the crops to develop far above the average in size. Raspberries and Loganberries also have done splendidly. Pears in many instances have had to be very severely thinned. *Charles Martin, County Council Gardens, Newport.*

—— Nearly all varieties of Apples flowered well, but only the early sorts set a crop. This applies to the varieties Ecklinville Seedling, Stirling Castle, Lord Grosvenor, The Queen, Mr. Gladstone, Irish Peach, Worcester Pearmain, James Grieve, and a few young trees of Cox's Orange Pippin that carried a thin crop last year. Late sorts, such as Newton Wonder, Bramley's Seedling, and Annie Elizabeth, are a complete failure. Plums, Pears, and Cherries on walls are full crops, as also are bush fruits and nuts. With regard to Strawberries, Royal Sovereign gave only one-third a usual crop; 10° of frost at the end of April blackened all flowers that were open and a quantity of the most forward buds. Givon's Late Prolific, Utility, and Laxton's Latest gave full crops. Laxton's Latest, which is at its best about the middle of July, does well in our garden, which has a rather retentive soil overlaying clay and flint. *A. W. Blake, Castle Gardens, Highclere.*

(To be continued.)

THE MARKET FRUIT GARDEN.

Fruit Crops in Kent.

A drive through a large fruit district in Kent, and visits to some fruit farms, have confirmed the impressions as to the fruit crops described in my recent notes. Cherries not gathered were thick on the trees, but long rows of Plum and Apple trees, practically destitute of fruit, were passed repeatedly in the course of the journey, while here and there a good crop was to be seen. In the excellent orchards thoroughly inspected it was found that, as in my own, crops of early Apples were good, and those of late varieties very thin or non-existent. Some fine crops of Early Julyan, Domino, Lord Grosvenor, and early dessert varieties were seen, while very little fruit was found on Lane's Prince Albert, Bramley's Seedling, Newton Wonder, and other late sorts. In one orchard there were hundreds of very fine trees of the variety last named quite bare of fruit. Worcester Pearmain was bearing freely wherever it was seen, but was sadly attacked by the aphis in some cases. Warner's King, Lord Derby, and Queen, which may be termed mid-season varieties, were fruiting fairly in some instances, and only moderately in others. A somewhat striking exception to the shortness of fruit on late varieties was noticed in the case of the Royal Jubilee, the latest of all Apples to develop foliage and blossom. In two orchards excellent crops were found on it, as there are in my own plantations. The explanation probably is that rain came in abundance just before Royal Jubilee was off blossom, whereas other late varieties suffered from the full severity of the spring drought when their blossom was setting. The Plum crop as a whole was found to be miserably light, great numbers of trees of Early Prolific, Victoria, and Black Diamond being quite destitute of fruit, while the crops on Monarch and President were generally very thin. Czar was the only variety found to be fruiting well on the whole, though some exceptions to the shortness of Victoria and Monarch crops were noticed. Damsons were fairly covered with fruit, and so were Pears. The few Black Currants seen bore very light crops. Strawberries had proved short, and the few Raspberries seen were only moderate. Nuts were promising. *Southern Grower.*

THE EUGENIAS OF SOUTH AFRICA.

(Continued from p. 128.)

2. E. GERRARDII, Sim, *Forests and Forest Flora of Cape Colony*, 226, 1907.

A spreading, densely-leafy tree, about 15 m. high, with a whitish trunk about 1.2 m. in circumference; third year's branchlets subterete, greyish, scaly-barked, the ultimate branchlets short, conspicuously angular or obsoletely winged, brownish, glabrous and densely leafy. Leaves opposite, shortly petiolate, ascending or spreading, elliptic, ovate or rarely obovate, acuminate-cuspidate, with the cusp either obtuse or acute and often recurved, tapering from the middle and ending somewhat abruptly into the grooved petiole, which is 5 to 10 times as short as the blade, 3½ to 5 cm. long, 1½ to 2½ cm. broad, coriaceous, minutely puberulous at first, subsequently glabrous, dark green and shining above with a sunken midrib, paler and dull green on the lower surface, with the midrib prominent; lateral veins parallel, close, more conspicuous on the lower surface and interspersed with inconspicuous dark glands; margin slightly undulate and recurved, but scarcely thickened. Flowers numerous, white, subsessile, crowded in 3 to 10 flowered heads, which are disposed in a trichotomously-branched panicled cyme scarcely exceeding the upper leaves, 2.5-7.5 cm. through; axis compressedly four-angled or obsoletely winged, glabrous, dark brown. Receptacle depressedly turbinate, glabrous, with the sepals rounded, erect or repand. Petals glandular about the middle, unitedly calyptriform, falling off at the expansion of the stamens. Stamens numerous, 1 to 6 mm. long. Style stout, erect, subulate, exceeding the stamens; stigma minute. Immature fruit not unlike the hip of a Dog Rose, 12 to 13 mm. long.

Wood in *Trans.* Phil. Soc. S. Africa, XVIII, ii, 1908, 157. Acmena Gerrardii, Harvey. *Gen. S.A. Plants*, 112, 1868. Sim in *Cape of Good Hope Agricultural Journal*, XVI, 41, 1900. Burtt-Davy in *Transvaal Agricultural Journal*, V, 1906-07, 429.

Eastern Region.—Natal. Gerrard and M'Ken, 1571. Gerrard, 1571. Inanda, Wood, 1205. Zululand, Gerrard, 1571. Entumeni, Wood, 3965?

Kalahari Region.—Transvaal. Forbes's Reef Bush, Burtt-Davy, 2758.

Swaziland, Devil's Bridge, 1350 m. Galpin, 1338.

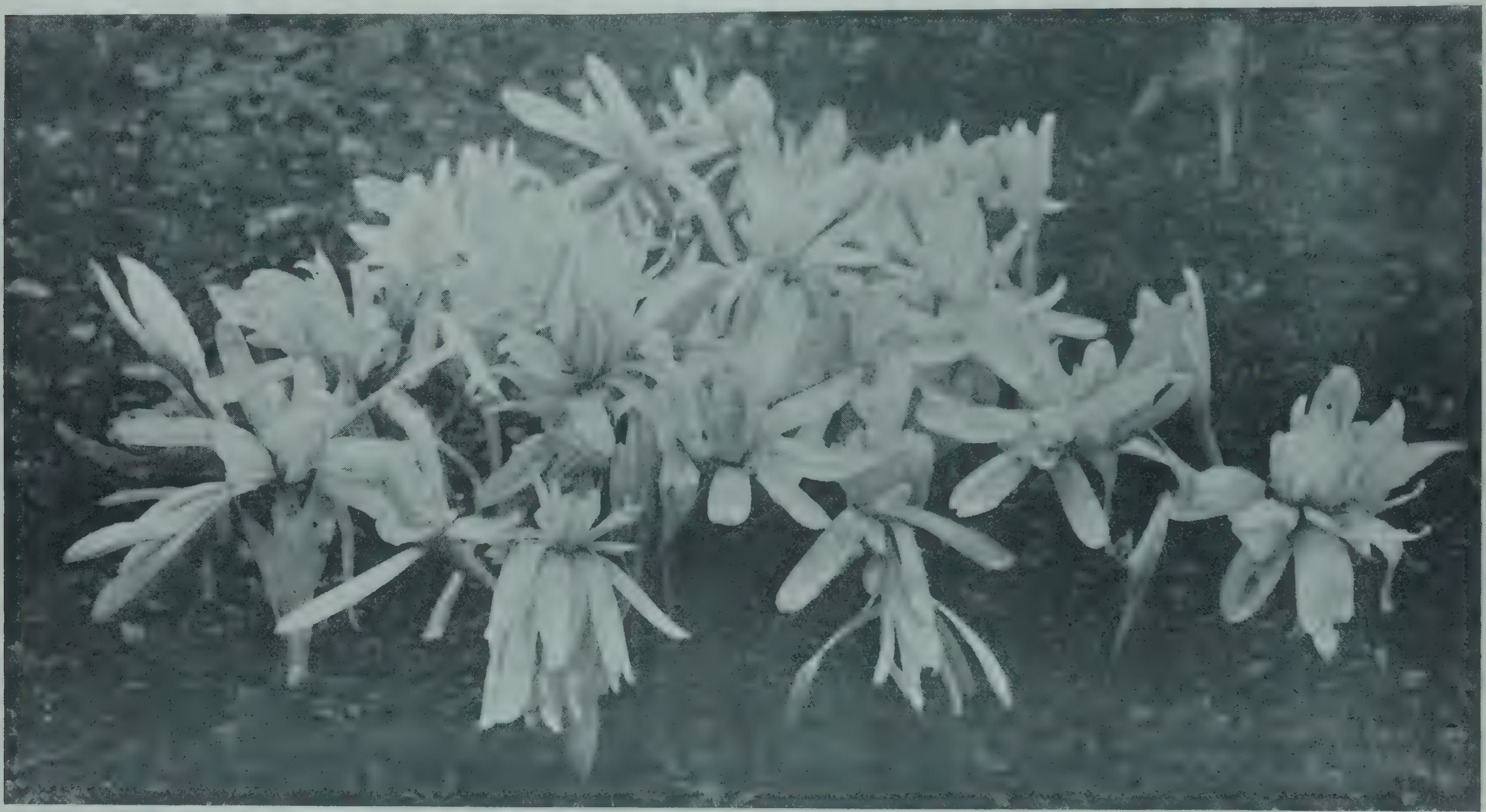


FIG. 70.—COLCHICUM AUTUMNALE: DOUBLE WHITE VARIETY.
(See p. 153.)

This species, like E. Zeyheri, Harvey, flowers in January, and occurs in the wooded ravines in the localities cited, and according to Sim is not uncommon in the Egossa Forest in Eastern Pondoland and the Drakensberg, Natal, where its white trunks (not unlike the Cape Holly, Ilex capensis, whence the name Forest "Waterwood" is doubtless derived) form a conspicuous feature of the landscape. To the Kaffirs it is known as Umjom and Umjomi-bomva. Its timber is reputed to be similar to that of Eugenia cordata, Lawson. The fruits are purplish when ripe, and have a sweet flavour, but are not eaten by birds or baboons.

3. E. FOURCADEI, Dümmer, sp. nova, ab E. Gerrardii, Sim, foliis longioribus late lanceolatis acuminatis aut cuspidato-acuminatis nervis lateralibus distantioribus, inflorescentiis gracilioribus distinguitur.

An evergreen, glabrous, small (?) tree or shrub; third year's branchlets terete, ashy-grey, rough, and scaly-barked, marked with conspicuous oval-crescentic leaf-scars; twigs flattened, sub quadrangular, obsoletely winged, dark grey. Leaves opposite, ascending, spreading, coriaceous, with a deeply-grooved, stout petiole about 5 mm. long; blade broadly lanceolate, acuminate-cuspidate, with an obtuse cusp, narrowing from below the middle into the petiole, 6 to 10 cm. long, 1.5 to 3.5 cm. broad, dark green, and shiny on the upper surface, with a sunken midrib, paler dull green and obsoletely glandular below, with the midrib correspondingly raised and the principal lateral veins 3.5 to 4 mm. distant; margin slightly undulate and recurved. Flowers white or cream-coloured, subsessile, invariably in threes, disposed in terminal trichotomously-branched, cymose, depressed panicles, usually 3 to 5 cm. in diameter, ordinary leaves subtending the lowest branches of the inflorescence, smaller and deciduous bracts; the axis, like the branchlets, flattened and sub-quadrangular, but more slender. Receptacle obconic, rugulose and inconspicuously glandular, 5 mm. long. Sepals broadly triangular and thickish, scarcely exceeding 1 mm. Corolla calyptrate dotted with large, dark glands, falling off at the expansion of the stamens, the latter about 30 to 35 in number, 8 to 10 mm. long, with rounded filaments and yellow, ellipsoid anthers. Style erect, filiform, nearly equalling the stamens in length. Fruit unknown.

Natal and Zululand. Without precise locality, Gerrard in Kew Herbarium and British Museum, 1641.

A species exhibiting affinities to the preceding but differing from the latter in the longer, broadly-lanceolate leaves, with acuminate or cuspidate-acuminate apices. The principal lateral nerves, which are 2 to 3 mm. apart in E. Gerrardii, are more distant in this species, usually 3.5 to 4 mm. I have pleasure in associating this species with the name of Mr. H. G. Fourcade, who has added considerably to our knowledge of the Natal forests.

Specimens of a closely-allied and undescribed species, hailing from Natal, Zululand and the Transvaal, with dark, chestnut-brown twigs, relatively shorter and broader leaves (5 to 8 cm. long, 2 to 3 cm. broad), and more spreading panicle, are to hand at Kew, but, owing to the abortion of the flowers, due in each case to fungous or insect attack, the status of this plant must remain doubtful until more complete material is received.

4. E. ZULUENSIS, Dümmer, sp. nova., E. natalitia, Sonder, affinis sed foliis costa utrinque prominente (haud superne impresso-costatis), floribus paucioribus breviter pedicellatis, petalis eglandulosis, fructibus majusculis distinguenda.

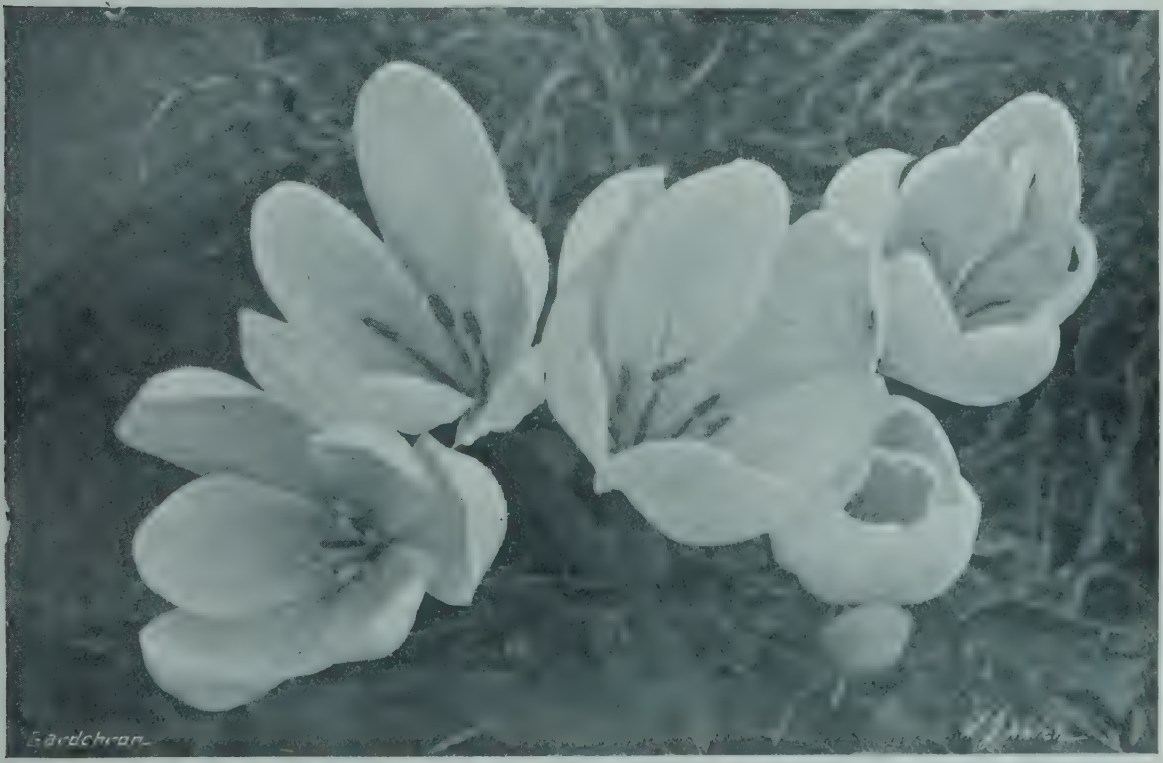
A divaricately-branched and densely-leafy glabrous shrub or tree, with opposite or whorled, ascending or spreading branches, which are terete and ashy-grey, the bark exfoliating in small, thin scales; twigs short, compressed, angulate, brownish. Leaves opposite, ascending and subimbricate, elliptic, narrowing abruptly from the middle into a very short grooved petiole, obtusely cuspidate, 2.5 to 3 cm. long, 1 to 1.5 cm. broad, subcóriaceous, green and scarcely shining above, paler below, with the midrib conspicuously elevated on both sides, the lateral nerves scarcely prominent; margin slightly undulated and recurved. Flowers axillary, few, white, invariably solitary (rarely in pairs); pedicels 2 to 3 cm. long and with the bracteoles two, triangular, shorter than the receptacle and appressed to it. Calyx cruciate; sepals concave, ovate, eglandular, ciliolate. Petals spreading, ovate to oblong, 3 mm. long, twice as long as the sepals and like them, without glands, ciliolate. Stamens 8 to 10. Style erect, stout, slightly exceeding the stamens. Fruit globose, purplish, tolerably fleshy, 1.5 c.m. in diameter; stone large, globose, brownish.

E. natalitia, Wood in *Trans.* Phil. Soc. XVIII, ii, 157, 1908 (in part).

Eastern Region.—Zululand, Qudeni Forest, 1800 m. Davies 95. Ex Herb., M. Wood and Kew, 9022, 8275.

Allied to, and with the facies of E. natalitia, Sond., but differentiated by the leaves, which have an elevated midrib on both surfaces, fewer flowers borne on shorter pedicels, eglandular petals, and relatively larger fruits, which appear to be of a more fleshy consistency. The species was collected by Mr. G. H. Davies in the Qudeni Forest in Zululand at elevations of 1,800 metres, but, unfortunately, no information accompanies the specimen as to the approximate height of the species or its value in forestry. The flowers appear in November, and are of a dingy white. *R. A. Dümmer.*

(To be continued.)



[*Photograph by S. Arnott.*

Fig. 71.—The white variety of Colchicum speciosum.

COLCHICUM.

Meadow Saffrons or Colchicums are, with the autumn-flowering Crocuses, the most valuable of our bulbous plants that brighten the concluding months of the year with their blossoms. The common Meadow Saffron (Colchicum autumnale), which bears single, narrow-petalled flowers of a pinkish-purple tint, looks well in the grass, as, indeed, do all the members of this family; but the rarer species are too scarce for planting except in tilled ground. As the flowers are produced in the autumn, and the leaves do not follow until the succeeding spring, the blossoms have the bare earth for a setting, which somewhat detracts from their appearance, and it is therefore advisable to surface the ground in which they are planted with some dwarf, loosely-growing subject. I say loosely-growing, because I have found that a particularly close-growing carpeting plant, such as Arenaria balearica, is injurious to them. Some years ago I surfaced colonies of several species of Colchicums with this Arenaria, lifting large patches of it, and fitting the patches together above the groups of Colchicums, so that they were entirely covered with an unbroken mass of green. This was done immediately the flowers died down in the autumn. I paid no attention to them in the spring, but, on looking at them in the summer, found that not a single Colchicum had pierced through the carpet of Arenaria, but that a few had thrown up growth around the edges of the green covering. I came to the conclusion that the growth of the Arenaria was so close that it prevented the air from reaching the soil, and that this was the cause of the Colchicums failing to throw up foliage. I at once removed the Arenaria, but in the autumn the only flowers that were produced were a few where the leaves had appeared round the edge of the Arenaria, in place of the many dozens that generally brightened the ground in the autumn.

Of the various species, C. Bornmuelleri (see fig. 72) is very handsome and effective. It is very pale mauve-pink, height 10 inches, length of petal 3½ inches, breadth of petal 1⅝ inches. This is the earliest of the Colchicums, being at its best here on September 5. Colchicum autumnale album plenum (see fig. 70) is another very beautiful form. It is 6 inches in height, pure white, flowers very double, about 5 inches across, petals long and strap-shaped, and ½ inch in breadth. Each bulb of this variety produces numerous flowers, so that a colony of two or three dozen bulbs will bear a hundred or more blossoms. Though a comparatively old introduction, the plant is still scarce, bulbs being usually catalogued at about 5s. each.

C. speciosum usually comes into flower about the second week in September. In colour it is rose-purple, height 9 inches, length of petal 3 inches, breadth 1 inch. The white variety of this species (see fig. 71) is an extremely beautiful flower, and corms may be purchased at a reasonable price.

C. speciosum maximum, which is supposed to be a variety of C. speciosum, is the queen of the race, but as its foliage does not appear above the ground until that of C. speciosum is fully developed, it is probably a distinct species. It is also quite a fortnight later in blooming. Its flowers resemble a port wine glass in shape, and are fully 3 inches across at the top, while those of C. speciosum are more like a sherry glass in contour, and less spreading. In colour it is a rich rose-purple, with a well-defined white base to the cup. It is 9 inches in height, the petal being 3 inches long, and 2 inches broad. The petals are of great consistency, and the flowers retain their beauty for a considerable period, often until the middle of October. The widespread, cupped blossoms have almost the appearance of Tulips, and are excellent for indoor decoration. It is a rare plant, and scarcely ever met with in catalogues. *Wyndham Fitzherbert, Kingswear, Devonshire.*

TREES AND SHRUBS.

FENDLERA RUPICOLA.

Fendlera rupicola is one of the many beautiful spring-flowering shrubs which are as yet little known in gardens. During the past three weeks a fine specimen in the Cambridge Botanic Garden has been the subject of much admiration. The plant is about 7 feet high, and the white, four-petalled flowers which are borne in arching sprays are its chief attraction.

There are two known species of this genus, the other being F. utahensis, Greene (Whipplea utahensis, S. Wats.). Professor Greene describes F. rupicola as being "a beautiful shrub of the mountains of Texas and New Mexico, putting forth in May a profusion of large white or rose-coloured flowers, which give it the aspect of a small Peach tree." The flowers produced at Cambridge are pure white, and about 1½ inch across. The leaves are ¾ to 1 inch long, scabrid above and silky on the under-surface, and are often borne in clusters upon short lateral shoots. The plant is a native of Texas, Utah, Arizona and Mexico, and is found growing in the dry arid regions, consequently it likes a warm, sheltered position and a sandy, stony soil. The specimen in question is growing on the south side of the plant houses. It thus gets the full benefit of the sun, and is also sheltered from cold winds.

Fendlera belong to the natural order Saxifragaceæ—tribe Hydrangeæ. *R. Stewart Lynch.*

NOTICES OF BOOKS.

A Year's Gardening.*

This is a serious attempt to apportion the work of the garden throughout every day of the year, Christmas day excepted, on which day the amateur is requested to rest from his exacting labour. The method of the volume, like some of the methods it embodies, is quite novel, "A Calendar" occupying more than a third of its pages. There are brief chapters on Alpine, rock and wall gardens, the wild garden, fruit trees, and insect and other pests, succeeded by month-by-month details for the vegetable garden, and a list of flowers. The novelty and value of its teaching will be gathered from extracts culled here and there from its pages. On February 5, "Make a fresh potting of Strawberry plants for fruiting in April." February 15, "Sow seeds of Tomatos in pans and apply water carefully day by day until the young plants appear." Endive, "Sow in April in moderate heat." September 16, "New plantations of Asparagus may suitably be made." September 30, "Plant out prickly Spinach." In July "Sow Spinach to stand the winter." November, "Leeks should now be earthed up." December 7, "Start some young vines now. Pot the roots carefully in leaf mould." Eryngium giganteum is recommended for its brilliant colouring, and—passing to philology—the author assures us that Pansy is Pan's-eye, and that Heart's-ease should be Heart's-eye. It is only fair to would-be purchasers to say that they must not expect to find every page of the book filled with the author's special instructions. Some are on old-fashioned lines, and the reader must judge for himself which he will follow, the old or the new, as here described in very plain English. The volume is illustrated with 48 half-tone reproductions.

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* *A Year's Gardening*, by Basil Hargrave. (London: T. Werner Laurie, Clifford's Inn.) 6s. net.

The Week's Work.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

The Early Vinery.—Vines which were started at the beginning of November will require attention to encourage the ripening of the wood. The shoots should be shortened to about one-third of their present length, and all laterals cut away as they appear. If the rods are infested with mealy bug or red spider, they should be scrubbed several times during the autumn with a stiff brush, dipped in a strong mixture of soft soap and sulphur. Mealy bug is very difficult to eradicate when once established, but if the remedy is persevered with from now onward, it will save a great deal of time during the spring months, when other work is more important. The mixture must be well worked into all holes and crevices, care being taken not to damage the buds. If the roots are in need of moisture, the borders should receive a good watering with diluted liquid manure.

Cucumbers.—The weather during the past few weeks has not been favourable to Cucumbers growing in cold frames, and the plants have needed more than ordinary attention in respect of ventilation and watering. If they have not succumbed to unfavourable conditions, they may be expected to supply good fruits for some time to come. The growths should be pinched regularly, and all exhausted leaves removed. A light top-dressing of some rich materials should be applied about once a week, and the plants should be given manure-water frequently. Discretion must be used in admitting air to the frames, and when the nights are unusually cold (which has been the case on several occasions during the present month), the lights may be covered with mats. Another batch of plants should be raised for supplying fruits during late autumn and early winter. The seed should be sown in a mixture of loam and leaf-mould, placing the seeds singly in 3 inch pots. The soil should be sufficiently moist to ensure germination without the further addition of water, and should be placed in a warm house, to become thoroughly warmed. A sheet of glass placed over the top of the pots will assist germination. When the seedlings appear, they should be placed on a shelf near to the roof-glass in a house having a minimum temperature of 70°. Keep the seedlings growing in a moist atmosphere, syringing them twice daily with luke-warm water. Red spider must be guarded against, for if this pest should establish itself on the young plants they will suffer irreparable damage. When the plants have made sufficient roots they should be planted out on a hot-bed, which should be prepared several days in advance, so as to allow of the escape of injurious gases from the fermenting materials. A suitable hot-bed may be made with short stable litter and decayed leaves in equal parts. These ingredients should be well mixed together, thrown into a heap, and left for several days to become heated. The materials should be turned at intervals to sweeten them. The bed should be placed as near to the trellis as possible, so that the plants may be quite near to the glass when they are planted. A few inches of decayed leaves placed all over the bed will be highly beneficial to the roots, which will at once permeate them. The plants should be planted in small mounds made of turfy loam and leaf-mould mixed together. Although it will be necessary to keep the plants in a brisk temperature whilst they are growing, fire heat should be used with discretion. "Dreadnought" and "All-the-Year Round" are two excellent varieties to grow for winter cropping.

Melons in Frames.—The season has been most unfavourable for this method of Melon culture, and the plants will need constant care and attention if the crop is to be successful. Air should be admitted to the plants with discretion during bad weather, and water should be applied sparingly. When the fruits are ripening the atmosphere must be kept quite dry or they will crack.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Apricots.—These fruits are ripening, and should be protected from birds and wasps; woodlice also must be guarded against, as these insects damage the best fruits, especially those growing on walls which have faulty joints. The best plan is to trap and kill the pests before the fruits are ripe. Apricots always form an acceptable dish for dessert, but it is a difficult matter in dull, sunless seasons to obtain them in a thoroughly ripe condition. If the fruits are to be used for bottling, it does not matter whether they are perfectly ripe; if bottled when not quite ripe they are not so liable to fall to pieces. The ripest and finest fruits should be gathered every other day, and placed in a box with a closely-fitting lid. The box should be laid in a warm, dry room, when the fruits will soon become thoroughly ripe. The branches should be trained well apart, and all laterals which are not required should be closely pinched to induce spurs to form. The roots should not be watered whilst the fruits are ripening unless moisture is absolutely necessary, but they may receive a liberal watering afterwards, especially, if the borders are planted with vegetables. Succulent vegetables should never be planted close to Apricots, as excess of manure causes fruit trees to make gross wood, which is often followed by canker.

Plums.—The trees have been badly attacked with aphis this season. All sub-laterals should be removed, and barren trees and those from which the fruits have been gathered syringed with an insecticide. Unless the foliage is kept clean and fresh, the flower-buds cannot be expected to mature properly for the following year.

Morello Cherries.—These fruits are, for the most part, ready for bottling, and the necessary quantity should be gathered as soon as possible, since when over-ripe they are quite useless for the purpose. Those which are retained on the tree should be protected from the attacks of birds and insects.

Fruit Room.—If this has not been cleansed already, the shelves and other woodwork should be well washed, and the walls limewashed or distempered in readiness for storing the fruit.

General Work.—At this season of the year, when fruit-trees are in full growth, notes should be taken concerning their condition. Hardy fruit trees have seldom made better or cleaner growth than this year, and, although the season is a somewhat late one, the wood and buds have still time to ripen well. Peaches and Nectarine trees have made unusually clean shoots, and if they are closely trained and all crowding of the branches avoided, they should be in a splendid condition by the end of October. Apricots also are clean, but the wood is getting a little too strong as the trees have so few fruits. However, with careful attention to pinching and training the wood should ripen properly before the end of the season. Any trees which are growing too strongly should be noted that they may be lifted or root-pruned later. Those which seem to be growing weakly should be attended to in the early autumn, when a good portion of the top soil should be removed and replaced by a rich compost to encourage a stronger growth.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Vases.—These ornaments are usually placed in prominent positions in the garden, therefore it is essential that the plants in them should be maintained in the best possible condition. All subjects will not thrive in vases, and only those which have been found suitable should be employed. Very frequently vases are placed on walls or terraces, where the plants are exposed to strong winds. In such cases plants of tender growth should not be employed, but should rather be used for sheltered corners and enclosed positions, where they will thrive and be attractive. Daily attention should be paid to plants in vases, removing all decaying leaves and old flower-heads. Water should be afforded the roots as often as required; and especial care is necessary in this respect during hot weather, for, as a rule, plants which have once suffered from dryness at the roots when in full growth rarely recover their vitality, and are unsatisfactory for the remainder of the season. Well-furnished vases contain a mass of roots in a small space, so that the soil soon becomes exhausted. It is therefore necessary to afford diluted manure water or some chemical plant food on frequent occasions. If the latter is used, it will be well to mix it with a little fine soil and apply as a top dressing.

Plants in Tubs.—Plants in tubs should be treated like those in vases. Many plants, such as Palms, Myrtles, Cordylines, Phormiums, Oranges, Agaves and Camellias, which are grown in tubs for furnishing corridors, winter-gardens and conservatories, are usually placed on terraces or broad gravel paths during the summer months. As these plants usually occupy the same receptacles for several years, the soil becomes filled with roots, and frequent supplies of water and stimulants are necessary to their well-being. But such subjects must not be stimulated by too much manure in the autumn, or growth will be made at a time when the plants should be approaching the dormant stage.

Buddleia variabilis.—This beautiful flowering shrub, and its varieties Veitchiana, magnifica and superba, are becoming very popular in gardens. The majority of other choice flowering shrubs bloom in the spring or early summer, therefore these Buddleias, which flower during the late summer and autumn, are especially valuable. The variety magnifica has flowers of a deep, rose-purple colour; superba is also a very desirable variety; Veitchiana has flowers of a bright mauve shade, with a yellow throat. B. Colvilei is recommended for planting at the foot of a warm wall, but a specimen in these gardens, planted for some years in such a position, has flowered very sparsely. B. globosa is a distinct species, the flowers being round and of an orange-yellow colour, a shade which contrasts well with that of the other species and varieties.

Hydrangea paniculata.—This is also a very useful late-flowering shrub, and should be grown in quantity in suitable situations in the garden. The plant does best in a rich, moist soil. It looks particularly well by the waterside, especially against a dark background, such as is provided by a Yew or Holly hedge. In such situations the stately white panicles of bloom are very attractive.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Hippeastrum.—As the earliest batch of Hippeastrums have completed their growth, water should be gradually withheld, and the plants exposed to the sun in order to ripen the bulbs. At this period a lower temperature is advisable, and fresh air should be admitted freely whenever the conditions permit. The foliage of later-flowering plants is still green, and these should be watered till the foliage commences to turn yellow. Seedling plants should be grown in a moderate temperature throughout the winter, and, if necessary, repotted into slightly larger receptacles.

Solanums.—In gardens where berried plants are valued for winter decoration, the Solanums are especially useful. At this season the plants must not be allowed to become dry at the roots, as the flowers set much more freely when in a fairly moist condition. Plants which are growing in pots require more manure than those which are planted out. To secure large berries the points of the shoots should be taken out as soon as sufficient fruits are set. Towards the end of the month cut with a knife or sharp spade around those plants which are growing in the open ground, preparatory to lifting and potting them early in September.

Souvenir de la Malmaison Carnation.—As the earliest-layered plants will soon be ready for potting, the young plants should be given plenty of light and air, gradually removing the shading supplied at the time of layering. It is advisable to cut the layers from the parent plants a few days before lifting them. The compost for the young plants should consist of good loam, lime rubble, sand, and a little wood ashes; some growers add leaf-mould or a little manure from a spent Mushroom bed, but these ingredients are not necessary if the loam is of the right texture. Pot very firmly, keeping the collar of the plant above the soil. When possible, the plants should be placed in a cool house after they are potted, but, failing this, a cold frame will do; the advantage of the house is that the foliage grows hardier and is more likely to remain free from spot and rust throughout the winter than is the case with plants grown in a frame. Water the plants well after potting, and spray them lightly overhead until they have recovered from the check to the roots, when overhead moisture should be gradually withheld.

The Conservatory.—The conservatory cannot often be overhauled thoroughly, especially when the structure adjoins the dwelling-house, but the fullest advantage should be taken of any opportunity which offers. Many of the climbers have become dense, and should be thinned and regulated, but the thinning should be done judiciously, so that the plants do not look bare. In many conservatories Camellias are grown in tubs, and plants so cultivated when they have completed their growth should be placed out-of-doors for a month or two to ripen wood and set the flower-buds. But the shrubs must not be exposed to the full sun or their leaves may be scorched. At this season there are many subjects which may be introduced into the conservatory without fear of injuring them, such as large Codiæums (Crotons), certain of the more hardy Caladiums, Acalyphas, and Dracænas. If they are not required for stock purposes, these plants may be left in the conservatory until they are unfit for further service.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Cœlogyne cristata.—Plants of Cœlogyne cristata and its varieties are making rapid growth, and established specimens will need a copious supply of water at the roots whenever the compost shows signs of dryness. An occasional watering with a weak solution of liquid cow-manure will also be beneficial. Plants which have been potted recently should be watered rather sparingly until the new roots have become established in the compost, and, during the whole of the first season after potting, they should be afforded only clear water. The surroundings of the plants should never be permitted to become dry. These conditions should be maintained until the pseudo-bulbs are mature and the flower-scapes are pushing forth, when the supply of water should be gradually lessened.

Calanthe.—The deciduous Calanthes are in full growth and forming new pseudo-bulbs. If healthy and well rooted, they will require more water at the roots at this season than at any other time of the year. It is important that they should be exposed to as much light as possible, without being scorched by the sun. They should be placed near to the roof-glass, and whenever possible should be allowed plenty of fresh air.

Cypripedium.—Cypripediums, including C. insigne and many of its varieties and hybrids, are in full growth; these plants should be freely supplied with water at the roots, and on bright days should be syringed overhead. As much fresh air as possible should be admitted to them during the day, whilst on warm nights both the top and bottom ventilators may be opened. If the plants are in too close an atmosphere, the growths will become soft and the flowers weak.

Lælia anceps and its varieties are fast developing their pseudo-bulbs, and the flower-scapes are also making good progress. Liberal supplies of water at the roots and overhead syringings should be afforded twice during bright days. A light shading may be required, but only for a few hours during the hottest part of the day; the shading material should be removed at about three o'clock in the afternoon, when the ventilators should be closed. The latter may be opened again later in the evening if the weather is warm, as the night air is very beneficial to these plants.

Cattleya Bowringiana.—Plants of Cattleya Bowringiana and its many hybrids, including C. Portia, C. Wendlandii, and C. Mrs. J. Whiteley are in full growth, and require plenty of water at the roots until the new pseudo-bulbs are formed. Care must be taken that the water does not settle in the bracts that surround the bottom of the young pseudo-bulbs, as such deposits of water would inevitably cause them to rot at the base

Pleione.—The various Pleiones are completing their growth, and should be increasingly exposed to the light. They should also be allowed more liberal ventilation than heretofore; they will need just sufficient water at the roots to keep the compost moist until the foliage falls. After this occurs, they will need very little moisture until the flower-buds appear, when the supply should be increased until the blooms are fully developed. After the flowers have faded, the plants should be given just enough water to keep the pseudo-bulbs from shrivelling, until they recommence their growth in the spring. Cooler-growing species, such as P. Hookeriana and P. humilis, will require liberal supplies of water at the roots until the season's growth is completed.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

French Beans.—To ensure a succession of pods as late in the season as possible seeds of a quick-fruiting variety should be sown singly in small 60-sized pots, planting the seedlings either in heated pits in a sunny position or in forcing houses. Plants raised from seeds sown last month in cold frames should be afforded as much warmth as possible during the night, closing the lights fairly early in the afternoon. The plants, however, should not be coddled, and air should be admitted early in the mornings.

Winter Onions.—The ground, having been manured and deeply dug or trenched some time previously, should be raked level, and made very firm by treading. Afterwards the surface should be thoroughly dressed with burnt garden refuse. Sow the seeds in shallow drills, made from 12 to 15 inches apart. Two sowings should be made, one towards the end of the present month and another early in September; if the sowing is made too early in the season many of the plants will run to seed prematurely in the spring. Leviathan, Lemon and Blood Red Rocca are all excellent varieties for sowing at this season. Many of the summer varieties will do as well as those I have named in favoured parts of the country.

Cardoons.—The plants have made splendid growth during the past few weeks, and means should be taken to blanch them; but before doing this the roots should be well watered. The bottom foliage should be removed, and the remaining leaves drawn fairly closely together with strong raffia. Place brown paper round the base of the plants, and bind it closely with hay bands, after which the soil should be banked up. It takes a long time to blanch Cardoons, and the banding and binding must be done at least three times till the top of the plant is reached.

Cabbages.—Ground should be got in readiness to receive plants of the earliest sowings of Cabbage. The soil should be enriched with good farmyard manure, and either trenched or dug deeply. This crop generally does remarkably well on land that has carried a crop of Onions. Plant the seedlings as thick again in the rows as is necessary, to allow for failures. Plant very firmly, and rake the soil level.

Maize or Indian Corn.—Though the plants have made splendid growth, the dull weather has been unfavourable for the development of the cobs. Remove as much foliage as can be spared to allow the air and sunlight to reach the cobs. During hot, dry weather this crop will be much benefited by liquid manure from the farmyard.

General Work.—All exhausted crops should be removed and burnt. The ashes will provide excellent material for dressing the soil later. The growing crops should be hoed constantly, and everything, including the paths and roadways, kept neat and tidy. The watering of the crops must not be neglected, even should the weather continue showery, and liquid manure should be given freely to such plants as Celery, Leeks, Runner Beans, French Beans, and Cauliflowers. Where seeds of special stocks are required they should be gathered when ready on a dry day, and placed under cover to ripen. If a superior stock of any kind of vegetable is obtained, means should be taken to secure the seeds for perpetuating the stock. This applies especially to Beans and Peas. Frequent small sowings of the various kinds of winter and spring vegetables should be made to ensure constant supplies.

THE APIARY.

By Chloris

Seasonable Hints.—The weather is so very bad that there is not much hope of more honey being stored in the supers. Hence there is a danger that stores may be so low in the brood chamber that the bees will be driven to rob the supers to meet the daily wants of the hive, because during this wet season it is impossible for the bees to venture out to gather nectar. In exposed situations where little honey is stored, there is a further danger that the bees will be compelled to make excursions on undesirable days, and get so buffeted that they may fall from sheer exhaustion. It will be wise to remove the supers, and after taking them indoors, the shallow frames should be extracted without delay. If the honey has been allowed to get chilled, it should be placed in a temperature of 70° or more, so that it may become liquid. When the beekeeper attempts to extract honey after it is cold, a great deal remains in the cells to be cleaned out by the bees, thus entailing considerable loss.

The sections should be thoroughly cleansed by scraping off all propolis, taking care to remove it from the top and bottom, sides and edges. It will be found most convenient to do this with a piece of glass. Sometimes small balls of propolis are found in the corners of the sections: this may best be removed with the point of a very sharp knife. The best place to store the sections is a warm, clean, dustproof cupboard. It is well to wrap them in paper parcels, allowing the sections to stand in a similar position to that in which they stood in the hive.

Feeding.—No time should be lost in feeding the bees so that they may have 20 to 25 lbs. of sealed stores in the hives before the cold weather arrives. Further, if breeding ceases in consequence of shortness of food, cold weather, or any other cause, it may be impossible to cause the bees to recommence feeding the queen on the stimulating food which is necessary to excite the ovaries to action, for she is fed by her retinue, during the active season, on pre-digested honey and pollen, to which one or more liquids are added, at will, from four separate glands; when the queen ceases to oviposit her retinue disperse and she roams about the hive unattended, sipping honey, &c., like any other occupant of the hive.

Food.—Since disease has been so common, it will be prudent to take care that cane sugar only is used for feeding. Where colonies have sufficient sealed stores, stimulations may be resorted to with advantage, because it is necessary to make stocks strong with young bees that are not worn out with foraging, so that the colonies may come out strong next spring, because the bees raised now are those which will live through the winter. Take 10 lbs. of lump cane sugar, add 7 pints of water, 1 ounce of vinegar, and the same quantity of salt. Boil the whole for a few minutes, taking care not to allow it to burn. Use a proper feeding bottle, giving the bees access to one or two holes, so that only enough syrup is carried down for each day's needs, because this syrup is too watery for storing. Where bees are being fed because their larder is low, use 5 pints of water instead of 7, and ½ ounce of salt instead of 1 ounce. In either case feed in the evening, use warm syrup, take care to contract the entrances, and spill no syrup, because while feeding is proceeding, there is always a danger of robbing.

Quilts.—Whether feeding is resorted to or not, the bees should have plenty of warm quilts. These should be so cut that they leave no gaping spaces at the corners. If robbing has commenced take care to check it at once and exercise constant vigilance, for neglect to do so may result in complete demoralisation of the apiary.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but they cannct be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, AUGUST 27—
Royal Hort. Soc. Coms. meet. (Lecture at 3 p.m. by Mr. James Hudson on "Recently Introduced Water Lilies.")

THURSDAY, AUGUST 29—Sandy Fl. Sh.

FRIDAY, AUGUST 30—
Dunfermline Hort. Soc.'s Autumn Sh. (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—60·5.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, August 21* (6 P.M.): Max. 61°; Min. 48°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, August 22* (10 A.M.): Bar. 30·0°; Temp. 61°; *Weather*—Fair.
PROVINCES.—*Wednesday, August 21:* Max. 56° Cambridge; Min. 54° Scotland N.

SALES FOR THE ENSUING WEEK.

MONDAY, WEDNESDAY, THURSDAY, AND FRIDAY—
Trade Sales of Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.
WEDNESDAY—
150 Phœnix Canariensis, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.

Crown Gall and Cancer.

We have already drawn the attention of our readers to the remarkable and thoroughgoing investigations made by Dr. Erwin F. Smith, of the U.S.A. Bureau of Plant Industry, into the cause and distribution of the plant disease known as crown gall. Dr Smith has shown that this disease is of parasitic origin, that it is due to the presence of a micro-organism, Bacterium tumefaciens, in the plant, that the micro-organism gains access to its victim through wounds in the latter, and that it may affect a large number of different kinds of plants.

In a recent publication on "The Structure and Development of Crown Gall" (*Bureau of Plant Industry*, Bull. iv, 255, June, 1912), Dr. Smith reviews the evidence which he has brought forward in support of his view that the progress of this disease is such that it must be regarded as of the nature of a vegetable cancer. Dr. Smith is properly careful not to suggest that the cause of cancer in animals is by any means the same as that responsible for this vegetable cancer; but he is emphatic in pointing out that, inasmuch as the cancerous crown gall has been demonstrated to be of parasitic origin, the cancers of human beings and of animals may prove also—despite the general view to the contrary—to be due to a parasite.

The evidence on which Dr. Smith relies in support of his hypothesis cannot be reviewed at length here, for the reason that it would involve a description of the phenomena presented by the disease, but we may mention the striking fact that in both crown gall disease and in cancer the cells of the plant or animal affected with the disease are characterised by an extraordinary and abnormal growth. This overgrowth leads to the formation of aggregates of cells which express themselves as tumours. Further, from the primary tumour, strands of affected tissue may be found spreading through the organism and giving rise to secondary tumours in situations far removed from the primary tumour. Dr. Smith regards the excessive growth of the affected cells as the outcome of a symbiosis and a struggle, as it were, between the cells of the organism and the micro-organisms which have gained access to them. The parasite secretes substances, probably acids, which stimulate the cell to abnormally vigorous growth. The secreted acids are poisonous to the bacteria themselves. Hence the development of the bacteria is checked and some are killed. On their death the bacteria liberate other poisonous substances which pass into the vegetable cells. Under the stimulus of these poisons the cell nucleus divides, and the material of the nucleus, passing during the division of the latter into the general protoplasm, awakens the surviving bacteria to renewed activity. Thus a vicious circle is established. The bacteria, resuming activity once again, stimulate excessive cell growth; once again the bacteria are checked and in part killed, and, liberating their toxin, provoke once again cell division.

Whether Dr. Smith's parallel between crown gall and cancer will prove to be a true parallel or not it is premature to say; but it cannot fail to have a considerable effect in directing the attention of the medical profession to the possibility that cancer may prove, in spite of all the evidence to the contrary, to be—like crown gall—attributable to a micro-organism.

The conclusion of immediate horticultural importance with respect to crown gall at which Dr. Smith arrives is that nurserymen should be careful to plant on uninfected land; for if they are not, the disease is bound to make its appearance in their trees.

The Bearing of Apples.

It is a fact well known to fruit-growers that a tree which bears a heavy crop one year is apt to prove relatively barren in the following year. This alternation of fruitfulness and unfruitfulness is exhibited not only by fruit, but also by forest trees. The Beech, for example, may require several years before one large crop is succeeded by another. The gardener has this phenomenon in mind when he intervenes to prevent young fruit trees from ripening more than a nominal amount of fruit, and when, as was practised formerly more often than now, he sacrifices altogether the year's crop by cutting back young and recently-planted vines.

Whereas it is easy to understand that in the case of annuals seed-production spells exhaustion and death to the plant, it is by no means easy in the case of trees to account for the sterilising effect of luxuriant fruit-production. The annual plant lives, as it were, from hand to mouth. Within one brief season it must perforce crowd all the incidents of its life, and its flowering period follows close and restlessly on its growing period. Hence it follows that all the constructive materials which it has succeeded in collecting from the air and soil are used in manufacturing food-stuffs, which in turn are all employed in the work of building the plant and of forming the seeds and fruits. So pressing are its daily needs that the annual is never in a position to put by a portion of its income in the form of material savings against the needs of the future. Wherefore its scanty resources fail it in the hour of seeding, and when its fruits are set it dies.

The tree, on the other hand, lives more spaciously, and more time is vouchsafed to it before it is called upon to justify itself by its works of seed production. During its years of immaturity the tree is enabled to save. The sugar and other manufactured food-stuffs which it makes from the ingredients of the air and soil more than satisfy the immediate needs of the tree, and accordingly they are placed on deposit in the wood cells and other convenient elements of its tissues. Nevertheless, despite these large reserves, on which it may draw at need, the tree, no less than the fugitive herb, experiences the strain and exhaustion incident upon fruitfulness.

Why this should be is not known. It may be that certain precious and scanty materials, made by the tree with difficulty and in small amounts, are used up in the formation of fruit and seed; if so, appropriate manuring might repair the loss and restore the missing substances. But it is more likely that the fruit-bearing condition is attended by a change of state in the tree, and that this change of state is antagonistic to active work: that it leads, as it were, to a kind of languidness which rest alone may dispel.

Whatever be the cause, the fact is notorious, and is illustrated in the most forceful manner by the records kept by Mr. Macoun, the Dominion horticulturist, and published in the annual report of the Experimental Farms, Ottawa (1911). We will cite but one example given by Mr. Macoun of the fluctuation in fertility of Apples. The produce of a certain tree of the variety Wealthy, planted in 1888, was recorded from the 10th to the 22nd year of the life of the tree. The yields were as follow:—

Year ...	10th	12th	14th	16th	18th	20th	22nd	
Gallons ...	33	52	93	111	96½	75	118	= 578
Year ...	11th	13th	15th	17th	19th	21st		
Gallons ...	0	2	0	22	1½	5		= 30

Or, omitting the 10th year, 545 gallons in the six fat years and 30½ gallons in the six alternating lean years.

No matter how much we may be disposed to put all crop-failures to the account of the weather, no one will suggest that the even, heavy years were all fine and that the odd, light years were all bad. Evidently the cause of the striking fluctuation is to be sought not in external but in internal conditions, not in the weather, but in the alternating state of the tree itself.

No less interesting are Mr. Macoun's statistics of the individual yields of different trees of the same variety (Wealthy). The data extend over 11 years (1899-1910). Of 14 trees kept under observation, the total yield in the case of the least fruitful was 57 gallons and that from the most fruitful 203 gallons. The yields from each of four other trees totalled less than 100 gallons; five yielded each from 100-125 gallons and three from 125-150.

There is no doubt that similar results would be obtained if corresponding records were kept in this country, and if the differences in yield of our trees are at all comparable with those of the Canadian trees of which we have the records, it will be evident that practical means are at hand for augmenting the produce of our orchards. We hope that the fruit stations which are in course of establishment in this country will direct their attention to this subject and will undertake a statistical inquiry into these fluctuations of fruitfulness. The inquiry must be planned with care and associated with experiment in various directions, especially in relation with different modes of treatment, manurial and other. Properly planned and carried out, such an investigation should prove of no small

Royal Horticultural Society.—The next meeting of the Committees will be held in the Society's Hall, Vincent Square, Westminster, on Tuesday, 27th inst. At the 3 o'clock meeting of the Fellows, Mr. J. Hudson, V.M.H., will give a lecture on "Recently Introduced Water Lilies."

The Women's Agricultural and Horticultural Union.—The articles of horticultural interest in the monthly leaflet of the above union, dated August 15, 1912, deal with the Potato wart disease and the Union's Diploma Examination in Practical Horticulture.

Mr. Harry Foster.—Mr. Harry Foster, Director of the *Times* Experimental Station, Sutton Green, Guildford, has been appointed assistant to Mr. Walter P. Wright, Horticultural Superintendent and Instructor in Practical Gardening to the Kent Education Committee.

Fossil Plants.—The naming of fossil plants by palæontologists, from Unger's *Neuholland in Europa*, down to Professor Fontaine's descriptions of 40 "species" of Thyrsopteris, from a deposit "not over 15 feet in diameter," has been a puzzle to students of the living vegetation of the world. Therefore any attempts to bring the nomenclature of fossil botany more in harmony with that of modern systematic botany is to be welcomed. Among others Mr. E. W. Berry, of the John Hopkins University, Baltimore, is very active in this direction, especially in the revision of the plant fossils from the Potomac group. His latest paper is on Ferns which have been referred to the genera Cladophlebis and Thyrsopteris. Following Prof. Seward, Mr. Berry refers the fossil Thyrsopterides of Fontaine and others to Onychiopsis, and reduces the number of Potomac species to five! An interesting fact in connection with the later investigations of fossil plants is the very wide distribution recognised of not only generic but also of specific types.

The Propagation of Conifers. — The second of a series of Saturday evening lectures to the working classes to be given during the present month by the Regius Keeper of the Royal Botanic Gardens, Edinburgh (Professor Bayley Balfour), was delivered on Saturday August 17, in the lecture hall of the gardens. The subject of Professor Balfour's address was the propagation by cuttings of coniferous and other plants. The lecturer, as reported in *The Scotsman* (August 19), pointed out that many Gymnospermous plants do not callus freely—Pine trees, for example, do not form stool shoots because the healing by callus is replaced by healing by resin. The two critical points in striking cuttings of such resinous plants are:—To prevent the drain upon the plant's resources through excessive outflow of resin when the cutting is made—this may be achieved by plunging in boiling water; and to provide easy exit for new roots by scraping off the protecting resin skin. Photographs and specimens of callussed and rooted cuttings of species of Pinus were exhibited, special attention being directed to them because, alike in gardening and botanical books, the striking of Pinus by cuttings is said to be impossible. The cuttings were struck by Mr. Laurence Stewart, plant propagator of the Botanic Garden. Professor Balfour also drew attention to the differences between monocotylous and dicotylous plants with respect to their behaviour as stem cuttings: In Dicotyledons the cut segment of the parent plant elongates as the new plant, but in Monocotyledons the upper part dies off, except in the few

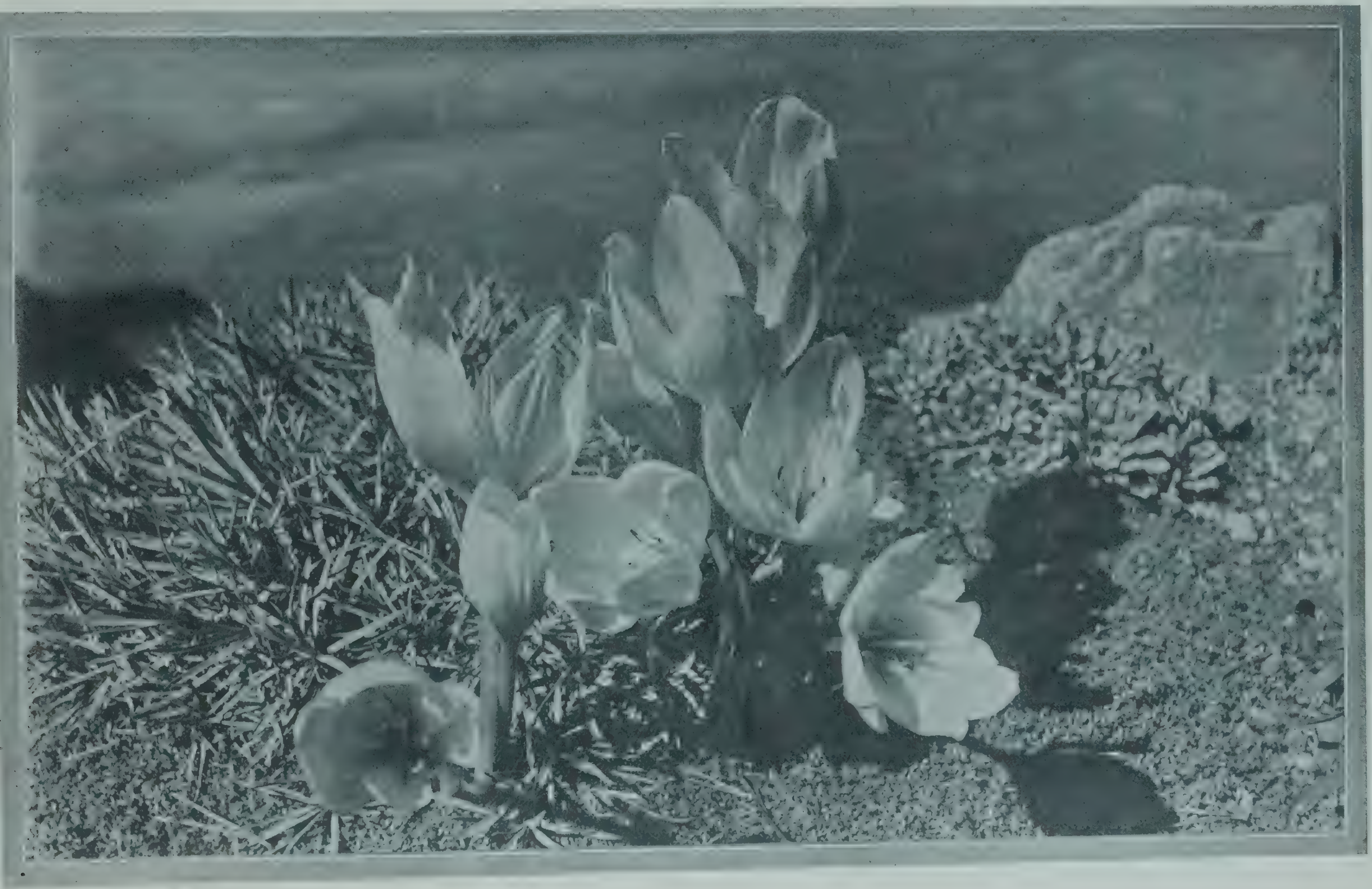


Fig. 72.—Colchicum Bornmuelleri: flowers mauve-pink.

(See p. 153.)

genera which produce cambium, and a basal latent bud grows out as the new plant. This has a double interest—practical and phyletic. It explains possibly the reported failure of propagation of such plants as Bamboos—the rotting of the top having been regarded as evidence of failure to strike—and it is reminiscent of the seedling development in the groups, terminal plumular growth characterising the dicotyledon, lateral plumular growth the monocotyledon. Inarching as a propagative method has been learned from its occasional appearance in nature. The seedling inarch is now of recognised economic importance because of the rapidity with which desirable fruit plants can be brought to the bearing stage. Grafting is an offshoot from inarching, and the occurrence of graft hybrids, such as Laburnum Adamii, of which specimens are not uncommon in gardens about Edinburgh, raises interesting biological questions of transmission of characters. Roots and leaves, like stems, may be used as cuttings, and recent work in propagation by leaves seems to suggest a correlation between alkalinity of medium and root development on the one hand, and acidity and stem development on the other. The environmental conditions required for successful vegetative propagation will be the subject of the next lecture.

The Growth of School Gardens.—Some interesting particulars concerning school gardens are contained in the volume of *Statistics of Public Education in England and Wales* for 1910-11, which have recently been issued as a Blue Book. In England the number of schools in which boys received instruction in gardening was 2,175 as against 1,816 in the previous year. The instruction was given at 14 centres. The number of boys who attended the classes was 38,066 as against 32,173 in the previous year, and of the boys who qualified for grant 11,164 attended at least 20 hours but less than 40 hours, and 21,437 for at least 40 hours. Gardening for girls was taught at 176 schools and one centre as against 111 schools in the previous year. The total number of registered scholars was 1,465 as against 1,022, and of the number who qualified for grant 465 attended for at least 20 hours and less than 40 hours, and 618 at least 40 hours. In Wales, scholars at 106 boys' schools received instruction as against 80 in the preceding year. The number of boys registered was 1,692 as compared with 1,307, and of the number who qualified for grant 772 attended at least 20 hours but less than 40 hours, and 666 at least 40 hours. In Wales gardening was taught to girls at 19 schools as against nine in the previous year. Altogether 171 girls received instruction as against 71, and of the number who qualified for grant 84 attended at least 20 hours and less than 40, and 53 at least 40 hours. In every county in England gardening was taught, but in the Welsh counties—Anglesey, Brecknockshire, and Monmouthshire—there were no gardening classes for boys or girls.

The North American Species of Nymphæa.—Mr. Gerrit S. Miller, Jun., and Mr. Paul C. Standley are the authors of a monograph bearing this title *(Contributions from the United States National Herbarium*, xvi. (1912), pp. 63-108, with illustrations in black and white and maps), in which 16 species are defined, including 10 regarded as new. It should be explained that these so-called Nymphæas belong to the genus Nuphar, as generally understood in this country, and current in horticultural literature. An explanation of the reasons given for these changes would fill half-a-column, and the name Nuphar would still survive in our gardens, just as Geranium does duty for some of the Pelargoniums. On the other hand, it should be mentioned that Linnæus included our Nuphar lutea and our Nymphæa alba in his genus Nymphæa, and the first American Nuphar cultivated in this country was described as Nymphæa advena by Aiton, 1789, and was figured under the same name in the *Botanical Magazine*, plate 684. A second American species was figured and described in the *Botanical Magazine*, plate 1243 (1809), under the name of Nymphæa Kalmiana. Both were soon transferred to Nuphar (founded on N. lutea by J. E. Smith in 1808); probably before they were known outside botanic gardens. In the work before us, Nuphar Kalmiana bears the obscure name of Nymphæa microphylla. Should a florist use this name without explanation, it might cause disappointment and dissatisfaction. Nuphar, as, for the sake of intelligibility, we must continue to call it, has been little cultivated as compared with Nymphæa, and practically still awaits the cultivator's skill. Judging from the variety exhibited by the American forms good results might be expected, and this monograph should prove very useful to the intending cultivator. The leaves of the American species are either erect or floating, and from narrow oblong (a foot long by 2 inches wide) to orbicular, and a foot to 18 inches across. The flowers and seed-vessels vary in size from less than an inch to 3 inches in diameter, before the sepals are spread out. Colour is the first thing required, especially the development of red.

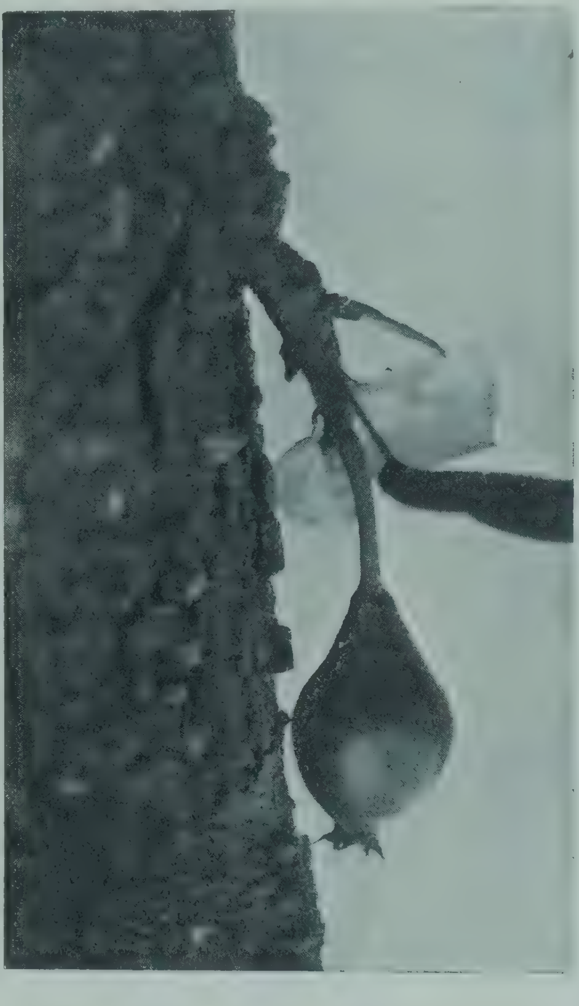


FIG. 73.—PEAR BORNE ON MATURE WOOD.

Foot and Mouth Disease in Sussex.—The existence of foot and mouth disease has been confirmed by the Chief Veterinary Officer on the premises of two small-holders at Hurst Green, near Etchingham, East Sussex. The Board of Agriculture and Fisheries have issued an order prohibiting the movement of animals along, over, or across a highway in a wide area surrounding the new disease centre. Up to the present no information is available as to the manner in which infection has been carried to infected places.

The Dahlia Show.—The annual exhibition of the National Dahlia Society will be held at the Crystal Palace on September 17 and 18. This is the first special floral show of the year, and in spite of the general unfavourable climatic conditions, Dahlias appear to be quite equal to the standard of former seasons. Every year new specimens of the Dahlia are produced, and, judging from this year's catalogue, the September exhibition will prove no exception. The Society has three distinguished patrons in Sir Trevor Lawrence, Bart., K.C.V.O., V.M.H., Sir John T. D. Llewelyn, Bart., D.L., F.R.S., F.L.S., and Leopold de Rothschild, Esq. The president is Geo. Gordon, Esq., V.M.H.

What to Do with the Hay Crop.—In view of the unsettled character of the weather, and of the consequent difficulty in securing the Hay crop in some districts in which the crop is late, the Board of Agriculture and Fisheries invite the attention of farmers and others to Leaflet No. 9, which describes the process of making ensilage. Copies of the leaflet may be obtained free of charge and post free on application to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W. Letters of application so addressed need not be stamped.

Publications Received.—***Mushrooms and How to Grow Them,*** by John F. Barter. Third edition. (London: John F. Barter, Ltd.) Price 1s. 2d. post free.—***Chrysanthemums and How to Grow Them,*** by I. L. Powell. (London: William Heinemann.)—***The Alpine Flora,*** by H. Correvon and P. Robert. (London: Methuen & Co.) Price 16s.—***Lawn Soils and Lawns,*** U.S. Department of Agriculture, Farmers' Bulletin 484. (Washington: Government Printing Office, 1912.)—***Circulars and Agricultural Journals of the Royal Botanic Gardens, Ceylon.*** Cacao Cultivation in Ceylon; The Rubber Planting Industry of Ceylon; The Henaratgoda Experiments for 1911. Parts I. and II. The Effect of Shade in Cacao Cultivation. By R. H. Lock. ***German Central Africa Expedition, 1907-1908, Botanical Section.*** (Wissenschaftliche Ergebnisse der Deutschen Zentral Afrika Expedition, 1907-1908, Band 11, Botanik). Klinkhardt & Biermann, Liebigstrasse 2, Leipzig, 1911. ***Economic Protection of the India Rubber.*** Decree No. 2543A, of January 5, 1912, and Regulations of April 17, 1912. (Paris: Société Générale d'Impression, 21, Rue Ganneron.) Published for the Ministry of Agriculture of Brazil.

ADVENTITIOUS PEAR FRUIT.

In tropical countries it is not an uncommon occurrence to see fruits growing on the trunks of trees; in fact, some trees, such as the Cocoa and Coffee, often bear many flowers on the mature wood, and these, in due course, are followed by fruits. Other examples may be cited, such as trees of Grias cauliflora, various Browneas and Theophrastas. But in this country the phenomenon is not so common. In the *Gardeners' Chronicle* of September 10, 1904, we illustrated an Apple growing on a trunk of a 14 year old tree of the variety Potts's Seedling in the Frank Fruit Farm, Maidstone, and, in the same issue, we recorded an instance of a vine bearing a perfect bunch of Grapes on its main stem. In fig. 73 we show an example of a Pear growing on mature wood. The photograph from which the illustration is made was taken in the garden of Mr. G. G. Covington, at Kettering.

The Judas Tree (Cercis siliquastrum), which has this year flowered so abundantly, may, in some gardens, be seen with its reddish, Pea-like fruits hanging from the trunk and main branches, and the observant gardener will recall other similar instances, chiefly with leguminous trees. Trees of the genus Pinus, especially of the species insignis, often bear clusters of cones, at least 25 years old, on their branches, but it must be remembered that these are instances of persistence of fruits, and not of their production from adventitious buds.

CAMPANULA SPECIOSA.

This is one of the many beautiful members of the Campanula family that are so useful and welcome in the rock garden during the summer months, after the majority of the spring flowers are over for the season. It is a Pyrenean plant, and belongs to the same section of the genus as the charming C. Allionii and C. barbata. It is more closely allied to the former and possesses the same type of rambling root system. C. speciosa (see fig. 74) grows from 6 inches to 1 foot in height, and is a beautiful plant with stout, erect stems branching from the base upwards. The radical leaves, which, like the stems, are hairy, are long and linear-lanceolate, narrowing towards the base and have undulate margins. The leaves are produced in rosettes close to the ground, and die off with the flower stems, other rosettes being formed some distance away for flowering the following year. The large flowers, solitary on single stalks, are produced in June, and have bell-shaped corollas, which vary in colour from light to deep purple. C. speciosa is only found in the Pyrenees, where it grows in high limestone cliffs and rocky places among debris, in which situations the roots wander about amongst the loose stony soil. Although a strong-growing perennial in its native habitat, it is not often met with in good condition in gardens, for in ordinary soil it has an unfortunate tendency to die off. To grow it successfully, C. speciosa should be planted in strong, well-drained soil, moraine conditions being very suitable for its cultivation. It is easily raised and increased from seed, which it sets freely. A plant is figured in the *Botanical Magazine* under the name of C. speciosa, at tab. 2649, but it is evidently a form of C. glomerata, known as var. dahurica, and also as C. aggregata. *W. I.*

SCOTLAND.

MONTBRETIAS.

Last winter appears to have been an unusually trying one for Montbretias left in the open ground, and, as a consequence, plants have practically disappeared from many gardens this season. This has been a great disappointment, as there were many Scottish gardens in which the Montbretias have previously wintered for many years without loss. Of those which have survived the cold, M. Pottsii seems to be the most common. The newer varieties have proved the least hardy, and, as a rule, it is only in gardens where they were wintered in frames that they have survived, though plants at the foot of south walls have often lived where those in the open have been killed. The wet winter, rather than the frost, which was not so prolonged as in many seasons, is probably responsible for most of the losses. As a result of the past season's experience, it will be advisable to lift the newer and finer varieties, and winter them in frames, a practice already adopted by many Scottish cultivators of this flower.

SWEET PEAS.

The cultivation of the Sweet Pea has greatly increased in Scotland, and has induced the formation of a number of Sweet Pea societies in all parts of the country. The untoward weather, however, greatly restricted the number of exhibits, and, in more than one show of importance, the exhibits have been disappointingly small. Still, the number of growers is on the increase, and in every district the Sweet Pea is receiving special attention in the way of cultivation. The new varieties are keenly sought after, and in some shows varieties were exhibited which are not in commerce. King White is a variety which may be named as having been shown in excellent form.

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

"Nettleleaf" or "Reversion" in Black Currants (see pp. 122, 138).—It seems uncertain if this may be considered a new "disease," or if it is merely that more attention is now paid to such matters than in former days. Too much stress cannot be laid upon the point that more facts are needed as to its distribution and development before any opinion can be formed as to its cause. In the hope that a suggested explanation may stimulate the production of these facts, I venture to place before your readers a tentative solution of this question. The facts which I have observed and gleaned are as follow:—(1) It may be seen in one-year cuttings and in bushes of all ages. (2) It is not confined to any one variety. (3) It is often followed by "big bud." (4) It is reported to have a tendency to spread from a given centre in a plantation, that is, where in one year one bush may be affected, the following years show neighbouring bushes also suffering. (5) A close examination shows that in all cases (in the writer's experience) the leading bud of that shoot has been damaged by birds or breakage, and this has caused the side buds to develop fresh shoots, and it is these shoots which show the well-known "nettleleaf" appearance. Conversely it, of course, holds that in no case is it seen on a main shoot which has its leading bud growing and undamaged. (6) A similar leaf variation may be seen occasionally in Red Currants. One other consideration must be put forward, and that is that the Black Currant is subjected to a very severe method of pruning, and all fruit is borne upon vigorous wood of the current year. The explanation I suggest is this:—The damage to the leading bud may be caused by various means, of which no doubt the "big-bud" mite is the chief. The twig-cutting weevil (Rhynchites cœruleus) may also cut a whole shoot across whilst soft and growing. When this is done th side buds at once send forth weak branche. instead of developing into fruit buds, and these are the so-called "reverted" branches. The fruit which may appear on these secondary shoots will naturally be small and weak, as there has not been time to mature fruit-buds, such as would have been produced naturally on the strong main branches. If the bud damage is caused by mite, its spread to neighbouring trees is easily understood. It is unfortunate that the term "reversion," with its implication of throwing back to a remote or "wild" ancestor, has been used, as it begs the question entirely. The idea of a single bud variation is well known, but

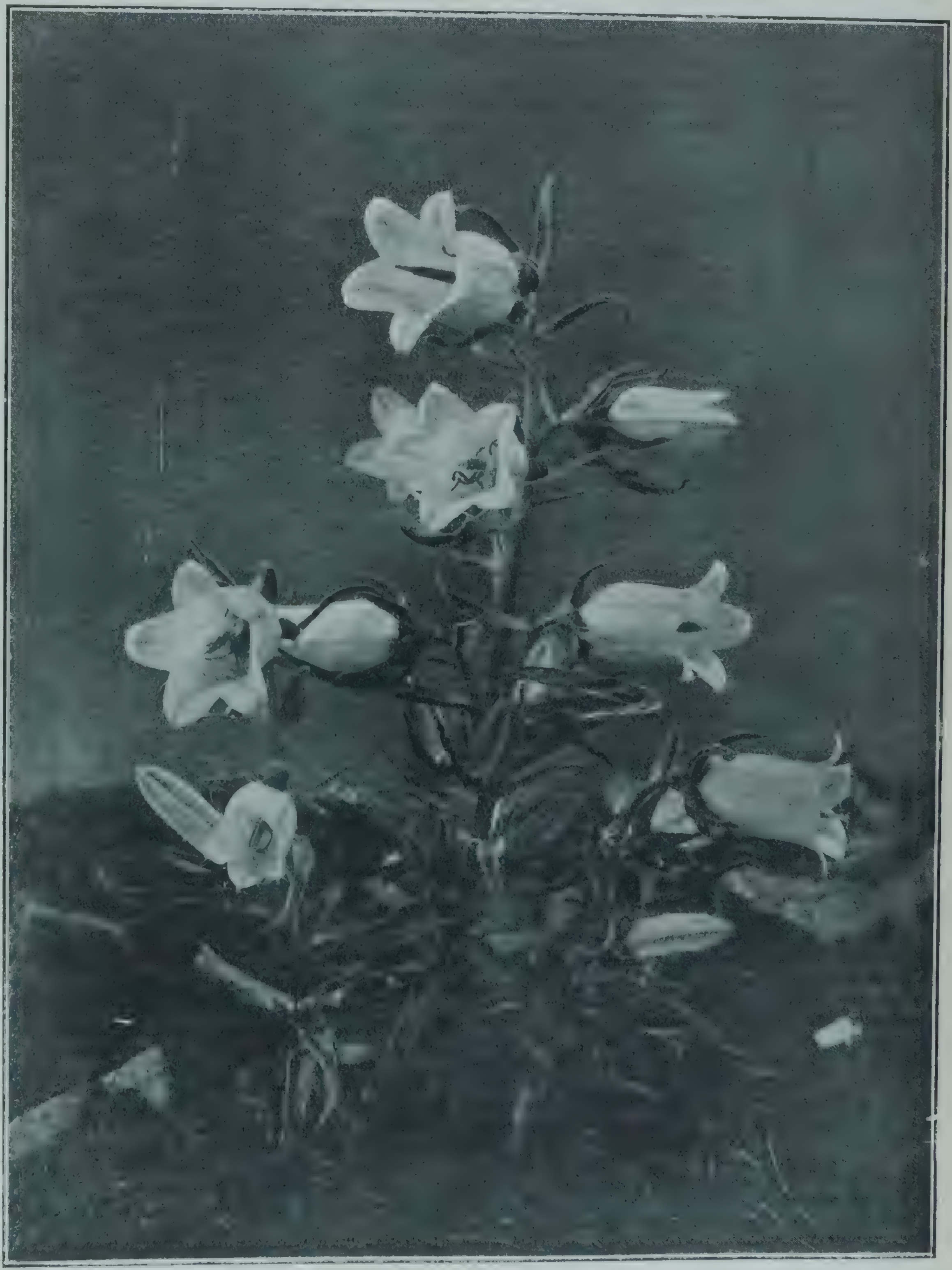


Fig. 74.—Campanula speciosa.

I doubt if a case of a whole tree "reverting" in one jump has ever been known to occur. I suggest that what has happened is that the normal course of pruning and bud development having been upset, the fruit suffers in size. If this is so, it would follow that entire removal of old branches and the resultant forcing up of young growth from below would overcome the "reversion," and the tree would, in the absence of a recurrence of the cause, produce fruit once again of a normal size. It will be interesting to know if any of your readers has tried this remedy, which, if it proved successful, would offer a conclusive proof of the truth or falsity of the above suggested explanation. *E. A. Bunyard.*

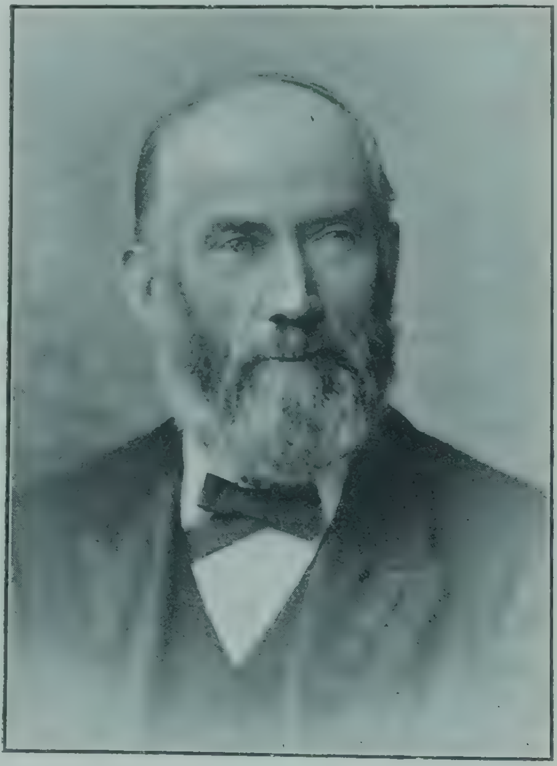
PRESERVING RIPE GRAPES.—Many growers must have observed that when they have bottled Grapes during the summer the stems do not keep fresh for so long a time as when the bunches are cut later in the season. I think I have discovered the reason of this. In experimenting with a closed vessel from which no water could evaporate, I found that about a tablespoonful of the water was taken up during the first two or three days, and after that there was no visible loss. The trial has now lasted three weeks, and the stems are commencing to shrivel a little, but not so much as is the case with bunches which had been cut three days before being placed in water. These bunches an exposed in a shop window, so the test is rather severe. It is only a partial test so far, but I suggest that owing to the vines being still in vigorous growth, the sap in the portion cut off is so abundant that in its downward passage it clogs the pores at the cut end and prevents the absorption of moisture. The suggested remedy is to cut the stem afresh after it has been in the water a couple of days or so. In using open-mouthed bottles, there would be continual evaporation of the water into the atmosphere, especially during warm weather, and the quantity taken up by the Grapes could not be ascertained. Another lesson has been taught me by my experiments. The end of a stem on which there was a fully-sized leaf was inserted in a closed vessel, and 1½ fluid ounce of water was taken up in 24 hours. Whilst a stem on which there half-a-dozen leaves, some of them quite young, was inserted in water in the same way, and the water was taken up so fast that the rubber covering was drawn down in the shape of a deep cup, there being no air to fill the vacuum. I have frequently said that vines require more water during the ripening of the fruit than at any other time, and it would appear that my assertion was only halfway towards the truth. *Wm. Taylor, Bath.*

MELON KING GEORGE V.—I should like to call the attention of your readers to the new Melon known as "King George V." It is one of the best of which I know; a most luscious fruit, in flavour something like a Pineapple. The fruits set well, grow to a good size, and are extremely numerous. It is a very early variety. We have had two crops here this season, and have found the fruits far better flavoured than any of our other varieties. It was sent out by Messrs. James Carter & Co. *W. A. Cook, Leonardslee Gardens, Horsham.*

RICHARD BRADLEY.—If Mr. Murison (see p. 132) will look under "The Mushroom," where "The manner of making the beds—may be found in Mr. Bradley's book," and under Sweet William—"But Mr. Bradley calls them Mules," he will find evidence that Bradley was not the author. Besides, a comparison of the book with those books known to be Bradley's affords convincing proof from the style that whatever part he played in its production he could scarcely have written it. Edition 1750 has merely "By a Gardener" on the title page. I have met with five editions, or so-called editions, because a new title page served in many cases for a new edition in those days when bookselling was a notoriously corrupt business. See *The Dunciad* for notices of Mears. One is "Mears, Warner, Wilkins, booksellers and publishers of much anonymous stuff." Bradley, I am afraid, was one of those who, unfortunately for his reputation, lent himself to practices from which some of his contemporaries kept themselves free, and after his death they traded on his reputation as a professor. *R. P. Brotherston.*

Obituary.

ALEXANDER DEAN, V.M.H.—By the death of Mr. Alexander Dean—which took place on August 20—there has passed away one of the most venerable and distinguished of horticulturists, and a gap which will not be filled has been left in the ranks of gardeners. For Alexander Dean was not only a great practical exponent of the art of growing plants—he was a man of striking and unique personality. Although throughout his long life he was absorbed by the engrossing work of his profession, he displayed, both in his personal character and in the versatility of his talents, that indefinable quality which is known as culture. It was the rare combination of skill in growing plants, with an artist's appreciation of the science of horticulture, which made him so remarkable. Such a man—devoted passionately to his profession and possessed of a natural acuteness of mind sharpened by continual observation —could not fail to be at times a severe critic. His criticisms, expressed both in these pages—to which he was for many years a valued contributor—and elsewhere, though they may have given momentary pain, never rankled. For Dean's criticisms always were made in good faith. He possessed a mastery of his subject which sometimes betrayed him into impatience; but we—who, in common with many others, have had our words and actions criticised by him—are able to look back on his comments with gratitude, and to recognise that the vigour of the criticism was but the sign of the depth and sincerity of his convictions. Dean was especially severe on the man of science who, lacking, it may be, a thorough appreciation of the technical side of the problems under consideration, intervened in horticultural discussions. Nevertheless, it is a fine tribute to the character of Alexander Dean that almost as many of his friends were to be found among men of science as among gardeners, of whom he was the chosen champion. He expressed the point of view of the gardener with a completeness and directness which was equalled by few, if any, of his contemporaries. In his own domain he was supreme; and it is no undue tribute to his qualities to say that he would have been distinguished in whatever walk of life he might have chosen. But his career was marked out for him from birth. He came of a family of gardeners, and was, as it were, dedicated to the profession from his earliest years. Born on March 22, 1832, at the nursery at Hill, near Southampton, Dean was the son of the foreman of that famous establishment. At Hill, under his father, and afterwards with John Colthart, he received his first training in the art of gardening. As a young man, he travelled in the West Indies, and soon after his return he settled down to garden work—first in Bucks., next in Berks., and then for some years at Shirley, in Hampshire. At the last-named place he established the Shirley Horticultural Society, which existed till 1912. Later on he went to Bedfont, in Middlesex, and took charge of Mr. R. Dean's seed-growing grounds, which position he occupied for 20 years. During that time he exhibited frequently at the R.H.S. and other shows, and acted as judge at various exhibitions, gradually becoming known as a recognised authority on the culture of fruit and vegetables. He was for 20 years a member of the Fruit and Vegetable Committee of the R.H.S., and, needless to say, was one of its most active members. Dean also served on the committees of the National Dahlia and National Potato Societies, and was instrumental in founding the National Vegetable Society, of which he acted as chairman. Alexander Dean was a prolific writer, and although the volumes which he published were confined to his special subject —that of vegetable culture—his miscellaneous writings treated of so many aspects of gardening that it might be said of him with truth and without ill-nature that "omniscience was his foible." The future historian of horticulture will be amazed at the frequency with which he meets with the initials *A. D.* in the files of 19th and 20th century horticultural journals, and will not fail to recognise that the writer for whose name these initials stood played an important and valuable part in directing the horticulturist and in advancing the horticulture of his time. Dean's most remarkable journalistic feat was to contribute for 32 years, without intermission, the weekly article on gardening which appears in the pages of our contemporary, *Reynolds' Newspaper.* Dean rendered noteworthy services to the cause of horticultural education as assistant instructor, under Mr. John Wright, to the Surrey Education Committee. Alexander Dean received the Victoria Medal of Honour for his distinguished services to horticulture; and his name will be held long in remembrance by horticulturists as that of one of the most devoted and distinguished members of their profession.



THE LATE ALEXANDER DEAN, V.M.H.

WILLIAM FREDERICK THOMPSON.—We regret to record the death of the eldest son of Mr. William Thompson, the well-known nurseryman of Sheen, Richmond. Mr. Thompson, junior, was on his holidays at Heyst, in Belgium. On Tuesday, the 13th inst., he was bathing, and although a proficient swimmer, he was seized with cramp and drowned. The body has not yet been recovered. Mr. Thompson, who was only 37 years old, leaves a wife and two children to mourn his loss.

JAMES SHEPPERD.—We regret to record the death of Mr. James Shepperd, gardener at Shannaburn House, Maryculter, N.B., as the result of an accident on August 15.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

AUGUST 13.—*Present:* Messrs. E. A. Bowles, M.A., F.L.S. (in the Chair), J. P. Bennett-Poë, Sir Everard im Thurm, Jas. O'Brien, and J. W. Odell.

Black Currants sporting.—Messrs. J. R. PEARSON & SONS wrote that their plants of Black Currants were similarly affected, but that the trouble was not due to pruning. A letter on the same subject was read, in which the writer suggested that forcing by too much manure or too hard pruning was the cause of the "throw back" in Black Currants, and that the trouble is common amongst the Worcestershire growers.

Hazel.—Mr. O'BRIEN showed Hazel Nuts with very large foliaceous bracts, a condition he had found fairly common in the neighbourhood of Haywards Heath.

Primula pycnoloba.—Messrs. H. VEITCH & SONS showed a new Western China Primula, P. pycnoloba, a species with small, dark purple flowers, very large sepals, and foliage resembling a Megasea.

Dinanthe.—Mr. BENNETT-POË showed open flowers of the genus Dinanthe; the flowers are a deep blue, somewhat like Meconopsis Wallichii in form.

SHROPSHIRE HORTICULTURAL.

Exhibition at Shrewsbury, August 21 and 22.

The thirty-eighth annual exhibition of the Shropshire Horticultural Society was opened on Wednesday last in the Quarry Grounds, Shrewsbury, in excellent weather. So far as the general exhibition is concerned there was every indication that the Society has still the full support of the numerous exhibitors who have contributed to the Shrewsbury Shows for many years past, and have made them amongst the most important exhibitions held in this country. With their help the committee and their excellent secretaries, Messrs. Adnitt and Naunton, have produced a standard of exhibition that is unequalled in the provinces, and one of which the county of Salop may be justly proud. It is this fact that makes it exceedingly difficult for the committee to introduce features of novelty from year to year. The schedule has been amended from time to time with the view of making it the best possible for the month of August, and the compilers have so far succeeded that they find it almost impossible to introduce changes with the certainty that they will be improvements. They are well aware that many of the better-informed visitors desire novelties in the effects presented, but they do not see how to provide them without altering the season of the show.

Therefore it is that the Shrewsbury Show of 1912 is that which we are accustomed to see in the Quarry Grounds, maintained as well as ever it was, and representing many of the horticultural products of this country and its wealth of August flowers at their very best. We have always said that the Shrewsbury Show provides the best display of indoor fruits to be seen at exhibitions in these islands, and the statement is justified by the exhibition now under notice. Allowing for the character of the season, the dull skies and lack of seasonable warmth, the exhibition of Grapes was all that could be desired. Some of the bunches showed a slight deficiency of finish, as is pointed out in our remarks, but in all other respects they were magnificent specimens, and in so far as the 1st prize exhibit in the class for 12 bunches is concerned we have no criticism to offer, even in regard to the quality just referred to—the finish of the berries. Nor could anyone be other than delighted with the standard of quality exhibited by the fruit shown in the 1st and 2nd prize displays of the fruit table competition. The groups of plants arranged for effect were as attractive as usual, but they had no suggestion of novelty.

Roses were as good as we ever remember to have seen them at the Shrewsbury Show. On the present occasion the president, Mr. G. W. Phillips, offered a Silver Rose Bowl in the principal class for cut blooms, which was won in a very keen competition by Messrs. GUNN & SONS, of Olton. Although the bowl was offered after the publication of the schedule, it was competed for by some of the principal growers, so that next year it may reasonably be expected that the number of competitors will be even greater. Reviewing the show as a whole, we cannot do better than quote the official report of the judges, who said:—"We think the exhibits generally are above the average, and the taste in arranging shows a decided advance on that exhibited in previous years."

CHAMPION DECORATED FRUIT TABLES.

This popular class for decorated tables of choice fruits was represented by three exhibits. The tables were placed, as usual, near one of the entrances to the large fruit tent. A disposition is shown sometimes to criticise this class because it is not a dessert table, inasmuch as room is allowed only for fruit and flowers, but as the word "dessert" no longer finds a place in the schedule in the description of this competition, the tables must be regarded merely as "displays" of choice fruits suitable for dessert and for floral decorations that, with modifications, are also suitable for the adornment of the dinner table. The 1st prize was won by the Duke of PORTLAND, Welbeck

The quality of the fruit generally was beyond praise. In the first place the Grapes were grand, especially two bunches of Prince of Wales, shown with an extraordinary amount of "bloom," Madresfield Court represented by three bunches was heavy, shapely and well finished, and Muscat of Alexandria heavy and fairly well coloured. We proceed to enumerate the varieties of fruit contained in the exhibit and the points awarded. Apples Washington, Rival, Gascoyne's Scarlet Seedling, and James Grieve (6 points each); Figs Brown Turkey and Negro Largo (6 and 5½); Grapes Muscat of Alexandria (8, 8, 7 an 7½), Buckland Sweetwater (6½ and 6), Madresfield Court (8, 7, 7½ and 7½), Prince of Wales (8½ and 7½), Mrs. Pince (7½ and 7); Melons Ringleader, Seedling and two Royal Sovereigns (7, 7, 7, and 6½); Nectarines Humbolt, Pitmaston Orange and two dishes of Pineapple (7, 6, 5½ and 4½); Peaches Crimson Galande, two dishes of Bellegarde and Royal George (7, 7, 6 and 6½); Pears: two dishes of Souvenir du Congrès, Marguerite Marillat and Triomphe de Vienne (6, 6, 5½ and 5½); Plums: Kirke's (4). For beauty of flowers and foliage, 5½ points were awarded. and for general arrangement for effect 5½ points. The total number of points was 2[illegible]. The 2nd prize was awarded to the Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre). The judges found it almost impossible to separate the two exhibits: so excellent were the details in the fruit display that the number of points awarded was almost exactly the same in each case, the point that eventually determined the 1st prize being lost to the Earl of HARRINGTON in the floral decorations. There were three glass vases holding huge bouquets of Lilium speciosum and Francoa ramosa that dwarfed the fruit, almost hiding it. The Duke of PORTLAND's decorations were quite full enough, but they were held well above the fruits, and were more appropriate from every point of view. But these remarks must not prevent us from commenting on the excellence of the Grapes, Apples, Pears, Plums, Peaches, Figs (Osborne's Prolific and Brown Turkey) and Melons, for these deserve every praise. The 3rd prize was awarded to Lady HENRY SOMERSET, Eastnor Castle, Ledbury, who gained a total of 235½ points.

COLLECTIONS OF FRUIT.

The arrangements for collections of fruit showed no alterations from those which have obtained at previous exhibitions. Substantial prizes were offered for collections of 12 dishes and nine dishes respectively. Each collection was decorated with flowers or plants to produce a good effect, but the decorations constituted a competition in themselves for additional prizes.

Collection of twelve dishes.—This class was for twelve distinct varieties of fruit in not fewer than nine kinds, and no exhibit to include more than two varieties of a "kind." Black and white Grapes were considered distinct "kinds." Pineapples were not admissible in these collections. Of the four exhibits presented for judging, that from the Duke of NEWCASTLE, Worksop (gr. Mr. S. Barker), was adjudged the best, and it worthily won the 1st prize of £10. For Grapes, the exhibitor selected Madresfield Court, Muscat of Alexandria, and Black Hamburgh. The Black Hamburghs were heavy, well-shouldered bunches of rather uneven-sized berries, moderately well, but not perfectly, "finished," and the Muscats were good-sized bunches, lacking the best colour. The fruits of Madresfield Court, on the contrary, were rather small, certainly below good exhibition weight, but each bunch possessed the appearance of refinement so universally admired in this handsome variety, and, except for a few berries at the top of the bunches, the colour and "finish" were admirable. Of the fruits arranged on the table in front of the Grape stands, Ribston Pippin Apple and Triomphe de Vienne Pear stood out prominently for their large size and good appearance; Dymond and Goshawk Peaches were excellent; Pineapple Nectarines slightly above the ordinary size, and brilliantly coloured; Negro Largo Figs of extraordinary size; and Kirke's

two fine Melons, Royal Sovereign and Jubilee. The 2nd prize was awarded to Lord BIDDULPH, Ledbury Park (gr. Mr. H. Cotton), for another very fine exhibit, in which Madresfield Court Grape was shown grandly in large, well-berried bunches of superb colour; Muscat of Alexandria was less good, owing to unevenness and lack of perfect ripeness; whilst Black Hamburgh, though fairly heavy, of large berry, and well coloured, had not the correct shape for this variety, losing in consequence much of its attractiveness. Cox's Orange Pippin Apple was represented by half-a-dozen very large brilliantly-coloured fruits (we have but seldom seen more excellent specimens); Pineapple Nectarines were good; Brown Turkey Figs, superlative; and the exhibit also included Kirke's Plum, Bellegarde Peaches, Marguerite Marillat Pears, Ringleader and Emerald Gem Melons, and a moderate bunch of Duke of Buccleuch Grapes. 3rd, Alderman BEWLEY, Rathgar (gr. Mr. D. M. McIntosh), who exhibited large bunches of Mrs. Pince Grapes and very fine fruits of Emperor Alexander Apples as prominent features in his collection. 4th, Lord BELPER, Derby (gr. Mr. W. H. Cooke).

The prizes for floral decorations were awarded as follow:—1st, Lord BIDDULPH (Francoa ramosa and Montbretias); 2nd, Duke of NEWCASTLE (Cattleyas and Lily of the Valley); 3rd, Alderman BEWLEY.

Collection of nine dishes.—There were four exhibits in this class, and the premier position was obtained by Captain HEYWOOD LONSDALE, Shavington (gr. Mr. J. Mills). He had very heavy bunches of Muscat of Alexandria Grapes and large-berried examples of Madresfield Court. Nectarines included Pineapple and Stanwick Elruge, Peaches Barrington and Royal George, Apple Rival, Melon Countess, and a dish of unnamed Figs, probably Brown Turkey. The 2nd prize fell to A. H. HEBER-PERCY, Esq., Hodnet Hall (gr. Mr. W. Catt). 3rd, Col. MAINWARING JACSON. The 1st and 2nd prizes for floral decorations were won in the same order as already given.

GRAPE CLASSES.

CHAMPION GRAPE CLASS.—The most important of the 18 classes for Grapes was for 12 bunches in four or more distinct varieties, but not more than four bunches of any one variety. The 1st prize was £20, the 2nd £16, and the 3rd £12. There were six prizes in all. The bunches were required to be shown on boards arranged on a table-space measuring 8 feet by 4 feet 6 inches, in two tiers. The judging was by points, a maximum of 11 points being allowed for Muscat of Alexandria, 10 points for all other Muscat varieties and Black Hamburgh, and nine points for all other varieties. Each collection was required to be decorated with flowering and foliage plants in pots, not exceeding 5 inches in diameter, and cut flowers and foliage in glass-ware or loose at the discretion of the exhibitor. Prizes were offered specially for the decorations.

There were seven exhibits, and it may be imagined that collectively they made a very imposing and attractive display, the floral decorations being all in good taste.

The 1st prize was awarded to the Duke of WESTMINSTER, Eaton Hall (gr. Mr. N. T. Barnes), who also won the 1st prize for decorations. The bunches and points awarded were as follow:—

No.	Variety.	Maximum No. of points.	Points awarded.
1	Black Hamburgh ...	10	7½
2	Muscat of Alexandria ...	11	10
3	Appley Towers	9	7
4	Appley Towers	9	7
5	Muscat of Alexandria ...	11	10
6	Black Hamburgh ...	10	7½
7	Madresfield Court ...	10	9
8	Madresfield Court ...	10	8
9	Muscat of Alexandria ...	11	10
10	Muscat of Alexandria ...	11	9
11	Madresfield Court ...	10	8
12	Madresfield Court ...	10	8
	Total ...	122	101

It will be seen that the Muscats were the finest bunches; their quality was superb, the bunches being well shaped, with berries not over-large, but admirably finished. Madresfield Court was also shown splendidly, and the Black Hamburgh were very large bunches.

The decorations included small glass vases of Gloriosa flowers with Asparagus Sprengeri and a single spike of Francoa ramosa, interspersed with similar vases of the mauve Lælia anceps, with taller vases at the back, furnished with sprays of Oncidium, Francoa, and Chelone barbata.

2nd, Earl of Harrington, Elvaston Castle (gr. Mr. J. H. Goodacre), whose strongest bunches were his black varieties. The varieties and pointing were as follow:—

No.	Variety.		Maximum No. of points.	Points awarded.
1	Black Hamburgh	...	10	9
2	Black Hamburgh	...	10	9
3	Muscat of Alexandria	...	11	7½
4	Muscat of Alexandria	...	11	7
5	Madresfield Court	...	10	8
6	Muscat Hamburgh	...	10	9
7	Muscat Hamburgh	...	10	9
8	Muscat of Alexandria	...	11	7
9	Madresfield Court	...	10	8
10	Muscat Hamburgh	...	10	8½
11	Muscat of Alexandria	...	11	7
12	Black Hamburgh	...	10	9
	Totals	...	124	98

3rd, C. A. Cain, Esq., Welwyn (gr. Mr. T. Bateman), with 97½ points. This collection included very large bunches of Muscat of Alexandria, but the berries were not well finished. Muscat Hamburgh was excellent. 4th Lord Belper (gr. Mr. W. H. Cooke), with 95 points. Gros Maroc was shown especially well by this exhibitor.

The 2nd prize for decorations was awarded to the Duke of Newcastle, Worksop (gr. Mr. S. Barker), who was placed sixth for Grapes with 89 points. The scheme of decoration consisted in pink Carnations and Lilium speciosum rubrum, with sprays of Francoa and grasses.

There were nine exhibits in the class for four bunches of Grapes, including two bunches of a black variety and two of a white variety. There was a good competition, and the 1st prize was awarded to the largest bunches, shown by R. J. Corbett, Esq., Towyn (gr. Mr. J. Jones). The varieties were Gros Maroc, large berried and of good colour, and Muscat of Alexandria, that needed a little deeper amber colour, but good in size of berry and shape. 2nd, Capt. Heywood Lonsdale, Shavington (gr. Mr. J. Mills), who showed excellent Madresfield Court and very beautifully-finished Muscat of Alexandria. 3rd, Lord Harlech, Brogyntyn (gr. Mr. T. Lambert), for Muscat of Alexandria and very long bunches of Madresfield Court.

Black Hamburgh.—The best two bunches of this variety were exhibited by J. R. Brinton, Esq., Stourport (gr. Mr. W. H. Wilson); 2nd, Lady Henry Somerset, Eastnor Castle (gr. Mr. G. Mullins); 3rd, Earl of Harrington, Elvaston Castle (gr. Mr. J. H. Goodacre).

The best single bunch of this variety was shown by Lady Henry Somerset. It was a compact bunch, with exceptionally large jet-black berries. 2nd, Earl of Harrington. 3rd, J. R. Brinton, Esq.

Black Muscat varieties.—There were only three entries in a class for two bunches of black Grapes of Muscat varieties, and the prizes were awarded as follow:—1st, Madresfield Court, shown by G. E. Lomax, Esq., Huyton (gr. Mr. E. Jones); 2nd, Madresfield Court, shown by Mr. Brinton; 3rd, Muscat Hamburgh, shown by the Earl of Harrington.

Madresfield Court.—The best of four exhibits of this variety was shown by Col. H. C. Legh, Knutsford (gr. Mr. A. J. Cook); 2nd, Duke of Westminster; 3rd, Earl of Harrington.

Black Alicante.—This was a well-contested class, eight exhibitors all showing splendidly. Large, well-balanced bunches, exhibited by J. W. Raynes, Esq., Old Colwyn (gr. Mr. J. Barker), were adjudged the best, and Lady Biddulph, Ledbury Park (gr. Mr. H. Cotton), had the second best, with Mr. Lomax, 3rd.

In the class for any other variety of black Grape, Lord Harlech won the 1st prize with very beavy bunches of Alnwick Seedling of splendid finish of berry; 2nd, Mr. Corbett, with Gros Maroc.

White Muscat varieties.—The 1st prize for two bunches of White Muscat varieties was won by the Duke of Westminster, who showed heavy-shouldered bunches, with beautifully-finished berries. 2nd, D. W. Graham, Esq., Hilston Park (gr. Mr. J. Newton), with long, tapering bunches of a fine amber colour. 3rd, Duke of Newcastle.

The largest bunches were shown by Mr. W. Wilkins, Manor Fruit Farm, Knowle, but they were not ripe.

The finest single bunch in this class was shown by the Duke of Westminster; 2nd, Mr. Corbett.

In the local classes for Grapes, the prizes were awarded as follow:—*Black Hamburgh:* 1st, Lady Mary Herbert, The Styche (gr. Mr. J. Birch); 2nd, Lord Harlech (gr. Mr. T. Lambert). *Madresfield Court:* 1st, Lord Harlech; 2nd, Capt. Heywood Lonsdale. *Other black Grapes:* 1st, Lord Harlech; 2nd, Mrs. F. Alderson, Oswestry (gr. Mr. Geo. Davis). *White Muscats:* 1st, Capt. Heywood Lonsdale, with well-finished bunches of Muscat of Alexandria; 2nd, Lord Harlech; 3rd, Lord Trevor, whose bunches excelled all others, save only in ripeness. *Any other white Grapes:* 1st, Lord Harlech; 2nd, Mrs. Alderson. *Two bunches of black Grapes:* 1st, G. Burr, Esq., Shrewsbury (gr. Mr. A. Jones), with Black Hamburgh. *Two bunches of white Grapes:* 1st, Major R. A. Nevill, Admaston (gr. Mr. W. Ashwood).

Other Kinds of Fruits.

Peaches.—There were 15 exhibits in a class for eight Peaches, and there was not a weak dish amongst them. The 1st prize was awarded to the Duke of Newcastle, Worksop (gr. Mr. S. Barker), who showed large fruits of Crimson Galande, coloured to a remarkable degree. The 2nd prize was won by the Duke of Westminster, Eaton Hall, Chester (gr. Mr. N. F. Barnes), for the variety Royal George, and the 3rd to the Marquis of Northampton, Castle Ashby (gr. Mr. A. Searle), for Crimson Galande.

Nectarines.—There was a similar class for Nectarines, and nine competed. The 1st prize was awarded to Lady Henry Somerset, Eastnor Castle (gr. Mr. G. Mullins), for a superb dish of Pineapple—large, even, highly-coloured fruits. 2nd, Duke of Newcastle, and 3rd, Duke of Westminster, both with the variety Pineapple.

Apricots.—These fruits were not remarkable. The best of nine dishes was shown by A. H. Heber-Percy, Esq., Hodnet Hall (gr. Mr. W. Catt), who staged moderate-sized fruits of Large Early; 2nd, Dr. Rambaut, Bicton Heath (gr. Mr. J. A. Nuttall); 3rd, Major-General Sir Francis Lloyd, Aston (gr. Mr. W. T. Staward).

Melons.—There was a large array of these fruits, and the prizes were awarded as follow: *Green flesh:* 1st, Emerald Gem, shown by Mrs. Jenner, Cardiff (gr. Mr. H. Wheeler); 2nd, Seedling, shown by Joseph Shaw, Esq., K.C., Brampton Brian (gr. Mr. H. Fisher). *Scarlet flesh:* 1st, Seedling, shown by the Earl of Harrington, Elvaston Castle (gr. Mr. J. H. Goodacre); 2nd, Seedling, shown by Lord Howard de Walden, Saffron Walden (gr. Mr. J. Vert). *White flesh:* 1st, Hero of Lockinge, shown by Mrs. Jenner, Cardiff; 2nd, a very large fruit of Golden Wedding, shown by Lord Howard de Walden.

Plums.—There were eight exhibits in the class for 12 Gages, and considering the unfavourable season, the fruits were very good. The 1st prize was awarded to a magnificent dish of Reine Claude de Comte Althan, shown by Lord Howard de Walden; 2nd, Reine Claude Bavay, shown by Lord O'Neill, Shane's Castle, Antrim (gr. Mr. W. G. Wadge); 3rd, Golden Transparent Gage, shown by the Duke of Newcastle. In the class for yellow Plums other than Gages, Lord Howard de Walden beat five other competitors with splendid fruits of Jefferson; 2nd, Coe's Golden Drop, shown by the Duke of Westminster; 3rd, Jefferson, shown by the Marquis of Northampton. There were 11 exhibits in the class for 12 purple or. red Plums, and here the Earl of Harrington excelled with choice fruits of Kirke's; 2nd, Lord Howard de Walden, with President; 3rd, Duke of Portland, Welbeck (gr. Mr. Jas. Gibson), with Kirke's.

Cherries.—Morello Cherries were awarded all the prizes; the premier dish contained magnificent fruits. The exhibitor was Lord Howard de Walden; 2nd, Lady Henry Somerset; 3rd, Capt. T. A. M. Dickin, Lappington House (gr. Mr. G. Gilbert).

Local Classes.

The 1st prize in the class for a collection of hardy fruits (Apricots, Peaches, Nectarines and Plums excluded) was shown by Capt. Heywood Lonsdale, Shavington (gr. Mr. J. Mills), who exhibited Osborne's Prolific Figs, Morello Cherries, Perfection Raspberries, Raby Castle Red Currants, Leveller Gooseberries and Irish Peach Apples; 2nd, Col. Mainwaring Jacson, West Felton (gr. Mr. W. Willdig); 3rd, A. H. Heber-Percy, Esq., Hodnet Hall (gr. Mr. W. Catt).

Apples.—The best cooking Apples in these classes were shown by Capt. Heywood Lonsdale, Shavington (gr. Mr. J. Mills), who staged Peasgood's Nonesuch labelled Emperor Alexander; 2nd, Bernard Howson, Esq., Market Drayton (gr. Mr. A. Townsend), with Lord Suffield; 3rd, Mr. J. B. Davies, Greenfields.

A dish of James Grieve exhibited by Capt. Heywood Lonsdale was adjudged the best exhibit of dessert Apples; 2nd, Irish Peach, shown by Nicholas Robinson, Esq., Ellesmere (gr. Mr. W. Roberts); 3rd, Worcester Pearmain, shown by Mr. Bernard Howson.

Pears.—There were 11 exhibits in a class for six Pears, and the prizes were awarded as follow:—1st, Jargonelle, shown by Mr. R. Richards, Knockin; 2nd, Dr. Jules Guyot, shown by Capt. Heywood Lonsdale; 3rd, Jargonelle, shown by Major R. A. Nevill, Admaston (gr. Mr. W. Ashwood).

Plums.—Excellent Plums were shown by local exhibitors; the finest by Lady Mary Herbert, The Styche (gr. Mr. J. Birch); 2nd, F. Bibby, Esq., Hardwicke (gr. Mr. W. Taylor).

GROUPS OF PLANTS.

The two classes for groups of plants arranged on the ground were well filled, and in the class which permits the use of miscellaneous and fine-foliage plants, arranged to produce the best effect, and occupying a space of 250 square feet, the grouping was very graceful and effective. Messrs. James Cypher & Sons, Cheltenham, again won the 1st prize, and it would be difficult to conceive a more beautiful display. The tall, highly-coloured Crotons were models of cultivation, and, indeed, all the plants used reached a high degree of merit. The background of this beautiful group was so cunningly arranged that it gave the impression of far greater distance than was really the case. Various Orchids, such as Oncidium flexuosum and O. oblongatum, with tall, arching sprays of bloom, and many Cattleyas were disposed amongst such foliage plants as Alocasias and Nandina domestica, which had uncommonly rich colouring. A tall specimen Kentia Fosteriana at the back and a smaller plant of Cocos Weddeliana nearer the front added a dignity to this charming group. The 2nd prize was awarded to Sir G. H. Kendrick, Edgbaston (gr. Mr. J. V. Macdonald), for a very fine exhibit. The Orchids, Liliums, Caladiums, and Selaginellas in this group were especially fine. The only fault one could fine would be that the Moss around the pots of the raised Crotons—which, by the way, were excellent plants—was a little too obtrusive. 3rd, Mr. W. Vause, Leamington. Special prize, Mr. W. R. Manning, Dudley.

There were six competitors in the class for a group of hardy plants with a pool of water and aquatics, occupying a space not exceeding 300 square feet. The use of cut flowers is permitted and the groups were to be arranged for natural effect. In most of the five groups the pool was the weakest part of the arrangement. In some cases the level of the water was higher than that of the body of the group. Notwithstanding this and the fact that none of the groups possessed the natural effect mentioned in the schedule, it must not be inferred that they did not possess any merit, for such is far from being the case. On the whole, they were very bright and attractive, and it was the brightest group—that arranged by Messrs. Gunn & Son, Olton—which won the 1st prize. This exhibit contained a large number—rather too many—of excellent flowers, and the frontal rockery was well planted. The 2nd prize was awarded to Mr. J. F. Knight

Wolverhampton, whose group was arranged on circular lines. Mr. T. R. Hayes, Keswick, won the 3rd prize. The general arrangement was good, but the plants of Nertera depressa, set across the middle of the pool, were incongruous and not strictly permissible. Special prizes were awarded to Messrs. W. Artindale & Son, Sheffield, and to Mr. W. Vause, Leamington; the conception of the Sheffield group pleased us most of all, but sufficient attention was not paid to detail.

As usual, the 1st prize in the class for 15 stove and greenhouse plants, not fewer than 10 in bloom, was won by Messrs. James Cypher & Sons, Cheltenham, and it is difficult to imagine anyone exhibiting better examples of the particular skill and art required for the production of first-class trained plants. The specimen Statice intermedia was an immense plant, and carried an enormous quantity of flowers. The Ixoras shown were two plants of I. Duffii, with large trusses of scarlet flowers, and I. Shawii. The large plant of Chironia ixifera was a dainty and graceful specimen, and amongst the Crotons C. Mortefontainensis was very highly coloured. The 2nd prize was awarded to Mr. W. Vause, Leamington, who arranged smaller but fresh specimens. Plants of Dipladenia and Bougainvillea were especially meritorious. 3rd, Mr. W. R. Manning, Dudley, who showed a good specimen of Tabernæmontana.

Messrs. James Cypher & Sons arranged six magnificent stove and greenhouse plants in bloom or foliage. The six were all flowering plants, and each specimen deserves mention: Ixora Duffii, Rondeletia speciosa major, Statice profusa, S. Gilbertii, Clerodendron Balfouri, and Allamanda nobilis. 2nd, Mr. W. Vause. 3rd, Mr. W. Manning.

The two exhibits of 30 stove and greenhouse plants (Orchids excluded) in pots not exceeding 10 inches in diameter were one of the brightest and most attractive features of the show. Almost every plant was a model of skilful cultivation, and the arrangement was excellent. As elsewhere, Messrs. Jas. Cypher & Sons won the 1st prize; in this class their most noteworthy plants were Croton inimitabilis, C. Sunset, Phœnix Roebelinii, Chironia ixifera, and various Ixoras. 2nd, Mr. W. Vause, who included two large-flowered Bougainvilleas in his exhibit.

The best 12 stove or greenhouse plants in pots not exceeding 10 inches, also excluding Orchids, were shown by Lord Harlech, Brogyntyn (gr. Mr. T. Lambert). Specimens of Ixora amabilis and I. Duffii were very fine. 2nd, Mr. Jas. Farrant, Shrewsbury; 3rd, G. Burr, Esq., Oaklands, Shrewsbury (gr. Mr. A. Jones).

In the class for four exotic Ferns the 1st prize was awarded to Lord Harlech; 2nd, Capt. Heywood Lonsdale; 3rd, Mrs. Jowett.

Lord Harlech was awarded the 1st prize for Dracænas, his specimens being very fine; 2nd, Mr. W. R. Manning. Lord Harlech also showed the finest six Caladiums; 2nd, Mr. B. Howson.

There was only one exhibitor in the class requiring greenhouse Ferns to be arranged in a space of 80 square feet. The 2nd prize was awarded to Capt. Heywood Lonsdale, Shavington Hall (gr. Mr. J. Mills), who exhibited a pleasing group.

The 1st prize for four Fuchsias was won by Messrs. J. Wright & Sons, Leicester; 2nd, Mrs. Jowett, Henston (gr. Mr. E. Bridge); 3rd, Mr. J. Farrant.

The zonal Pelargoniums were especially good; both the singles and the doubles were nearly all large, healthy plants bearing very many trusses of bright flowers. Mrs. Jowett was 1st and Messrs. J. Wright & Sons, Leicester, were 2nd in each class.

The groups of tuberous-rooted Begonias, arranged for effect on a table 15 feet by 4 feet, contained amazingly fine plants. All the Begonias shown had double flowers. The 1st prize was awarded to Messrs. Blackmore & Langdon, Bath, whose collection was decidedly the more effectively arranged. This delightful collection included splendid hanging baskets of the varieties Golden Shower and Lena. The 2nd prize group, set up by Messrs. T. S. Ware, Ltd., Feltham, Middlesex, contained even larger blooms, but the arrangement was not so good.

The six tuberous-rooted Begonias shown by Messrs. Blackmore & Langdon were excellent plants, the crested varieties being splendid; 2nd, Mr. T. Hammonds.

The best 12 Gloxinias were shown by Lord Harlech; 2nd, Col. F. W. Robinson, Claremont (gr. Mr. S. Harding); 3rd, Mr. J. Farrant.

There was a very strong competition in the class for dinner-table plants. Lord Harlech, who won the 1st prize, exhibited 12 splendid plants in pots, 6 inches in diameter; 2nd, Mr. W. Vause; 3rd, F. R. Dixon Nuttall, Esq. (gr. Mr. J. W. Barker), Eccleston Park, Prescot.

There were three exhibits of Rock and Alpine plants staged in the ground on a space of 100 square feet. The 1st prize was awarded to Mr. T. R. Hayes, Keswick, Cumberland, for an unostentatious, gently-sloping rockery, in which such plants as Erica cinerea atrosanguinea and Dianthus Mrs. G. Bradshaw were very effective. 2nd, Mr. Robert Hayes, Grasmere, who showed many interesting plants. 3rd, Messrs. W. Artindale & Son.

The classes open only to exhibitors in the county of Salop were well contested. The prize-winning groups were very dainty, and contained excellent specimens. The collections of 12 miscellaneous plants in small pots were very fine, and showed evidence of high cultivation.

The group of plants which won the 1st prize for B. Dowson, Esq., Market Drayton (gr. Mr. A. Townsend), was admirably arranged; 2nd, Mrs. Bird, Shrewsbury; 3rd, Mrs. Drew, Oswestry.

The 1st prize for six stove and greenhouse plants was awarded to Lord Harlech, who showed good examples of Clerodendron Balfouri and Acalypha hispida; 2nd Mr. J. Farrant.

The best four Begonias were shown by Mr. E. W. Cooke; 2nd, Mrs. Drew.

In the class for three double Pelargoniums, the 2nd prize was awarded to Major R. A. Nevill.

The 1st prize for three single Pelargoniums was won by Lord Harlech; 2nd, Major R. A. Nevill.

In the class for 12 miscellaneous plants, growing in pots not exceeding 5 inches in diameter, Lord Harlech showed excellent plants, especially of Ixoras and Cordylines; 2nd, B. Howson, Esq., Market Drayton; 3rd, Mrs. Drew, Oswestry.

SWEET PEAS.

The exhibits of Sweet Peas were accommodated in a special tent, which was crowded with visitors at all times. In the premier class for 18 distinct varieties, arranged in a space of 8 feet by 3 feet 6 inches, there was a splendid competition amongst 10 exhibitors. The 1st prize collection was probably the best ever exhibited at these shows, the flowers being large, clean and very bright. The varieties King Alfred, White Queen, Lady Evelyn Eyre, Thomas Stevenson, Prince George, Hercules and Scarlet Emperor are deserving of special notice. The exhibitor was Mr. G. Bowness, Busby, Glasgow. Mr. John Smellie, Busby, Glasgow, followed closely. He showed grand vases of Hercules, Elsie Herbert, Thomas Stevenson, May Campbell and Florence Nightingale; 3rd, Lord O'Niell, Shane's Castle (gr. Mr. W. G. Wadge). This also was a fine collection, but the effect was marred by the inclusion of two vases of very stale blooms. Mr. T. Jones, Bryn Penylan, Ruabon, also showed well, and was awarded the 4th prize, but his flowers showed the effects of the unfavourable weather. Blooms of Wenvoe Castle, Charles Foster and Dorothy exhibited splendid colours. 5th, Mr. G. L. Moffatt, Lockerbie, N.B.; the stems were of exceptional length, but the flowers were not correspondingly good.

In the class for 12 varieties, the competition was not so keen, but the flowers were good. The 1st prize was awarded to Mr. D. Gardiner, The Manse, Lockerbie, N.B. Rosabelle, Hercules and Prince George were the best varieties; 2nd, Mr. E. Price, Skipton-in-Craven; 3rd, P. Davis Cooke, Esq., Mold.

For six bunches there was again a very strong competition, and the 1st prize was well won by S. Robinson, Esq., The Ovals, Kington. He showed excellent bunches of Elsie Herbert, Nubian, Mrs. Hugh Dickson, John Ingman, Elfrida Pearson and Asta Ohn; the 2nd prize was awarded to Mr. W. H. Holloway, Port Hill Nursery; this exhibitor showed Melba and Mrs. Routzhan in fine form; 3rd, Mr. E. Price, Skipton-in-Craven.

ROSES.

The Rose classes again proved to be exceedingly popular, and in spite of the fact that the month of Roses has long since passed and that heavy thunderstorms have been very general during the last few days, the exhibits were exceedingly good. The class requiring nine baskets of cut Roses did not attract an exhibitor, but the class which allows a space of 12 feet by 4 feet for a collection of cut Roses attracted a very strong competition. The quality of all the many exhibits was good. Messrs. Gunn & Sons, Olton, who were awarded the 1st prize in this very strongly-contested class, arranged a great number of exceedingly fine blooms. The arches of Lady Hillingdon and Arthur R. Goodwin contained many richly-coloured flowers. The 1st prize included a silver bowl, given by the President, Mr. G. W. Phillips. 2nd, Mr. John Mattock, New Headington, Oxford, who made a special feature of the varieties Irish Elegance and Lady Pirrie; 3rd, Messrs. W. and J. Brown, Peterborough.

Messrs. Alex. Dickson & Sons were awarded the 1st prize for 12 vases of decorative Roses. The vases of Lady Pirrie and the Lyon Rose were especially noteworthy. 2nd, Mr. John Mattock, New Headington.

The best 18 Roses were shown by Mr. G. Speight, Market Harboro'. The blooms of the Lyon Rose, Caroline Testout, and Hugh Dickson were very fresh and good. 2nd, Mr. A. W. Meakin, Tillington, Stafford.

Miss H. Leeke showed the best 12 Roses in the County of Salop class; 2nd, Lord Harlech.

CUT FLOWERS.

The best 12 trusses of single Zonal Pelargoniums were shown by Mr. A. Myers, Shrewsbury; and Mr. A. Bewlay was the most successful exhibitor in the class for a similar number of double and semi-double Pelargoniums.

Messrs. J. Mair & Sons showed 24 very meritorious spikes of Gladiolus in a class for those flowers, and easily won the 1st prize; 2nd, Messrs. Harkness & Son. The best 12 spikes were shown by the Marquis of Northampton, Castle Ashby (gr. Mr. A. R. Searle); 2nd, Capt, Heywood Lonsdale; and in the county class Lord Harlech was the most successful exhibitor. Mr. W. A. Ballard, Leicester, was awarded the 1st prize for 12 bunches of summer-flowering Chrysanthemums.

The 1st prize in the class for 12 bunches of cut flowers of annuals was won by Mr. W. H. Banks, Kington; 2nd, Mr. A. W. Meakin.

The best 12 bunches of stove and greenhouse cut flowers were shown by Mr. B. Cromwell, Hunts Cross; and Mrs. Jowett won the 1st prize for the best six bunches in the amateurs' classes.

There were splendid collections of 24 bunches of hardy flowers. The 1st prize was awarded to Mr. H. Bull, Frome; 2nd, Messrs. Harkness & Sons, Bedale; 3rd, W. H. Banks, Esq., Kington. Mr. R. Hayes won the 1st prize in the class for six herbaceous Phloxes, three spikes of each.

The best 12 bunches of hardy flowers were shown by F. Bibby, Esq., Hardwicke Grange; 2nd, Mrs. F. Alderson, Welsh Frankton.

CARNATIONS.

The collection of cut Tree Carnations which won the 1st prize for Mr. Charles Wall, South Down, Bath, contained a great number of exceedingly good, fresh blooms; 2nd, Mr. Wallace, Saffron Walden.

Messrs. M. Campbell & Son, High Blantyre, N.B., were awarded the 1st prize for a collection of cut Carnations and Picotees.

The best amateur's collection was shown by Mr. W. H. Banks, Kington; 2nd, Mr. R. B. Waite, Birmingham.

Mr. C. Wall, Bath, showed 12 excellent vases of Carnations and Picotees; 2nd, Messrs. M. Campbell & Son.

DAHLIAS.

The class for a collection of Cactus or decorative Dahlias arranged on staging with a frontage of 8 feet 6 inches was a splendid success. There were six beautiful collections, all staged very effectively, and containing choice blooms. The 1st prize was won by Messrs. Keynes, Williams & Co., Salisbury, who had large exhibition boxes filled with choice blooms and epergnes attractively arranged. A selection of the varieties includes C. E. Wilkins, Success, H. L. Brousson, Glory of Wilts., Mary Purrier, Sweet Briar, Mrs. A. Dyer, Arthur Pickard, Ethel Yeatman, and Dr. G. Kendle. 2nd, Mr. JOHN WALKER, Thame. In this exhibit we noticed Conrad, Iolanthe, Red Admiral, Snowdon, H. Peerman, Aviator, Beryl, Evening Star, and Ivy Shoesmith. 3rd, Mr. H. WOOLMAN, Shirley, near Birmingham.

The Dahlias shown on exhibition boards were exceedingly fine, and many of the blooms, especially of the Cactus varieties, were quite as good as we have seen at the autumn shows. The best 24 blooms of show or fancy Dahlias were arranged by Mr. D. WALKER, Thame. 2nd, Messrs. BOTTOMLEY & BURTON, Elland, Yorkshire.

Colonel CORNWALLIS WEST, Ruthin Castle, was the most successful exhibitor in the class for 12 show or fancy Dahlias.

The 24 Cactus Dahlias shown by Mr. H. WOOLMAN, Shirley, Birmingham, were exceedingly good, and the 2nd prize exhibit of Messrs. KEYNES, WILLIAMS & Co, Salisbury, was also good.

In the class for 18 Cactus blooms, Mr. H. PEERMAN was awarded the 1st prize.

The 1st prize for 12 Cactus Dahlias (trade excluded) was awarded to Mr. H. PEERMAN, Nantwich. 2nd, Mr. F. BUNN.

Messrs. BOTTOMLEY & BURTON staged a splendid collection of 12 varieties of Cactus Dahlias, six blooms of each, and were deservedly 1st.

Mrs. SCOTT, Beeton Strange, was awarded the 1st prize for 12 reflexed Asters, and Messrs. HARKNESS & SONS, Bedale, Yorkshire, showed the best six bunches of Gaillardias.

DECORATIVE CLASSES.

The best display of floral designs, arranged for effect on a space measuring 12 feet by 3 feet 6 inches was made by Messrs. DICKSONS, Chester. The exhibit included bouquets, baskets of flowers, floral harps, and other devices. The top was surmounted by a crown and the King's monogram worked in white Asters and red Carnations. 2nd, Mr. F. W. JOHNSTON, Manchester. 3rd, KING'S ACRE NURSERIES, LTD.

The best bouquet of flowers for the hand was arranged by Messrs. R. F. FELTON & SONS, Hanover Square, London. It was a delightful posey, composed of Orchids, including Odontoglossums, Odontioda Charlesworthii, Phalænopsis Rimestadiana, Lælias, and Cattleyas. 2nd, Mr. A. ADSHEAD, Gatley, Cheshire, who employed Oncidiums.

Of the numerous stands of cut flowers for table decorations, the best was shown by Mrs. JNO. NIXON, Alderley Edge, who arranged a charming epergne with flowers of Gloriosa superba, Croton leaves, and Asparagus plumosus nanus. 2nd, Mr. W. J. GARNER, Altrincham.

There were 16 dinner tables arranged with cut flowers, and the 1st prize was won by Miss F. JENKS, Codsall, who used pink and yellow Roses, with red Rose shoots and trails of Selaginella. 2nd, Mrs. J. NIXON, for an arrangement similar to that in the previous class.

NEW PLANTS.

First-class Certificates were awarded to *Montbretia "Star of the East,"* shown by Mr. G. D. DAVISON, Westwick Gardens, Norwich, and imported blooms of *Nelumbium speciosum*, exhibited by Messrs. R. F. FELTON & SONS, Hanover Square, London.

VEGETABLES.

OPEN CLASSES.

The Society offered four prizes, the 1st of £10, for a collection of 12 distinct kinds, arranged on a space measuring 6 feet by 4 feet. There were seven exhibits. The Hon. VICARY GIBBS was placed 1st with the following points :—

	Maximum No. of plants.	Points awarded.
Cauliflowers ...	... 7 ...	6
Celery	... 7 ...	7
Leeks	... 7 ...	7
Carrots ...	... 7 ...	6
Onions ...	... 7 ...	6½
Potatos ...	... 7 ...	7
Tomatos ...	... 7 ...	6½
Peas	... 7 ...	6½
Beans (Runner)	... 7 ...	7
Cucumbers ...	... 7 ...	6
Beet	... 7 ...	5
Parsnips ...	... 7 ...	6½
Totals ...	... 84 ...	77

Carter's Giant Pink Celery, Holborn Model Leeks, Carter's Emperor Potatos, and Scarlet Emperor Beans all gained the maximum number of points. Ailsa Craig Onions, Quite Content Pea, Carter's Model Cucumbers, and Holborn Marrow Parsnips were also of unusual quality. 2nd, Mr. J. HUDSON, Leicester, with 72½ points. Potatos Goldfinder, Cucumber Commander, and Exhibition Runner Bean were the finest dishes in this exhibit. Cauliflowers, Celery, and Leeks were also good. 3rd, H. ANDREWS, Esq., Winchcombe (gr. Mr. J. R. Tooley). 4th, Mr. F. J. BARRATT, Ellesmere, with 60 points.

The Society also offered prizes for a collection of nine kinds of vegetables, open only to growers in the county of Shropshire. The 1st prize was won by Mr. F. BIBBY, Hardwick Grange; 2nd, Capt. HEYWOOD, Lonsdale; 3rd, Mr. A. H. HEBER-PERCY.

Numerous classes were provided for different kinds of vegetables, the 1st prize winners in the more important classes were as follow :—*Tomatos.*—Mr. J. HUDSON, Leicester, with the variety Conqueror. *Six dishes of Potatos.*—Col. CORNWALLIS WEST. *Brace of Cucumbers.*—Marquis of NORTHAMPTON (gr. Mr. Searle), who exhibited splendid examples of Royal Favourite. *Peas.*—Mr. E. W. WINCHESTER, Rubery, Birmingham. *French Beans.*—T. J. YATES, Ombury, with the variety Magnum Bonum. *Runner Beans.*—Mr. J. HUDSON, Leicester, who exhibited New Exhibition variety. *Cauliflowers.*—Mr. J. HUDSON, Leicester, with Early Mammoth. *Celery.*—Mr. J. WAINWRIGHT, Nantwich; the variety, a white sort, was unnamed. *Onions.*—Mrs. JENNER, Cardiff (gr. Mr. H. Wheeler), for fine bulbs of Ailsa Craig. *Parsnips.*—Rev. J. DAVIES, Pembroke (gr. Mr. T. Phillips), with Tender and True. *Carrots.*—Mr. W. BEDFORD, Port Talbot, with New Red Intermediate. *Turnips.*—Mr. J. HUDSON, with Silver Ball.

NURSERYMEN'S CLASSES.

Messrs. Clibrans provided five prizes, of which the 1st was the sum of £8, for a collection of nine kinds, arranged in a space measuring 4 feet 6 inches by 4 feet. There were 12 entries, and the Marquis of NORTHAMPTON, Castle Ashby, Northampton (gr. Mr. Searle), was placed first. His collection embraced Exhibition Onions, Lord Kitchener Tomatos, James's Intermediate Carrots, New Pink Celery, Centenary Peas, Exhibition Leeks, and Potatos Scottish Triumph. 2nd, CRAWFORD LOGAN, Esq., Wellington (gr. Mr. H. Turner). This exhibitor showed splendid Prizewinner Carrots. 3rd, The Misses HOWELL, Berriew (gr. Mr. E. Jones).

Five competed in Messrs. James Carter & Co.'s class for a collection of six distinct kinds, and the produce generally was of magnificent quality, especially in the 1st prize collection. The exhibitor was Hon. VICARY GIBBS, Aldenham House, Elstree (gr. Mr. Ed. Beckett), and the vegetables were of the usual magnificent quality seen in Aldenham garden produce. The kinds were Red Elephant Carrots, Duke of York Tomatos, Giant Pink Celery, Ailsa Craig Selected Onions, Snowball Potatos and Early Autumn Giant Cauliflowers. The 2nd prize was awarded to Mr. F. J. BARRETT, Ellesmere, and the 3rd to Col. CORNWALLIS-WEST, Ruthin Castle (gr. Mr. H. Forder).

In Messrs. Webb's class for a collection of nine distinct kinds, in which prizes totalling 19 guineas were offered, the 1st prize was awarded to Mr. J. HUDSON, Leicester; Early Mammoth Cauliflowers, Stourbridge Marrow Peas, of exceptional size and quality; Ailsa Craig Onions, Conqueror Tomatos, a fine sample; New Exhibition Beans, nearly a foot long; New Chieftain Potatos, Champion Prize Leek, and Pink Perfection Celery were all alike of superb quality. 2nd, H. ANDREW, Esq., Winchcombe (gr. Mr. J. R. Tooley). This exhibitor showed Parsnips more than a yard long. He had magnificent Celery of the Aldenham Prize variety, fine Carrots, and Cranston's Excelsior Onions. 3rd, Mr. A. T. RAINBOW, Northfield.

A strong class was that for a collection of nine distinct kinds, in which the prizes amounted to £25 4s., were provided by Messrs. Sutton & Sons. There were eleven competitors, and the class attracted some of the finest vegetables in the exhibition, especially those shown by Capt. H. SPENDER CLAY, M.P., Lingfield, Surrey (gr. Mr. D. Gibson), who was awarded the 1st prize. Celery Solid White and Leeks Prizetaker were both magnificent, whilst in the centre of the display were extra large, solid Ailsa Craig Onions. Centenary Peas were of an unusual size, whilst the Runner Beans were of exceptional length. Best of All Tomatos, Sutton's Supreme Potatos, New Red Intermediate Carrots, and Early Giant Cauliflowers were all good. 2nd, H. T. TATHAM, Esq., Elstree (gr. Mr. H. Gaiger), with fine Onions, Peas and Leeks. 3rd, Capt. A. BRISCOE, Newtown (gr. Mr. H. Smith).

Prizes were also offered by Messrs. Dickson & Robinson for nine distinct kinds, the 1st prize being eight guineas. There were 10 exhibitors, and the Marquis of NORTHAMPTON, Castle Ashby (gr. Mr. A. R. Searle), won, followed closely by Mr. TOM JONES, Ruabon. The premier exhibit included Perfection Intermediate Carrots, Exhibition Runner Beans, Premier Onions, Snowdon Cauliflower, Prize Pink Celery, Exhibition Leeks, Peas, and Potatos. Mr. JONES showed splendid Premier Onions and stout-stemmed Leeks. 3rd, Mr. H. T. TATHAM.

Messrs. Robert Sydenham Limited, Birmingham, offered the very liberal sum of £21 as prizes in a class for a collection of nine distinct kinds. There were seven exhibits, and the 1st prize was awarded to Mr. E. DEAKINS, Hay Mills, Birmingham. All the produce was of exceptional quality, and comprised magnificent New Scarlet Intermediate St. Valery Carrots, long Hollow Crown Parsnips, Ne Plus Ultra Beans, Windsor Castle Potatos, Holmes Supreme Tomatos, Ailsa Craig Onions, Clayworth Celery, Lyon Leeks, and Autumn Giant Cauliflowers. 2nd, Mr. F. J. BARRETT, Ellesmere, Ne Plus Ultra Beans, Ailsa Craig Onions, Gladstone Peas, and Windsor Castle Potatos being the finer dishes; 3rd, Rev. J. DAVIES, Pembroke.

In Mr. Edwin Murrell's class for a collection of nine kinds the 1st prize was awarded to Mr. T. SANDERSON, Whittington, and the 2nd to Mr. T. H. PUGH, Newtown.

Mr. Murrell also offered prizes for a collection of six distinct kinds, the 1st prize for which was awarded to Mr. E. E. ARNOLD, Wellington, and the 2nd to Mr. W. ASTLETT, Hadnall.

NON-COMPETITIVE EXHIBITS.

Messrs. DOBBIE & Co., Edinburgh, showed Sweet Peas, Roses, Collarette Dahlias, and varieties of Cosmos. The Sweet Peas were remarkably fine, especially the varieties Edrom Beauty, Inspector, May Campbell, Etta Dyke, and Rosabelle. The Dahlias embraced remarkably pretty varieties in numerous colours, Antwerpia (scarlet and yellow), Crimson Queen, Diadem (rosy-purple and white), and Princess Louise (crimson and white) are a selection. (Gold Medal.)

Messrs. HOBBIES, LTD., Dereham, Norfolk, showed Roses and Dahlias, the latter including Cactus and Collarette varieties, the whole arranged in the form of a semi-circle. (Gold Medal.)

Messrs. SUTTON & SONS, Reading, showed flowers, fruits, and vegetables, the produce of their seeds. The exhibit was arranged with excellent taste, and included choice Melons, Tomatos, Carrots, Onions, Beans, Celery, Peas, &c., set off with banks of Celosias, Begonias, Liliums, with floral borders and with festoons of flowers along the top at the back. (Large Gold Medal.)

Mr. ALBERT MYERS, Shrewsbury, showed Zonal Pelargoniums of fine quality against a background of tall plants of Coleus and Abutilon Thompsonii. (Silver Medal.)

Messrs. DICKSONS, Royal Nurseries, Chester, displayed border flowers in great variety, Gladioli, Lilium auratum, Romneya Coulteri, Roses, and Delphiniums being especially good. (Silver-gilt Medal.)

Mr. H. N. ELLISON, West Bromwich, exhibited greenhouse Ferns in great variety, the plants being remarkably healthy. The new Pteris Parkeri, P. scaberula, Gleichenia discarpa longipinniata, Adiantum Farleyense, and the newer varieties of Nephrolepis were included. Mr. ELLISON also showed on behalf of Mr. F. A. Haage, a collection of remarkably healthy Cactaceous plants. (Silver-gilt Medal.)

Messrs. BAKERS, Wolverhampton, showed a very large collection of border flowers, Dahlias and summer-flowering Chrysanthemums. A bank of Delphiniums was a prominent feature in this fine exhibit. (Gold Medal.)

Messrs. Caldwell & Sons, Knutsford, staged a small collection of hardy border flowers. (Gold Medal.)

King's Acre Nurseries, Ltd., Hereford, showed splendid Roses set up very attractively, with arches of Ramblers at the back, also border flowers and a fine collection of pot fruit trees, with baskets of choice-gathered fruits. Apples, Pears, Plums, Peaches, Grapes, Figs and Nectarines were all good. Emperor Alexander Apple was magnificent, some of the fruits having a circumference of 15 inches. (Large Gold Medal.)

Messrs. John Forbes, Ltd., Hawick, showed fine Pentstemons, border Phloxes, border Carnation, Pelargoniums, and miscellaneous border flowers. (Silver-gilt Medal.)

Messrs. Harkness & Sons, Bedale, had remarkably good vases of Gaillardias in the newer varieties. (Bronze Medal.)

Messrs. G. Gibson & Co., Leeming Bar, Bedale, showed border flowers and Roses, all of choice quality. Chrysanthemum maximum Mrs. F. David was prominent in this fine exhibit. (Silver Medal.)

Messrs. Isaac House & Son, Westbury-on-Trym, Bristol, showed a rock-garden exhibit and varieties of border flowers; a comprehensive collection of border Phloxes was a feature of this group. (Gold Medal.)

Miss S. S. Thompson, Alfred Road, Handsworth, showed Cactaceous plants in variety. Mammillaria bocasana cristata was unusually good.

Messrs. H. B. May & Sons, Upper Edmonton, arranged a choice selection of stove and greenhouse Ferns in a very tasteful manner. In the centre of the pot plants were specimen fronds of different forms of Nephrolepis exaltata, varying from the mossy Marshallii compacta to the plain fronds of Rooseveltii. (Gold Medal.)

Mr. L. R. Russell, Richmond, Surrey, filled a long stretch of staging with excellent Celosias growing in relatively small flower-pots. The colours of the dwarf and exceedingly floriferous plants were very clean and distinct. At one end of the Celosias, Mr. Russell arranged some baskets filled with small pot plants of varieties of hardy Fuchsia. (Silver-gilt Medal.)

Mr. Edwin Murrell, Shrewsbury, showed vases of Roses against a rather too-formal background of lattice-work, which was insufficiently furnished with Ramblers. The quality of the blooms is deserving of high praise. The firm also showed Clematis in variety. (Silver-gilt Medal.)

Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, put up a very imposing exhibit of flowers, fruits and vegetables. High-quality produce showed to the best advantage in a pretty setting of flowers and greenery, a triumph of fine exhibiting. (Large Gold Medal.)

Messrs. Jones & Sons, Ltd., Shrewsbury, showed floral decorations, in which skill in arrangement and colour blending was evidenced in a high degree. This firm also showed beautiful Ferns of the type used for indoor decorations and a group of tuberous-rooted Begonias. (Gold Medal.)

Messrs. R. F. Felton & Sons, Hanover Square, London, exhibited an imposing vase of the beautiful Nelumbium speciosum, magnificent bowls and vase of Roses and, at the back, epergnes of the fine white and yellow Chrysanthemums Countess and Mercédès. (Silver Medal.)

An exhibit of unusual interest was a collection of 25 varieties of Grapes from the Royal Horticultural Society's Gardens at Wisley. The varieties were White Frontignan, Grizzly Frontignan, Muscat Hamburgh, Duchess of Buccleuch, Black Hamburgh, Bowood Muscat, Alnwick Seedling, Gros Maroc, Foster's Seedling, Syrian, Madresfield Court, Appley Towers, Golden Champion, Chasselas Napoleon, Lady Hastings, Trebbiano, Black Prince, Muscat Champion, White Tokay, Prince of Wales, Directeur Tisserand, Buckland Sweetwater, Lady Hutt, Mrs. Pearson, and Duchess of Buccleuch. Taking the collection as a whole it was a remarkable one, all the bunches being shown superbly, have been shown a little would be better finished. The Grapes were presented by the Council of the R.H.S. to the local hospitals. (Large Gold Medal.)

Messrs. Clibrans, Altrincham, showed magnificent vegetables; the exhibit being crowned by a mammoth bundle of Clibran's Pink Celery, Blood Red Onions, Cabbages Winningstadt Improved, Lettuces in variety, Walcheren Cauliflowers, Peas, Beans, Carrots, Globe Artichokes, Aubergines, and many other kinds were all shown splendidly. (Large Gold Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, showed choice vegetables, displayed in the best exhibition style. There was a great assortment of subjects, including Carrots, Beets, Cauliflowers, Radishes, Potatos, Chilies, Tomatos, Lettuces, Beans, Cucumbers, Onions, and Marrows. (Silver-gilt Medal.)

A large exhibit of vegetables was shown by Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. Edwin Beckett). The sterling quality, method of staging, and variety of subject are all deserving of the highest praise; not only was it an object lesson in high-class culture, but it was representative of all the best kinds and varieties. (Large Gold Medal.)

Messrs. Dickson & Robinson, Manchester, made a very imposing display of flowers, fruits, and vegetables. There were large stands of Lilium longiflorum giganteum, L. auratum, and many different Carnations rising from a groundwork of Nephrolepis Whitmannii, amongst which were arranged Melons, many mounds of excellent Peas, and other good vegetables. (Gold Medal.)

Beautiful Roses were shown by Messrs. Alex. Dickson & Sons, Ltd., Newtownards, co. Down. The Lyon Rose, George Dickson, Lady Ursula, Bertha Gaulis, Lady Hillingdon, Viscount Carlow, and G. C. Waud were displayed with others in large numbers. (Gold Medal.)

Messrs. Jarman & Co., Chard, Somersetshire, had a varied and interesting exhibit, which consisted of Dahlias, Roses, Pelargoniums, fruit and vegetables. The attractive arrangement was enhanced by the graceful sprays of Humea elegans, which arched over the fresh, sweetly-smelling Roses and the Dahlias. (Gold Medal.)

Mr. W. A. Manda, New Jersey, U.S.A., exhibited good plants of the large-fronded Polypodium Mandaianum, the delicate-leaved Asparagus elongatus, and various stove foliage plants. (Silver Medal.)

Messrs. Isaac House & Son, Westbury-on-Trym, Bristol, showed hardy cut flowers. (Gold Medal.)

Messrs. Fred Smith & Co., Woodbridge, arranged a large quantity of cut flowers of hardy herbaceous plants. Achillea millæfolia rosea, Montbretia "George Davison," Scabiosa caucasica and Romneya Coulteri were very attractive. (Silver-gilt Medal.)

Messrs. Rich & Co., Bath, exhibited cut sprays of border flowers. (Silver Medal.)

Messrs. Young & Co., Hatherley, Cheltenham, displayed a splendid collection of cut Carnations. The bright-pink variety Lady Henderson contrasted finely with the dark-crimson Duchess of Devonshire and the orange-yellow Golden Glory. Older varieties, such as Mrs. C. W Ward, Rose Enchantress, Mayday, and Royal Purple were also exceedingly good. (Gold Medal.)

Messrs. Thomas Rivers & Son, Sawbridgeworth, Hertfordshire, showed many excellent fruit trees in pots. The trees were all examples of cultural skill, and bore good crops of splendid fruits. The Peaches included the varieties Crimson Galande and Dymond. Amongst the Nectarines, Humboldt and Milton call for especial mention. A seedling black Plum (No. 135) had a very attractive appearance. In the front of the group there were two boxes of immense fruits of Apple Peasgood's Nonesuch and a basket of excellent Clapp's Favourite Pears. This splendid exhibit was, unfortunately, cramped. (Large Gold Medal.)

Messrs. R. Wallace & Co., Colchester, gave especial prominence to a large number of cut spikes of the magnificent Montbretia "Star of the East," which received a First-class Certificate at the last R.H.S. meeting. Besides other varieties of Montbretia and many good spikes of Gladiolus, there were flowers of Tritoma, many Liliums, and hardy Cinerarias. (Silver-gilt

Messrs. Gunn & Sons, Olton, Warwickshire, made a fine exhibit, composed solely of herbaceous Phloxes. The trusses of bloom were arranged on large stands of distinct colours harmoniously blended. (Gold Medal.)

Messrs. Pritchard & Sons, Shrewsbury, showed small plants of various Alpines attractively arranged in Cocoanut fibre and separated into compartments by pieces of cork-bark. The scarlet flowers of the many pot-plants showed well against the background of greenhouse Ferns. (Silver-gilt Medal.)

The exhibit from Mr. Amos Perry, Enfield, Middlesex, filled a bay in one of the large tents. A spacious tank contained many fresh blooms of various hardy Nymphæas. The front of the pool was screened by a rockery planted chiefly with hardy Ferns. In the background very many excellent varieties of Delphinium and other border flowers were attractively displayed. (Large Gold Medal.)

Messrs. Webb & Brand, Saffron Walden, Essex, exhibited many stems and single flowers on showboards of their excellent double-flowered Hollyhocks. (Silver Medal.)

Messrs. Hogg & Robertson, Mary Street, Dublin, showed many good spikes of Gladioli. (Silver Medal.)

Messrs. Hewitt & Co., Ltd., Solihull, Warwickshire, arranged cut blooms of such shrubs as Genista tinctoria, Spiræa Anthony Waterer and Hydrangea Lindleyana and of many hardy herbaceous plants.

Mr. Robert Hayes, Grasmere, showed many good varieties of herbaceous Phloxes and vases of Heather arranged amongst dwarf Japanese Maples. (Silver Medal.)

Messrs. Conways, Ltd., Halifax, arranged a group of hardy border flowers, including stands of Roses. (Silver Medal.)

Mr. Reg. Prichard, West Moors, Wimborne, displayed an interesting collection of Alpines, such as Androsace lanuginosa, Linaria alpina rosea, and Wahlenbergia vincæflora. (Bronze Medal.)

Mr. Vincent Slade, Staplegrove Nursery, Taunton, arranged a very attractive collection of Zonal Pelargoniums and a batch of Polypodium cambricum. (Bronze Medal.)

The Lipworth Nursery Co., Hockley Heath, exhibited a good collection of Pentstemons. (Silver Medal.)

Mr. Fred. Cross, Daybrook, Nottinghamshire, exhibited stands for floral decorations. (Bronze Medal.)

Mr. J. H. Marsden, Malvern Link, displayed early-flowering Chrysanthemums and other hardy flowers. (Bronze Medal.)

Messrs. Robert Sydenham Limited, Birmingham, displayed rural table decorations filled with Carnation blooms. (Bronze Medal.)

Mr. W. L. Pattison, Shrewsbury, exhibited a great variety of Viola flowers. (Silver Medal.)

Mr. Geo. Underwood and Messrs. J. R. Compton & Sons, Macclesfield, also showed Violas. (Silver Medals.)

Messrs. Rich & Co., Bath, displayed a collection of border flowers, in which prominence was given to spikes of Gladiolus and Pentstemons. (Silver Medal.)

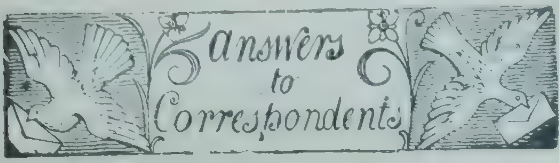
Messrs. A. R. Brown, Ltd., King's Norton, Birmingham, showed many Carnations and Picotees in a light and graceful manner. (Silver Medal.)

Mr. A. W. Thorpe, Lichfield, was awarded a Silver-gilt Medal for Chrysanthemums.

Mr. Robert Bolton, Warton, Carnforth, put up a large exhibit of Sweet Peas, comprising most of the leading varieties; Lancashire, Hercules, Agricola, Tom Bolton, Thomas Stevenson, and Nancy Perkins were, with others, shown in excellent condition. (Silver-gilt medal.)

Messrs. S. Bide & Sons, Farnham, Surrey, also had an excellent exhibit, pleasingly relieved with small plants of Kochia; the following varieties of Sweet Peas were of outstanding merit: Scarlet Emperor, Dorothy Thomas Stevenson, Aquita, Mrs. Stewart Champion, Premier, Orange King, Elfrida Pearson, and Stirling Stent. (Silver Medal.)

Mr. G. W. Miller, of Wisbech, showed Apple "Miller's Red Victoria," sprays of Viola cornuta, and Pyethrum "Queen Mary." (Bronze Medal.)



Answers to Correspondents

A Legal Point: *Constant Reader*. You are not entitled to leave on the Saturday, and you are certainly liable to do any work necessary to preserve the greenhouse plants on Sunday. Strictly speaking, you should not leave until the Monday evening, but your employer ought not to stand in the way of your entering your new situation on the Monday morning if you cannot arrange to start on the Tuesday. Try and settle the matter amicably with him, as the question of a few hours can scarcely make any difference to him, and may mean a great deal to you. We assume that there is no special custom in your locality affecting the point.

Antirrhinums Diseased: *Reader*. The plants are so badly affected by fungus derived from the soil that it is advisable to burn them and treat the soil with gas-lime. Do not plant Antirrhinums in the same soil next year.

Carnation Leaves: *A. G. B.* The leaves you send show the early stage of the Carnation rust (Uromyces caryophyllinus). As a preventive of this disease, spraying with potassium sulphide is recommended. You should remove, with a sharp knife, all diseased leaves and pay especial attention towards keeping the foliage on the plants perfectly dry. During the coming winter, the plants should be kept moderately dry at the roots, but they should at no time be allowed to suffer from want of water.

Cattle Poisoned: *H. P.* The specimen was withered; plants sent through the post should be packed in damp moss; but there is little doubt that it is the common Chicory (Cichorium Intybus). We have never heard of this plant being poisonous to cattle. If you have any trees of Laburnum, Yew or other Conifers we should rather suspect these as the cause of the trouble.

Celery Diseased: *J. A.* The leaves sent are badly affected with the fungus Septoria petroselini, which also affects the leaves of Parsley. We fear it is too late to save this year's crop. Next season the Celery plants should be sprayed with a solution of ammoniacal carbonate of copper when they are young, repeating the sprayings occasionally during the period of growth.

Gooseberry Shoots for Examination: *J. H.* Gooseberry-mildew is not present on the specimen submitted. The appearance of the shoot, however, suggests the presence of Botrytis.

Lilium auratum: *W. N. C.* After your plants, which are growing in pots, have finished flowering you should afford plentiful supplies of clear water, with an occasional application of weak liquid manure, until the foliage commences to turn yellow, when water should be gradually withheld. When the leaves have fallen, cut away the stem to within 3 or 4 inches of its base and store the pots in a dry, frost-proof place. In the spring, carefully shake the bulbs free from soil, and repot them in suitably-sized pots, keeping the bulbs low, and leaving ample room for applying top-dressings, which should be done when the stems are about 1 foot high.

Melons Failing: *Anxious One*. We suspect that the plants are affected with eel-worm, and if you care to send portions of the Melon roots we will definitely inform you. An illustrated article dealing with eel-worms appeared on pp. 30 and 31 in the *Gardeners' Chronicle* of July 13 last.

Names of Plants: *P. H. R.* The Black Broom (Cytisus nigricans).—*La Cloche*. Symphytum officinale variegatum.—*M . C.* Euphorbia Lathyris, "Caper Spurge."—*The Country Gentleman Association*. The name of the plant sent is Spergula arvensis, "Corn Spurry," a common Cornfield weed. It is an annual, and can be got rid of by the usual means of clearing the land, hoeing, &c. The nature of the soil has little to do with its presence, which is due to lack of attention in weeding.—*F. C. L.* 1, Possibly Ranunculus sceleratus; 2 and 3, it is not possible to name umbelliferous plants from description only; send specimens.—*F. R.* Lychnis Haageana.—*H. Manton.* 1, Monarda didyma; 2, Calamintha alpina.—*J. W.* 1, Lysimachia quadrifolia; 2, Veronica austriaca var. prenja; 3, Inula Helenium; 4, Phacelia tanacetifolia.—*A. E. J.* Ranunculus bulbosus.—*Enquirer*. 1, Carthamus tinctorius; 2, Erigeron canadensis.—*W. E. J., Hull.* Lysimachia vulgaris.—*W. M.* Not recognised; send when in flower.—*J. McD.* Oncidium flexuosum and Gomesa planifolia.—*R. O.* 1, Epidendrum polybulbon; 2, Epidendrum fragrans; 3, Oncidium barbatum; 4, Stelis ophioglossoides; 5, Dendrobium moniliforme; 6, Brassia verrucosa.—*A. F., Cardiff*, 1, Catalpa bignonioides; 2, Magnolia conspicua.—*F. W. C., Ware.* Vanda cœrulea; not a rare species, but one of the most beautiful of the Vandas.—*T. T.* 1, Pteris longifolia; 2, Adiantum trapeziforme; 3, Blechnum corcovadense; 4, Pteris cretica.—*Co. Longford.* Aconitum Napellus. *J. F. J., Bromley.* Your Pelargonium is very bright in colour, but probably not sufficiently distinct from some varieties already in cultivation to make it of special commercial value.—*J. H. S., Carnarvon.* Clematis Flammula.—*P. E. C., Yalding.* The Potatos you mention will probably have acquired a bitter, somewhat stringent flavour, which will render them disagreeable. They are certainly not poisonous, and if peeled rather thickly, so as to remove all the discoloration, may be used.

Patent: *A. P.* Your best plan would be to consult a reputable firm of patent agents—there are several such—who would tell you if there is a similar article already patented. If there is not, they would advise you as to future procedure, and would undertake to place the article with a reliable firm of manufacturers. Inventions are often provisionally protected (in which case the fee is much less than when the invention is fully patented), and the inventor or his agent then approaches a manufacturer who, if he undertakes to make the article, completes the patenting and pays the inventor a royalty, or offers to buy the invention outright.

Pears Diseased: *Miss R. W.* The fruits are badly affected with the Pear scab (Venturia pirina pirina). If possible remove and burn during the winter all diseased shoots, since it is on them and on the leaves that the fungus develops and produces spores which infect the fruit. During the winter thoroughly syringe the trees with a solution of sulphate of iron, and in the spring spray them with Bordeaux Mixture at half strength when the buds are beginning to open, repeating the operation when the petals are falling from the flowers, and again when the fruits have attained the size of Peas. If the trees are very old, it would be advisable to replace them by young specimens.

Phalænopsis Esmeralda: *A. E.* If the roots of your imported plants are sound, they should not be cut away from the plant. The best receptacles in which to grow this plant are teakwood baskets, shaped similarly to ordinary flower-pots. Place as many of the roots inside the baskets as possible, leaving sufficient room for the potting material, some of which should be worked in between the bars, and the remainder may hang over the sides. Place short portions of Fern rhizomes between the roots in the lower part of the basket as drainage, and fill with a mixture of Osmunda fibre and Sphagnum-moss, cut rather short, with the addition of broken crocks, and finish with a surfacing of living heads of Sphagnum-moss. These plants may also be grown in pans about 4 inches deep without side holes. Use clean crocks for drainage, and, in potting, place small lumps of charcoal amongst the compost; otherwise use the compost as for baskets. The plants may either be suspended from the roof or stood on the stage near to the roof glass, on inverted pots, standing in saucers of water. Phalænopsis require a summer night temperature of 70°, rising from 75° to 80° by day, and during the winter a temperature of from 60° to 65° by night, rising to 70° by day. The plants should at all times be shaded from bright sunshine. After being potted, they should be watered very sparingly, until the fresh roots have entered the compost, when water should be given freely. Syringing between the pots should be done at least twice daily during bright weather, at the same time directing a little water on the under-sides of the leaves. These plants flower in spring and early summer.

Rose Diseased: *M. B. G.* The leaves are affected with "black spot" (Actinonema rosæ), due largely to the wet summer. Spray the plants with potassium permanganate——5 grains to 1 gallon of water—and collect and burn all affected fallen leaves.

Samples of Sand: *Plants*. We do not consider either of the three samples of sand you submit suitable for general use; they are all too fine, but we place them in the following order of merit:—red, white, grey.

Shrubs for a Pergola: *Gloster*. The following is a list of 20 hardy shrubs, other than Roses, which will be suitable for your pergola:—Actinidia chinensis, Clematis montana, C. m. rubens, C. Flammula, C. Jackmanii rubra, C. Mme. Baron Veillard (lilac-rose), C. Princess of Wales (bluish-mauve), C. La Lorraine (rose), Jasminum officinale, J. revolutum, Lonicera sempervirens, L. Late Dutch, Vitis Coignetiæ, V. Henryana, V. Thunbergii, Wistaria sinensis, W. multijuga, Ceanothus Veitchianus, Laburnum Vossii, and Eugenia Ugnii.

Silver Elm: *S. G.* Trees and shrubs with variegated foliage frequently revert to the green-foliaged types, and probably the very wet season is largely responsible for the excessive reversion displayed by your example. Branches which have reverted rarely, if ever, again produce variegated leaves, so your best plan would be to remove as many green-leaved branches as you can without disfiguring the tree.

Twin Dahlia: *J. C.* The example is interesting and somewhat uncommon. It results from an abnormal development of the growing point of the flower-bearing shoot. The latter underwent division, branching, as it were, at its tip, with the result that two inflorescences were formed instead of one. The evidence that this took place at a very early stage is to be found in the closeness of the two apposed flower-buds.

Uncommon Shrubs for Quadrangle: *Arbor*. The selection of rare trees and shrubs for your Oxford garden would depend on the size of the ground at your disposal; there are very many interesting species with which you may experiment. The *Gardeners' Chronicle* contains numerous lists and descriptions of rare, half-hardy trees and shrubs. So recently as August 10, in "Notes from Leonardslee," and July 13, in the description of "Nuneham Park," which is in your immediate neighbourhood, mention is made of many such plants. As you intend planting Ginkgo biloba, you should insist on having seedling trees, as grafted specimens and those raised by layering are never satisfactory. The Gleditschia is preferable to the so-called Acacia. Wistaria multijuga produces much larger racemes than W. sinensis, but it does not flower so freely. Acer palmatum atropurpureum, A. p. dissectum, A. p. linearilobium atropurpureum, and A. p. sanguineum are good forms of Japanese Maples.

Woodlice in Glasshouses: *G. S.* Traps may be made to catch this pest by hollowing out pieces of Potato, Turnip, &c., and placing them hollow-side downwards. If the baits are examined every morning it will be found that they contain woodlice, which must be killed, afterwards replacing the baits. Another method of killing woodlice is by placing baits which may be poisoned with Paris green or white arsenic. There are also other effective poisons on the market:—Steiner's "Vermin Paste" is recommended by Mr. H. W. Ward, who has used it in his nursery at Rayleigh. The paste should be mixed with Barley-meal or middlings and set on pieces of glass, wood or tin, and then placed in the haunts of the woodlice. This means has been found sufficient to eradicate the pest in a week or ten days.

Communications Received.—P. S.—W. H. B.—W. M.—F. H. G.—D. C.—D. H. M.—E. G. W.—G. C.—C. J.—R. W. T.—Co-partnership, Bloomsbury—A. H.—A. and B.—S. C., Wisbech—P. M., Totnes—W. and McC.—E. H. J.—Herd Bros.—G. B. G.—Scy. Haarlem—S. R.—d'A. de Gand.

THE
Gardeners' Chronicle
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Sweet Pea "May Campbell" (Supplementary Illustration)

LA MORTOLA.

THOUGH the garden at La Mortola is well known to most visitors to the Riviera, its full significance is perhaps not universally appreciated. It is primarily a garden of beauty and loveliness, due in part to its unique situation, and in greater measure to the genius and care of its founder, Sir Thomas Hanbury. Yet it has another value; in the words of Sir Joseph Hooker, it is "a garden of exotic plants, which, in point of richness and interest, has no rival among the principal collections of living plants in the world." It is a sub-tropical garden of great scientific and economic importance.

Occupying the slope of a hill (see fig. 76), the garden ends in a rocky point, formerly covered with Myrtle[*], and jutting out into the blue waters of the Mediterranean. On the east rise the terraces, on which the Vine and Olive grew in bygone days; on the west a deep ravine descends from the high mountains; and on the sides of this valley, which in 1860 were sparsely clad with Aleppo Pines, an abundant exotic and indigenous vegetation now luxuriates. Nearly 6,000 different species of plants are cultivated. The garden, which is mostly limestone, is 112 acres in extent.

An early account of La Mortola was given in the pages of this journal[†] by Dr. Masters, who refers to it as "a real garden of acclimatisation" seven years after its purchase in 1867. Assisted in the beginning by his brother, Daniel Hanbury, who was a distinguished botanist especially interested in medicinal and other useful plants, Sir Thomas Hanbury continuously developed the scientific side of the garden, which is now provided with a botanical museum, herbaria of indigenous and cultivated plants, and a good reference library. Seeds and plants are distributed to almost every botanic garden in the world, and to many private gardens as well. Fresh and dried specimens for study and investigation are liberally sent to numerous scientific laboratories. Students are admitted freely. The introduction of new plants is steadily pursued. Lady Hanbury continues with zeal the aim of Sir Thomas, who often said that to distribute seeds and plants and to encourage others in their love of nature was his mission in life. We owe to Lady Hanbury the publication recently of a most valuable Catalogue[‡] which has been prepared during the past few years by the learned curator, Mr. Alwin Berger.

The Catalogue is a handsome volume of 468 pages, with portraits of Sir Thomas Hanbury and Daniel Hanbury, and six plates of different views of the garden and its characteristic vegetation. The main part of the book, 350 pages, is an alphabetical list of the plants which are cultivated, with references to the books and journals which give good descriptions and figures of the plants enumerated, and with notes on the native country and time of flowering of each plant. These references render the book of great use to amateurs, who are directed at once to sources of information that are often sought for in vain in ordinary lists.

The Catalogue proper is prefaced with an interesting account of the history of the garden and of the soil and climate of La Mortola. Those who desire more information on certain points should consult a fascinating chapter in the late Prof. Strasburger's book, *Rambles on the Riviera*, the English translation of which was made by O. and B. Casey and published in 1906.

Appended to the Catalogue are 85 pages of most interesting Notes, which contain valuable but succinct information. Taking as an example the genus Acacia, we learn from the Catalogue that 69 species are cultivated at La Mortola. Mr. Berger states in the Notes that a large number, especially of Australian species, were already planted in 1867. Some species, as A. dealbata, A. decurrens, A. harpophylla, and A. melanoxylon are long-lived trees, with excellent hardwood, the last-named forming a fine erect stem. Most other species do not attain any considerable age. A. dealbata and several other species dislike lime in the soil, and are therefore generally grafted on A. retinodes. The following species, commonly called "Mimosa," are extensively planted on the Riviera for the exportation of their flowers:— A. dealbata, A. pycnantha, A. cultriformis, A. podalyriifolia, A. obliqua, and A. Baileyana. Three hybrids, which originated in Mr. L. Winter's garden at Bordighera, are also mentioned. A long account is given of A. sphærocephala, the large hollow spines of which are inhabited by small colonies of ants, which at La Mortola are frequently observed feeding on the liquid that exudes from the large black glands present on the petioles of the leaves.

The information contained in the Notes will prove useful to gardeners in the south-west of England and the south of Ireland, where species of Acacia like A. dealbata and A. melanoxylon make fine trees which flower freely and produce good seed. The Catalogue, of course, contains the names of many plants which cannot be grown in the open air, even in the most favoured spots of the British Isles. In this respect there is a great difference between La Mortola, on the shores of the Mediterranean, and places on the Italian lakes. Most, if not all, of the trees and shrubs at Pallanza, on Lake Maggiore, thrive in gardens in Cornwall and Kerry. Casuarina may be instanced as a genus which cannot be grown out-of-doors in any part of this country; yet, at La Mortola, six species thrive, one of which, C. robusta, is represented by a tree 55 feet in height and 7 feet in girth.

A few notes are given concerning indigenous species, such as Lavandula Spica, from which Lavender oil is distilled, Phillyrea augustifolia, and species of Cistus. Mr. Berger enumerates four varieties of Chamærops humilis, the dwarf Palm, which was formerly wild on the Riviera, but appears to have been extirpated about 1841. It is scarcely hardy at Kew, although it endured without injury, on the Riviera, the severe winter of 1820, when the thermometer fell to 14° Fahr. It is now generally said to be only indigenous far south, as in Andalusia in Spain, on the south cape of Corsica near Bonifacio, in Sicily, Algeria, Morocco, &c.; but I saw it a year ago growing in plenty on the coast of Spain, about 18 miles south of Barcelona.

La Mortola is very rich in succulent plants, and to these Mr. Berger has paid special attention. No fewer than 114 species of Agave are cultivated, of which 66 are especially referred to in the Notes, where some new species are described. We are promised by Mr. Berger a full account of this important genus, like the monograph that he has already published on Aloë. The latter genus is equally rich in species at La Mortola. Of Mesembryanthemum, a genus specially studied and beloved by Mr. Berger, there are no fewer than 115 species in the garden. The plants of this genus are of extraordinary interest, many of them assuming quaint forms, and resembling pebbles, the throats of animals, paper mouthpieces of cigarettes, and other queer objects; whilst some bear capsules, provided with a beautiful mechanism, by which the seeds are thrown to a considerable distance. Mr. Berger's notes on the Cactaceæ are very valuable, especially his account of the genus Opuntia or Prickly Pears, many species of which are valuable as food for stock and fruit for man.

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[*] La Mortola probably derives its name from the Myrtle,

[†] *Gard. Chron.*, July 11, 18, 1874, pp. 35, 68.

[‡] *Hortus Mortolensis*: Alphabetical Catalogue of plants in the garden of the late Sir Thomas Hanbury, K.C.V.O., at La Mortola. Compiled by Alwin Berger. London: West,

The Orange family is represented at La Mortola by the most complete collection in existence, which is enumerated by Mr. Berger under 10 species, comprising many varieties and sub-varieties. Of these, the most curious, perhaps, is the Bizarria (Citrus Aurantium, var. amara, sub-var. Bizarria), which is said to have originated before 1674 as a graft hybrid in Florence. The leaves are very varied, while the fruits show mixed characters of Orange, Lemon, and Lime. This plant was lost to science for a long time, but was found by Prof. Strasburger in the Royal Horticultural School at Florence.

The conifers, which succeed best at La Mortola, are certain species of Pine. The finest is Pinus canariensis, one example of which is 77 feet high and 8 feet in girth. This tree is remarkable for producing epicormic branches on the trunk, after the manner of P. rigida. The native or Aleppo Pine, P. halepensis, now covers with a dense forest the western slope of the valley, and is a good instance of the recuperative power of a forest when not interfered with. It has grown from a few sparse trees without other care than protection from man and goats, cutting or grazing having been prohibited for many years. There are many species of Araucaria, Cupressus and Juniperus. It is remarkable that of the three Cedars, it is the Deodar which succeeds best in the climate of La Mortola, which is noted for its long-continued summer drought. Cedrus atlantica and C. Libanii

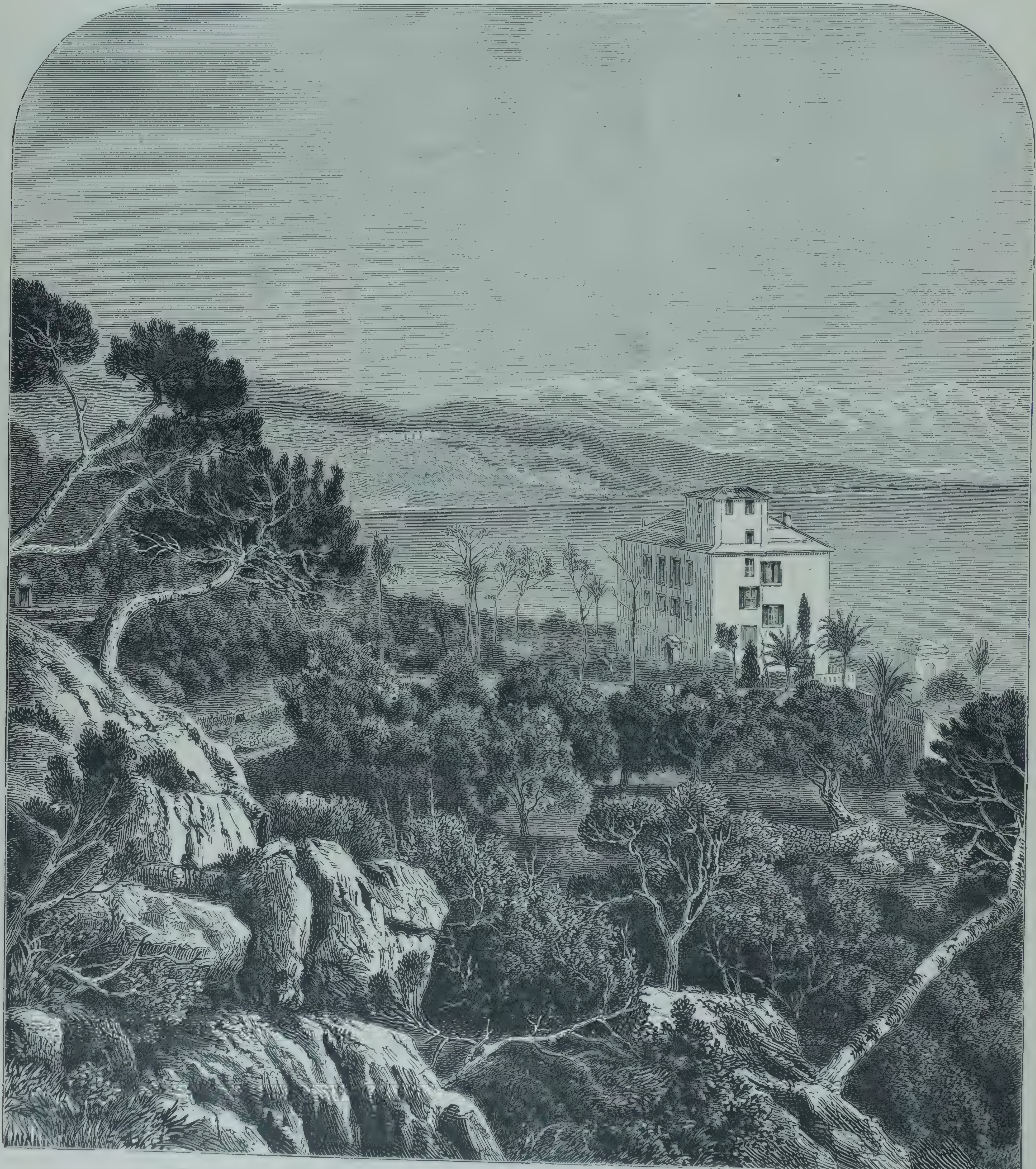


FIG. 76.—LA MORTOLA, SHOWING ITS SITUATION ON THE SHORES OF THE

are apt to die suddenly. The Silver Firs which are most thriving are Abies cilicica and A. Pinsapo. Picea excelsa manages just to exist in the shadiest part of the valley, and is not so successful as the Himalayan P. Smithiana.

There is a large collection of Roses at La Mortola, among which may be seen Rosa damascena trigintipetala, from the Rose fields of Kasanlik, in Bulgaria, where it is cultivated for the production of Attar of Roses (see *Gard. Chron.*, April 20, 1912, p. 253).

The Catalogue is accurately printed, the only error which I have noticed being on p. 277, where the varietal name of the Rose just mentioned is wrongly given. In conclusion, we thank Lady Hanbury for the style in which this book has been printed and for issuing it at a price so low as to make the Catalogue accessible to working botanists and gardeners; and we also congratulate the author, Mr. Berger, on a work of signal merit. *A. Henry.*

SOME RECENT DEVELOPMENTS IN SWEET PEAS.

(See Supplementary Illustration.)

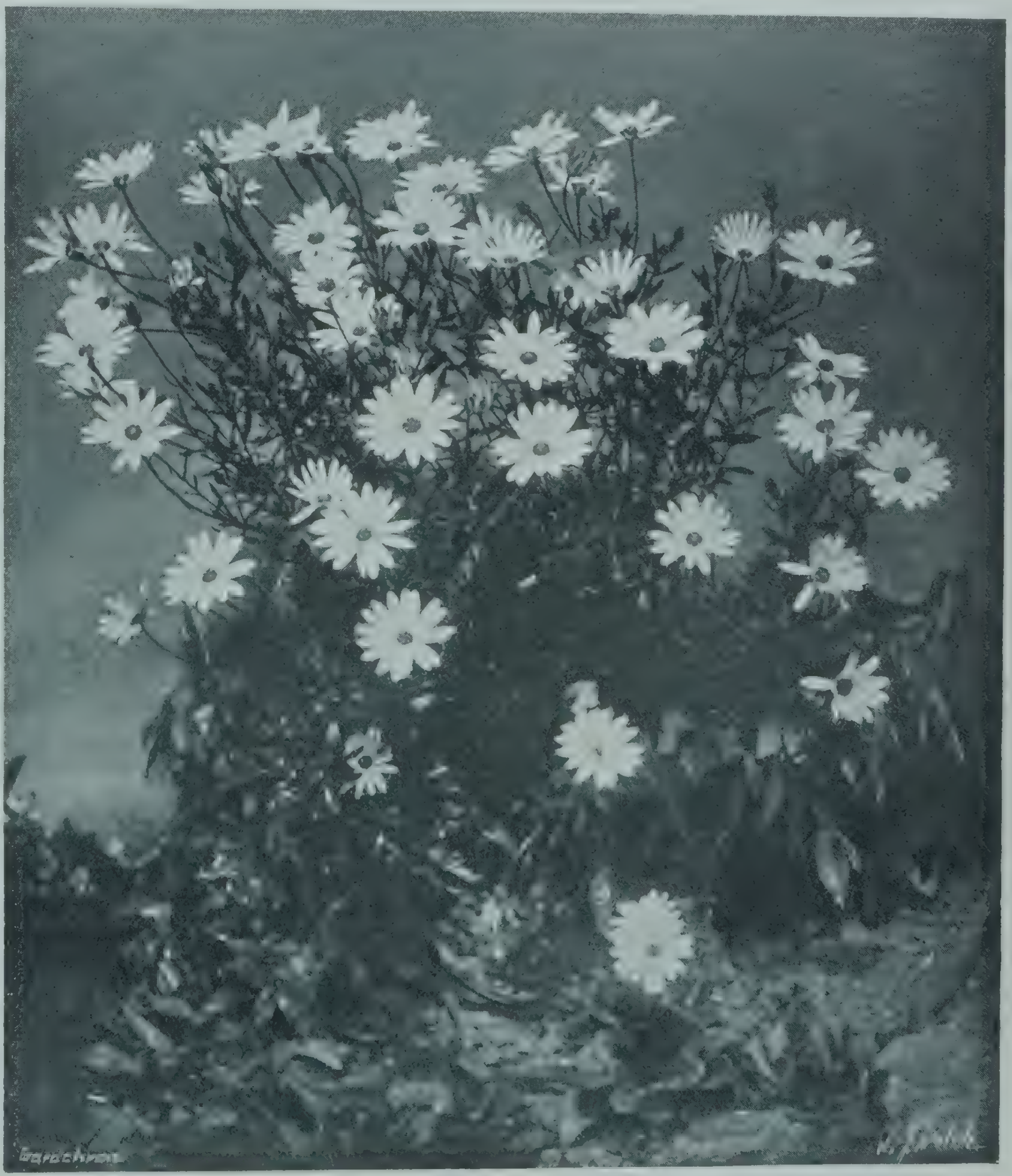
The variety Charles Foster, distributed by Mr. Robert Bolton some two or three years ago, is quite distinct in form and growth from the Spencer varieties, the flower being of exceptional size and substance, though very prone to produce double standards. The colouring of Charles Foster marked it at once as a distinct break, and several varieties, including Afterglow, Dorothy, Prince George, Red Chief and Florrie, that have emanated from it bear the same characteristics insomuch that the colours are totally distinct from anything we have had previously. The habit of growth is also distinct, the plants being probably from 1 foot to 2 feet dwarfer in growth than such varieties as Mrs. C. W. Breadmore and John Ingman. In addition, the haulm is considerably stronger and shorter jointed. Unfortunately, all these varieties require somewhat cool conditions to bring them to perfection. But given such conditions their colouring is extremely beautiful, and for decorative effect they are unsurpassed.

Another very decided break in colour was obtained by Messrs. Dobbie and Co. a year or two ago in the variety May Campbell (see Supplementary Illustration), for although there was a cream-ground flake of the old grandiflora type, May Campbell was, I believe, the first of its type of the Spencer class to be distributed. When well grown, May Campbell is a wonderfully striking variety, as, apart from the unique colouring, which is rose or carmine flake on a cream ground, the form of the flower is so good as to commend it to all lovers of Sweet Peas. It is a first-class exhibition variety, as well as being suitable for decorative purposes. For some reason or another the striped or flaked varieties do not appeal to all growers of the flower, and many judges do not regard them with favour in competitions. Nevertheless, several of them, such as Mrs. W. J. Unwin, Birdbrook, Spencer America, Miss B. Gilbert, Loyalty and Aurora Spencer, furnish exceptionally good bunches, which are not surpassed in size, quality, or form of flower by the best of the self-coloured varieties.

Another decided break in colour was obtained in the deep-orange variety Stirling Stent, which is even deeper in colour than Earl Spencer, though the blooms are somewhat smaller. It is regrettable that all varieties of this colour need to be shaded from brilliant sunshine. There are already signs that in the near future raisers will give us sunproof varieties in this colour. *Thomas Stevenson.*

DIMORPHOTHECA ECKLONIS.

This plant, generally treated as a greenhouse subject, is far more effective in the open than under glass. In the open air it makes sturdier growth and flowers profusely. Growing rapidly, effective plants for the outdoor bed may be raised from cuttings in one year if occasionally stopped. Good plants 2 feet in height and as much through can be easily lifted in the autumn, placed in large pots, kept where severe frost will not harm them, and planted out in the spring. This practice is quite applicable to any district in the British Isles. In favoured sites in the south-west the Dimorphotheca may be left undisturbed in the open through the winter, though if the weather should prove unusually severe the plants will probably die. It is certainly a tender plant, far more so than Hakea suaveolens, Calceolaria Burbidgei, Bowkeria Gerardiana, Abutilon vitifolium, Buddleia Colvilei and Callistemons, but in mild winters it will not be harmed in the open in Devon and Cornwall. The plant here illustrated was put out in the open border in April a few years ago. The first year it was lifted in November, potted and placed under a balcony, where it remained uninjured through the winter. It was replanted in the open the following April. The next winter it was left undisturbed, but was covered with a mat in times of frost and came through unharmed. It eventually became bare at the base and was destroyed, but the year after its removal self-sown seedlings sprang up around the site it had occupied and grew well. A fair-sized bush has a pretty effect when in full bloom, being covered with Marguerite-like flowers, each rather over 3 inches in diameter. When expanded, the ray florets are pure white, and form a pleasing contrast with the violet-purple of the central disc. The golden anthers which appear in the purple discs enhance the beauty of the flowers. The reverse of the petals is purple-blue, and when some flowers are fully expanded and others are in bud, the contrast of colour is very pleasing. In dull weather the blossoms remain closed, but even then a plant covered with countless, tapering, purple buds is by no means unattractive. A good bush will bear some hundreds of flowers. The foliage is not unlike that of some of the Candytuft family, and is inclined to be fleshy. This species is easily raised from seed, and cuttings strike as readily as Willows, so that its propagation is extremely simple. Plants grown on sturdily for a year under glass, hardened off in the following spring and planted out in May, will be attractive in the border for a lengthened period and may either be lifted and repotted in the autumn or thrown away. When grown in the conservatory the plants should be kept close to the glass, or they will become drawn and will then compare very unfavourably with specimens grown in the open. On its first introduction this Dimorphotheca was styled the Transvaal Daisy, a title which confused it with Gerbera Jamesonii, sometimes known by the same name, but which, when an English appellation is given it, should be called the Barberton Daisy. *Wyndham Fitzherbert.*



[*Photograph by Wyndham Fitzherbert.*

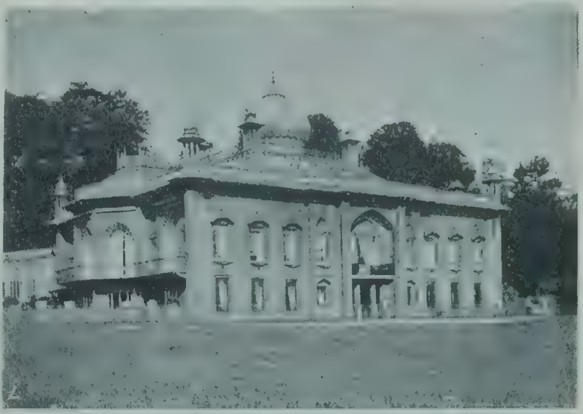
Fig. 77.—Dimorphotheca Ecklonis: flowers white with violet-purple disc.

SEZINCOT HOUSE.

SEZINCOT HOUSE (see fig. 78), the residence of J. T. Dugdale, Esq., is situated in one of the most picturesque parts of the Cotswold Hills, at a distance of three miles from Moreton-in-the-Marsh. It is approached by a long, winding drive which crosses a richly-timbered and undulating park; on either side of the roadway overhanging trees, mostly of Oak and Elm, form an avenue of striking beauty. Here and there in the park clumps of Oaks have been planted so closely that from a distance each group resembles one huge tree with several trunks. The mansion was erected by the late Sir Charles Cockerell, Bart., in the early part of the 19th century, and is in the style of an Indian palace. It is surmounted by a magnificent copper dome, from which extensive views of the Warwickshire hills may be obtained. Attached to the mansion is an imposing conservatory, of a semi-circular shape (see fig. 79). Growing in this conservatory are unusually fine specimens of Clethra arborea (the Lily-of-the-Valley tree) and Brugmansia sanguinea, whilst baskets of Achimenes in variety are suspended from the roof.

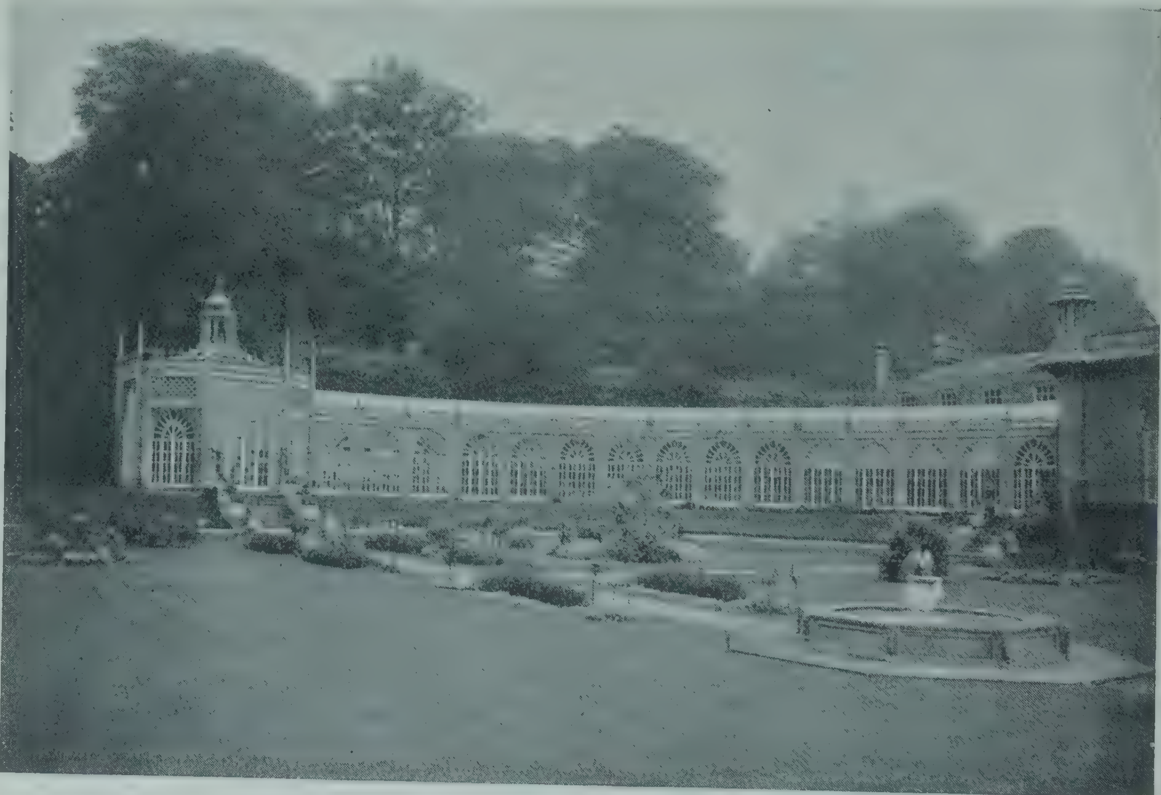
Proceeding from the conservatory, the visitor enters the flower garden, which is situated to the south of the mansion. Since Sezincot became the property of Mr. Dugdale, the flower garden has been largely remodelled, and, at the time of my visit, was a mass of bloom. The owner is a great lover of gardens, and has a wide knowledge of plants. Roses are largely employed in the scheme of decoration, and the Rose beds are in several instances carpeted with Violas. I noticed fine beds of Lady Ashtown, Caroline Testout, Lady Roberts and Richmond, whilst the Lyon, Hugh Dickson, and Molly Sharman Crawford are also extensively planted. One large semi-circular flower-bed was planted with such subjects as Calceolaria Burbidgei, Abutilon Andersonii, Eucalyptus globulus, Chamæpeuce Casabonæ, Iresine Lindleyi and Cineraria maritima, creating a beautiful effect. Two beds filled with Begonia Corbeille de Feu and carpeted with Veronica Andersonii were especially noteworthy. Various other subjects, including Lantana salvifolia and standard Heliotropes are also largely utilised, the latter for their fragrant perfume. During the spring bulbous plants and other early-flowering subjects provide a bright display of colour. One of the features of this garden is a handsome stone fountain. The beds are all surrounded by grass, which invariably gives a more restful and pleasing effect than a gravel setting. Well-flowered specimens of Hydrangea hortensis in stone jars on a terrace-wall adjoining the mansion contribute largely to the floral display. From this point Mr. J. H. Dines, the head gardener, pointed out a handsome specimen of Quercus lucombeana, and a well-shaped tree of Araucaria imbricata, while near by was an unusually fine plant of Magnolia Soulangeana.

An ornamental stone bridge spans a wide stream, which feeds a seven-acre lake (fig. 81) some distance below. The bridge affords one of the most charming views in these delightful gardens. On the high ground in the distance stands an Indian temple, containing a stone idol and overlooking a sparkling stream, which is widened into three pools at intervals, with a fountain (see fig. 80) playing in the centre of each. On either side of the temple, two figures of oxen, exquisitely carved, keep guard in solemn silence. Near the water's edge, Japanese Irises, Spiræa palmata and S. Aruncus grow with especial freedom; while lower down plants of Gunnera manicata and Saxifraga peltata have developed to an enormous size. In the background tall specimens of Cedrus atlantica glauca, C. Libani, and Cupressus Lawsoniana elegans attract attention, whilst near the stream is a beautiful plant of Arundinaria nitida. Near this is a young tree of Ginkgo biloba in splendid growth, and Clematis montana rambles freely on the adjacent forest trees. Large breadths of Erica carnea and E. stricta have been naturalised on the slopes towards the left, while in the spring the broad expanse that meets the eye is gay with countless bulbs. On the lower side of the bridge the banks have been planted with Bambusa palmata and such Rhododendrons as Pink Pearl, Cynthia and Cunningham's White, all of which are flourishing in specially-prepared soil; while Hypericum calycinum and Viola cornuta purpurea luxuriate on the adjoining slopes. This portion of the pleasure grounds is known as the "Thorneries." Beyond it is a representative collection of Japanese Maples, and near them fine beds of Deutzia crenata fl. pl. and Diervilla rosea. A specimen of Pinus Cembra, 72 feet in height, is a notable object, and there are fine trees of Taxodium distichum, Abies nobilis glauca and A. Pinsapo. A collection of hardy Ferns adds to the interest of this portion of the grounds. Among other subjects noted were Leycesteria formosa, Escallonia macrantha, Cytisus nigricans and Spiræa Lindleyana, all flowering freely.



[Photograph by J. W. Farrall.

FIG. 78.—SEZINCOT HOUSE, GLOUCESTERSHIRE, THE RESIDENCE OF J. T. DUGDALE, ESQ.



[Photograph by J. W. Farrall.

FIG. 79.—CONSERVATORY AT SEZINCOT HOUSE.

A wild garden was completed about 12 years ago. It is approached over a rustic wooden bridge spanning a streamlet overhung by evergreens. The trees include Liquidambar styraciflua, Quercus coccinea, Abies pungens glauca and Retinospora squarrosa, while of shrubs I noticed Spiræa ariæfolia, Rhus Cotinus, Olearia Haastii, Cratægus Crus-galli and a large bed of Berberis Thunbergii near to the lake side. Adjoining the wild garden a picturesque rock and water garden has been formed beside an overflow from the lake. This is furnished with plants for successional flowering. On the higher portion, Gentiana acaulis appeared in excellent health, while Senecio clivorum and S. tanguticus were growing freely near to the water. Large masses of Primula japonica have been naturalised, and contribute a rich display of bloom. A picturesque summer house is located in this part of the grounds, from which a view is obtained of woods beyond the lake. Numerous weeping standard Roses are planted hereabouts, some of the varieties, such as Mrs. F. W. Flight and Blush Rambler, growing over forest trees.

The glasshouses are situated on rising ground some little distance to the south-east of the mansion. Upon entering them one is impressed by the high standard of cultivation of the various subjects. Scutellaria Mociniana especially attracted my attention, and a fine batch of seedling Amaryllis appeared promising. Vinca rosea, Browallia speciosa major and Verbena Miss Willmott were flowering freely. In addition to the plants named, batches of all the more useful decorative subjects are grown, including a large quantity of Chrysanthemums. Grapes and Peaches are well cultivated. Young vines of Muscat of Alexandria and Madresfield Court, planted in 1908, were bearing large, well-finished bunches. Peaches are grown out-of-doors on a south wall furnished with glass copings. Mr. Dines informed me that the varieties which succeed best are Waterloo, Royal George, Bellegarde and Dymond. There are numerous flower-beds near to the plant houses filled with Carnations, Pentstemons and Celsia cretica.

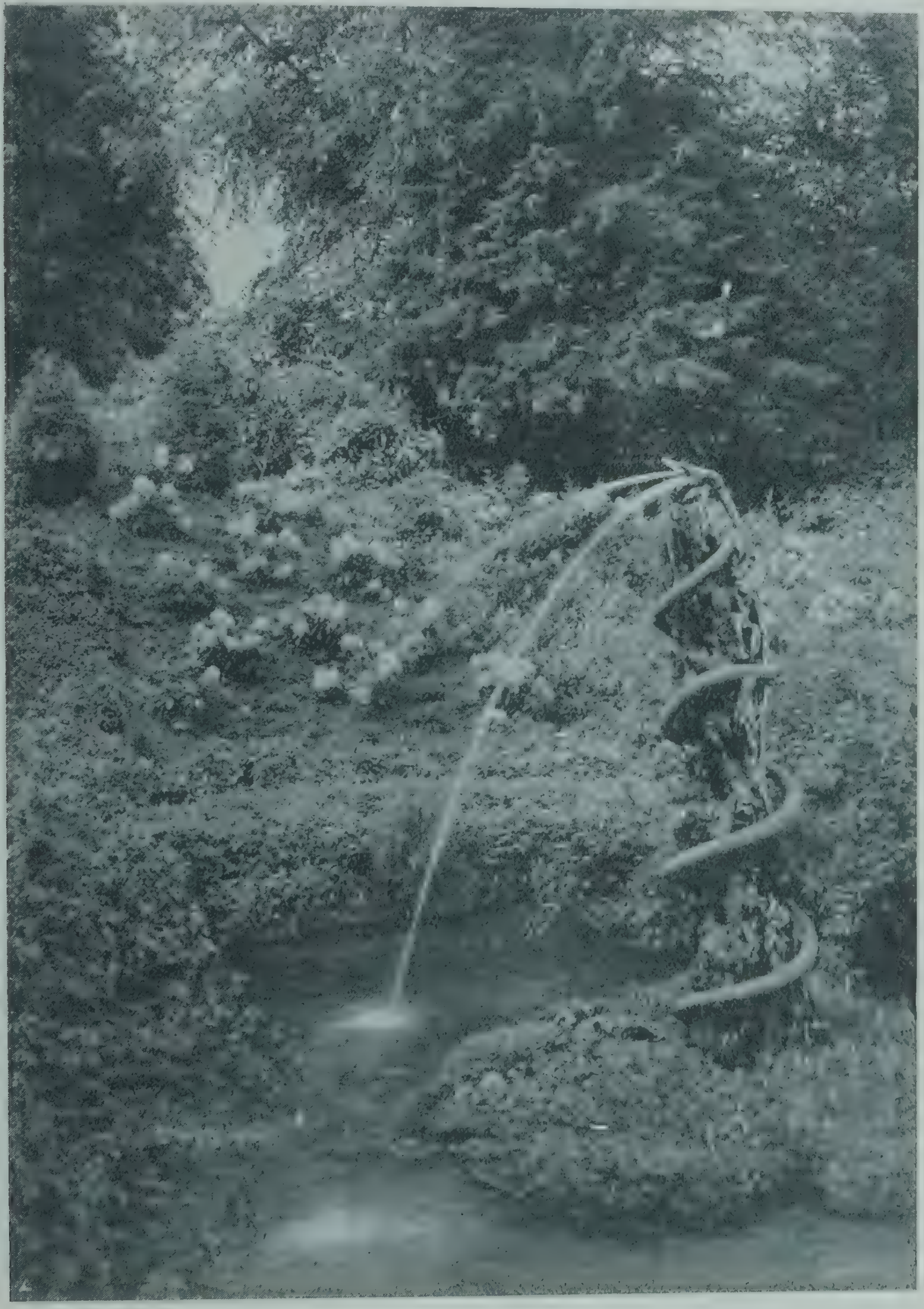
The herbaceous borders in the kitchen garden (see fig. 82) are planted in bold masses, and among the subjects in flower I noticed Cimicifuga racemosa, Anchusa italica Dropmore variety, Geum coccineum Mrs. Bradshaw, and a number of Gaillardias. Some fine specimens of Hydrangea paniculata and Buddleia variabilis magnifica were about to produce their beautiful blossoms. Buddleia Colvilei was flowering freely on a west wall. Clematis Jackmannii in several varieties and climbing Roses are grown on poles at the back of a long flower border, and form a pleasing feature. *J. G.*

THE ROSARY.

CULTURAL NOTES FOR SEPTEMBER.

Roses nowadays often make a good display throughout the month of September. A few of the best varieties for autumn blooming are found in the following list, and I have arranged them according to their primary colours as a guide to intending planters.

Very dark: Victor Hugo, Château de Clos Vougeot, Fisher Holmes, Sarah Bernhardt, and The Dandy. *Dark red:* Captain Hayward, Mme. Victor Verdier, Marquise de Salisbury, Grüss an Teplitz, General McArthur, and Etoile de France. *Red:* Ulrich Brunner, Dupuy Jamain, Lady Battersea, Corallina, Richmond, Liberty, Ecarlate, Mrs. B. R. Cant, Tom Wood, Oscar Cordel, Hugh Dickson, and Ben Cant. *Pink:* Lady Ashtown, Caroline Testout, Mme. Abel Chatenay, Killarney, Mrs. John Laing, Mrs. R. G. Sharman-Crawford, Zéphirine Drouhin, Mrs. Edward Mawley, Mina Barbanson, and William Shean. *Orange-yellow:* Mrs. Aaron Ward, Lady Hillingdon, Mme. Ravary, Duchess of Westminster, Edu. Meyer, Lady Roberts, William Allen Richardson, Gustave Regis, Mme. Falcot, Mme. Hector Leuilliot, and Rêve d'Or. *Pure yellow:* James Coey, Miss Alice de Rothschild, Souvenir de Pierre Notting, Le Progrès, Mrs. Peter Blair, Sénateur Mascurand, Mme. Pernet-Ducher, Beryl, and Harry Kirk. *Salmon-yellow:* G. Nabonnand, Betty, Dr. Grill, Jacques Vincent, Theresa, and Safrano. *White:* Frau Karl Druschki and Molly Sharman Crawford. *Flesh-white:* Viscountess Folkestone, Countess of Derby, and La Tosca.



[*Photograph by J. W. Farrall.*

Fig. 80.—THE SERPENT FOUNTAIN, SEZINCOT HOUSE.
(See p. 170.)

The preparation of the ground was dealt with last month, but as planting can often be done in October, it should be continued wherever possible.

The preparation of stocks for Roses is of great importance, and the present is an excellent time to take cuttings of the Manetti or any of the Briars which are fairly ripe. Regarding the latter, I favour cuttings from the seedlings rather than from the shoulders of standards. There appears to be considerable difference between these two, and as the majority of our seedling briar stocks are purchased from the Continent, there is probably something in it. At all events, although cuttings from our own hedge briars when cultivated in standard form callus very freely, and look promising for a time, they do not give nearly the same percentage of successes in the end: many failing to withstand the early spring winds. Another advantage in cuttings rooted from the seedling briar stocks is that they not only provide a straighter barrel upon which to work the Rose-buds, but also contain scarcely any of the pith found in the cutting-stocks obtained from hedge briars.

It is well to take the cuttings of stocks before the sap descends too much; this ensures a quick and almost certain callus. Nine inches is not too long, and it is important to make sure that the lower eyes are cut out. Two sound buds left at the top are ample. Set the cuttings in fairly firm soil; at any rate, they should always rest well upon the bottom of the trench or hole. The following is an excellent routine:—Turn over—not deeply—enough of the soil to allow of a line being set. Then cut down beside this, and before removing the spade draw it towards you. Having opened this slit-like trench, put in the prepared cuttings 3 inches apart, carefully pressing them to secure a firm bottom. Should the soil not be naturally of a sandy nature, it is well to put a little sand into the bottom of the trench, or slit, before the cuttings are inserted.

Now put up a little of the soil towards them, and tread firmly. Proceed to turn over more of the soil until there is sufficient to allow of the line being reset 15 inches from the first row. The soil should then be dug over about 18 inches from where the line was first set, and a fresh row of cuttings inserted. Continue this process until the desired number is planted. Cuttings of De la Grifferæ and Polyantha stocks may be rooted in the same manner.

Should the ground be dry at the time of inserting the cuttings, pour water into the trench before putting them in. This is far better than any subsequent watering.

The planting out of stocks will be dealt with in due course. Here we frequently begin to insert our cuttings while a great deal of foliage remains, provided about three parts of the shoot be partially ripened. The leaves are easily stripped off with an old glove of fairly stiff leather. Grasp the glove firmly, and work from the point of the shoot downwards. A little damage to the eyes does not matter, since they are to be cut out immediately.

The Wichuraianas, also most of the climbing Polyanthas, can be rooted easily now. In this case it will not be necessary to cut out any of the eyes or buds; nor need the cuttings be made longer than 6 inches. They should be planted 9 inches to a foot apart in the rows, the latter 2 or 3 feet away from each other, according to the habit of growth of the several varieties.

A few ripe plants may be lifted by the end of the month, and (if carefully potted, kept well sprinkled overhead, and placed in some cool, shady, and preferably close position, such as a deep pit or frame), they will be very useful for late forcing next spring.

Remove the leaves at once if they are at all succulent; otherwise they quickly absorb the sap, and cause injurious shrivelling of the wood. The pruning and after-treatment of these will be dealt with later on.

A small batch of established plants in pots may be pruned at once, and placed for a time in a similar house to that advised for newly-lifted plants. They will soon start into growth, and will develop under a gentle treatment much better than if hurried at first and started later.

As the season gets colder, this first batch will need a slightly warmer atmosphere. I should advise a choice of such readily-opening varieties as those generally utilised by the large growers for market. Any suspicion of doubleness will end in the buds damping off and failing to expand from lack of light during the winter. Killarney, White Killarney, Richmond, Mrs. W. J. Grant, Molly Sharman Crawford, and Lady Hillingdon afford a good range of colour. Climbers growing in borders under glass should be well ripened by the end of this month, if not kept too wet at their roots. These will be almost sure to grow a little quicker than those in pots in the open. There is little to do as regards pruning if thinning out the wood was done in the late spring, as suggested in previous notes. Any immatured tips, however, should be cut away. I do not favour the plan of cutting off the leaves of these unless they are more than half-ripened. They will naturally be forced off as the buds develop.

All pot Roses need a general overhauling now, whether they have been in pits or in the open. Worms and drainage are the chief things to look to; and it is a good plan to finish all necessary repotting.

It will be advisable to look over all budded Roses and loosen any ties that have not rotted or are not already loosened. *Practice.*

NOTICES OF BOOKS.

A New Guide to Kew Gardens.[*]

The official and semi-official publications of Kew are numerous and comprehensive, meeting almost every possible want in connection with the Establishment and in relation to horticulture and economic or applied botany generally. But a very large percentage of the 2,000,000 annual visitors require something which, though less expensive, covers as wide a field as the combined special guides and catalogues. This want has now been met in most particulars, except in the price of the new guide. Sixpence is not much, yet many thousands of the visitors, who would like to possess the book, cannot afford even so much as sixpence. At half the price the sale would probably be so much larger that the cost of production would be more quickly realised. The cost of maintaining Kew is a very small item in the nation's expenditure, and a small increase which would render the treasures of Kew yet more widely instructive would be amply justified.

The authorship of the present guide does not appear, but the book is evidently the work of a person, or persons, intimately acquainted with every nook and corner of the gardens, with every notable tree, shrub and herb, with every museum object of importance, and with the history of it all! Yet we miss any reference to the noble specimens of the Evergreen Oak, which constitute a striking feature in the vicinity of the North Gallery, and are the admiration of so many visitors, especially those from foreign parts. A few pages are devoted at the beginning of the guide to the main facts of the history of the gardens and its buildings and departments, its functions and its duties. Then follows a description of the "Botanic Gardens," as distinguished from the "Arboretum," which appears to us not quite a happy distinction to maintain, since the dividing fences between the old botanic garden and the "Pleasure Grounds" disappeared long ago, and some very fine trees of the old arboretum still exist near the main entrance. Further, the new arboretum is essentially botanical. The visitor is supposed to enter by the main gates on Kew Green, and is thence conducted over the lawns to the interesting plantations, trees and structures. The wild garden, the herb garden, the rock garden, the pond, the Iris garden, the aquatic garden, and the like are visited in succession, and their treasures and peculiarities pointed out. The glasshouses come next, and their principal attractions are reviewed, prominence being given to plants of economic value. The same may be said of the four museum buildings, the contents of which are skilfully summarised, about 30 pages being devoted to this section. Finally, there is a description of the arboretum or collection of trees and shrubs arranged in families.

We welcome the appearance of this excellent, popular guide, which is sure to be in great demand.

A few misprints have been noted, and the somewhat frequent employment of the expression "with its" as: "Hippophaë rhamnoides, with its orange berries, should be noticed," is a blemish.

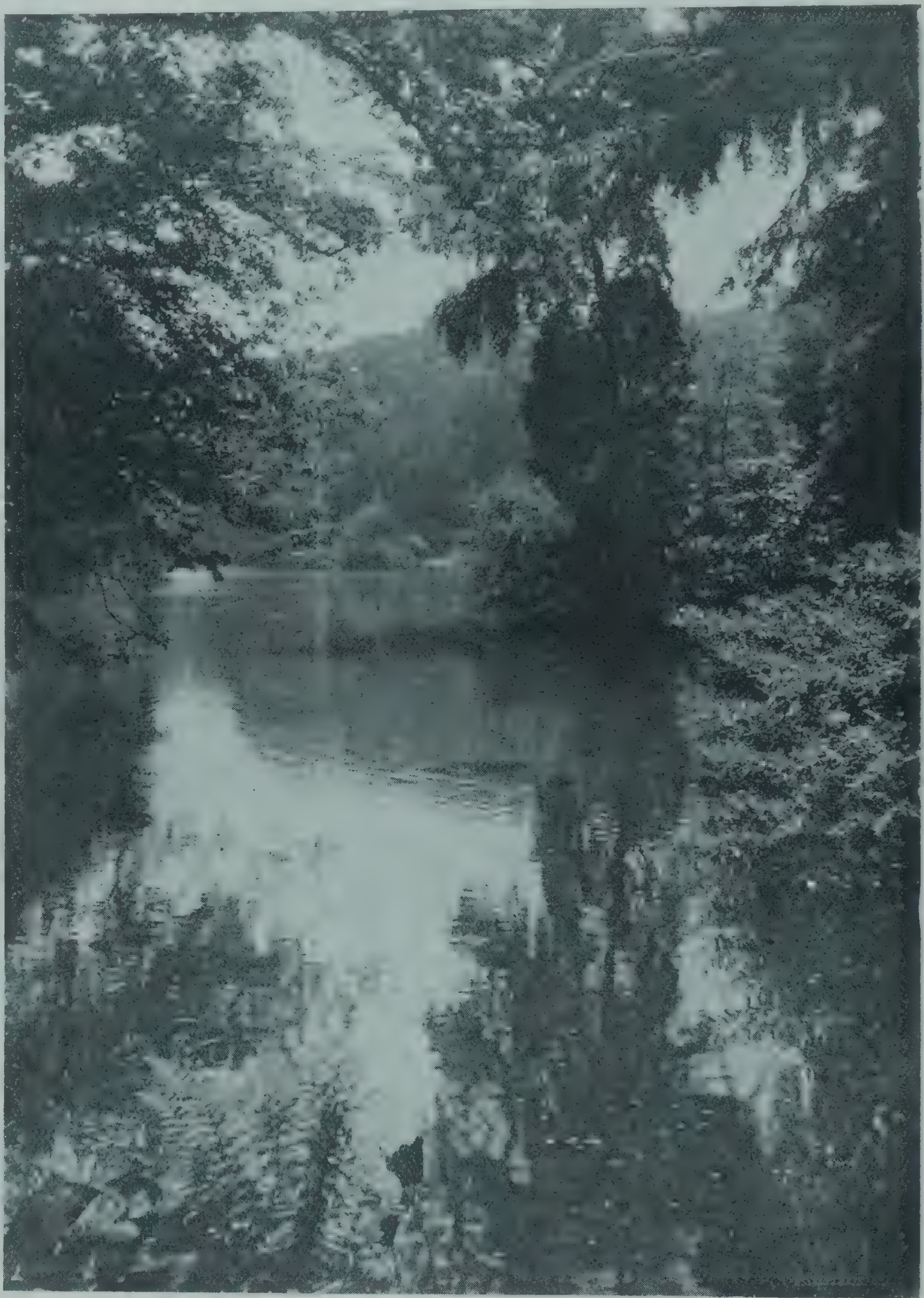
REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 66-71.)

(Continued from p. 151.)

5, SOUTHERN COUNTIES.

Kent.—The fruit crops generally are quite up to the average. Two or three varieties of Apples, viz., Lord Suffield, Stone's and Ecklinville Seedling, which have been condemned as worn out, are carrying first-rate crops of fruit, very free from scab, although the trees were not winter washed. A slatey-coloured aphis has done much damage to the young growths. As a remedy I have been obliged to dip the young growths in a nicotine wash; and in some cases washing has had to be practised. Lane's Prince Albert is carrying heavy crops, even after having fruited heavily last season. Other varieties doing well include Golden Spire, Lord Derby, Stirling Castle, Worcester Pearmain, Barnack Beauty, Tower of Glamis, Charles Ross, Bismarck, and Cox's Orange Pippin. I have never seen Pears looking better. The variety Doyenné du Comice has not only set well, but the fruits promise to be large specimens. Michaelmas Nelis is of splendid flavour, but will not keep more than a few days when ripe. Le Lectier is not so well known as it should be. It is in good condition during December, January, and February. When ripe it is of a straw-colour. Damsons are a heavy crop, but Plums are scarce. Raspberries, of which there are several acres near here, are an enormous crop. Gooseberries also are very plentiful. *George Woodward, Barham Court Estate, Maidstone.*



[*Photograph by J. W. Farrall.*

Fig. 81.—View of the lake at Sezincot.

(See p. 170.)

—— The soil is derived from the lower greensand. The frost of April 10-11 was fatal to many Apples and Plums. Strawberries were so dried up in 1911 that they were not strong enough to fruit, and consequently were the shortest crop for 30 years. *Geo. Bunyard, Maidstone.*

—— The fruit crops in these gardens are very good, but they are indifferent in many places in the district. Apples are not looking healthy, but Pears and—in sheltered places—Plums are good, whilst Cherries were very fine. Strawberries were poor in places owing, no doubt, to the dry summer of 1911 and the late frosts this spring. Raspberries are excellent. Gooseberries were extra fine. Figs out-of-doors are a fine crop. *J. H. Shann, Betteshanger Park Gardens, Eastry.*

—— Some varieties of Apples, and Blenheim Pippin particularly, are bearing abundantly. Others, Cox's Orange Pippin, for example, are almost a failure. Although a considerable number of Pears dropped their fruits after the late frosts, the crop generally is above the average, and the trees are clean and healthy. In many instances there are no Plums, and the foliage is badly infested with aphis. Strawberry plants suffered from the severe drought of last year. Cobnuts are, perhaps, the heaviest crop on record. *Geo. Fennell, Bowden, Tonbridge.*

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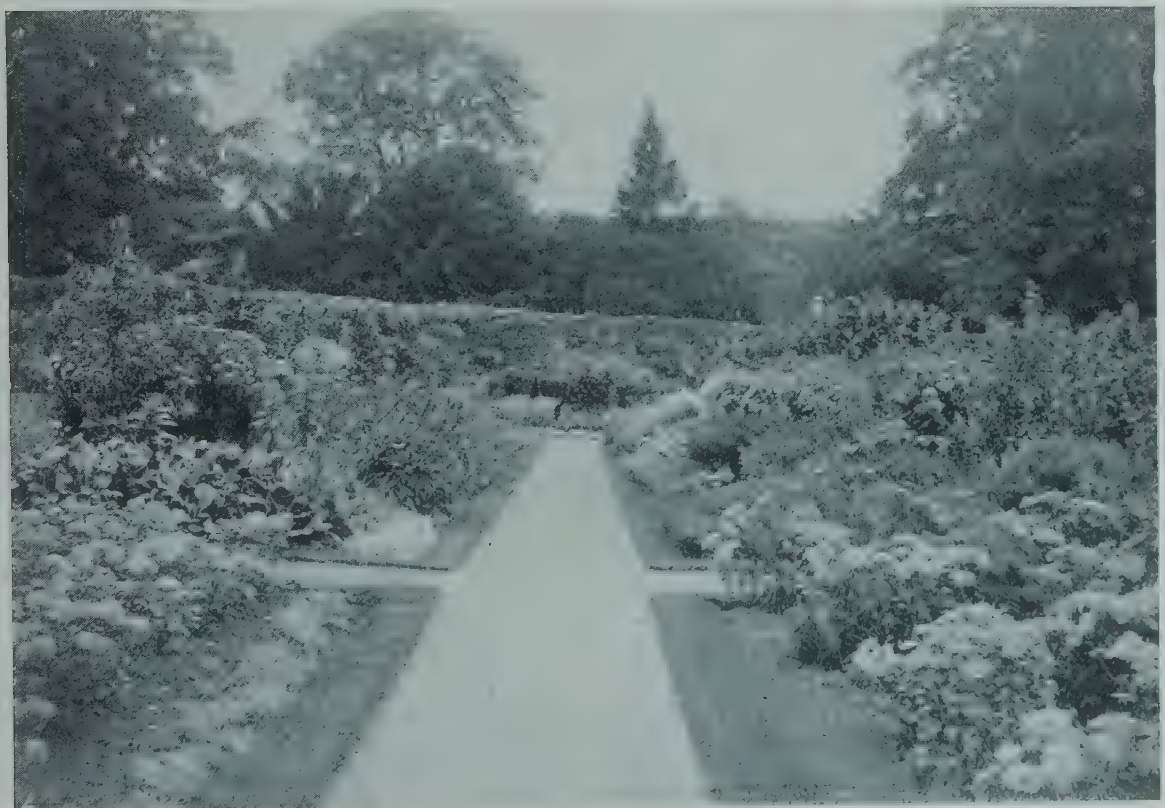
[*] Popular *Official Guide* to the Royal Botanic Gardens, Kew, including an Historic Notice and Descriptions of the Collections in the Botanic Gardens Proper, the Glass Houses, Museums and Arboretum. Small 8vo., pp. 108 with a key-plan. Price 6d.

—— Black and Red Currants were very good. This is the case everywhere. Strawberries were much under the average. The causes are twofold: (1) late frosts of considerable severity; (2) the persistent drought of 1911 when the runners put out, and the one-year-old plants suffered immensely. Runners were planted out in what was practically dry dust, so they and the older plants made no growth. They simply struggled through the year. Usually I annually destroy all the plants and replant early with very early-rooted runners; but last season, anticipating the probable effect of the drought on the planted-out runners, I left a number of one-year-old plants, and it was these which gave this year's crop. The runners scarcely bore at all, but what fruit there was was very fine both in size and flavour. The soil here is stiff, deep loam. Exposure, N. and N.E., but with plenty of light. *Charles E. Shea, The Elms, Foots Cray.*

—— Strawberries were about a third of a crop in this district, and not of good flavour, probably owing to the cold and drought. Raspberries were very fine; Gooseberries were a large crop; Currants were more abundant than usual and were very clean. Two very late frosts caused a shortage and, in some cases, almost entire loss of crops, especially in the case of Strawberries, and, during the protracted drought, many breadths had their foliage lying on the ground. It is not surprising, therefore, that this season will be noted for lack of flavour in the fruits. Pears are the best crop of the year. Apples are a good average crop, and the fruits are clean. Bush fruits of all sorts are abundant, but the flavour is poor. The soil is loamy, overlaying gravel. *W. E. Humphreys, Blendon Hall Gardens, Bexley.*



[*Photograph by J. W. Farrall.*

Fig. 82.—Flower borders in the kitchen garden at Sezincot House.
(See p. 170.)

—— The Strawberry crop suffered in a great measure from the drought of last summer; many plants never recovered their vitality, and if not actually killed, were so weakened as to be unproductive. The amount of the crop was therefore considerably reduced. On the other hand, the weather in May and June was favourable for the development of the crop, and we had a few fine fruits of good flavour. The season was two or three weeks in advance of the average. Plum bloom suffered severely from late frosts, but where the trees are protected by walls from frosts they are carrying heavy crops. Pears are an exceptional crop; the trees are very healthy, and the fruit large and clean. Although an average crop, Apples are not uniform, and the trees have suffered from an attack of aphis. Nuts are a very large crop, the hedgerows being a mass of fruit. The soil in this district is a rather heavy and retentive clayey loam. *J. G. Weston, Eastwell Park Gardens, Ashford.*

Middlesex.—As an all-round good season, this is one of the best I have experienced for many years. Peaches and Nectarines have never been better. Early Apples are good, but late varieties are not so plentiful. Pears are numerous on most trees. Plums very fair. Strawberries were plentiful, but lacking in flavour. Raspberries were good; in fact, all small fruits were good average crops. I never had better Gooseberries. Nuts are an average crop; Apricots are poor. Our soil is light, and the roots of all fruit trees require much feeding. *H. Markham, Wrotham Park Gardens, Barnet.*

—— All over the county of Middlesex there seems to be a very heavy crop of Apples—good, clean fruit on the whole. Pears are much under the average, due, I believe, more to attacks from the Pear midge maggot (Diplosis pyrivora) than to frost. I have examined many trees in various parts of the county this season, and found this pest in great abundance in the young, swelling fruits. Morello Cherries in the Feltham and Ashford districts have been excellent, and sweet Cherries in the western parts have been abundant. Gooseberries and Currants are below the average, but Raspberries appear to be up to the average and of good quality. *John Weathers, Isleworth.*

—— The fruit crops in this immediate neighbourhood are somewhat disappointing, especiall Strawberries, which was the worst crop for 18 years. The failure may be attributed to the excessive heat of last autumn. Newly-purchased plants gave no better results than our own runners. The variety Epicure did fairly well, also the new Utility. King George V did not come up to expectation, either in earliness or cropping qualities. Amongst Apples, Lane's Prince Albert has failed this season. Peaches out-of-doors are a failure. Pears are a very good crop, Souvenir du Congrès and Pitmaston Duchess being among the best varieties. Many Plums dropped from the trees in April and May owing to the drought. The soil in these gardens is a light loam overlying gravel. *Jas. Hawkes, Osterley Park Gardens, Isleworth.*

Surrey.—The fruit crops are below the average, owing, no doubt, to late spring frosts. Aphis has been most troublesome this spring, especially on Apples, Cherries, Peaches, and Nectarines. As a result, much of the new growth is damaged, especially on Apple trees. The Strawberry crop was a very erratic one, late varieties ripening with the early ones. We grow Royal Sovereign, Givon's Late Prolific, Louis Gautier, St. Antoine de Padoue, Waterloo, The Leader, Sir Joseph Paxton, Vicomtesse Héricart de Thury, Laxton's Latest, and Bedford Champion. The last-named variety gave the best crop of any. Plants of this variety withstood the intense heat of last summer better than any other sort, developing the best crowns. Laxton's Latest was our second best variety; this also withstood the great heat of 1911 fairly well. Stone fruits generally out-of-doors are below the average, Cherries being the most numerous. Small fruits are only average crops, Gooseberries being the best. Nuts of sorts are a large crop. Our soil is a very porous light loam, with a gravel subsoil. *Geo. Kent, The Gardens, Norbury Park, Dorking.*

—— The early prospects of a good fruit year were practically ruined by frosts in April and May. In some cases trees that were entirely covered with bloom have not set a single fruit, but, generally speaking, Pears are a little better than last year. With the exception of Strawberries, all small fruits were good crops, particularly Gooseberries. Sweet Cherries were a poor crop, but Morellos were satisfactory. The season has been very favourable for early vegetables. *W. H. Honess, Hopedene Gardens, Holmbury St. Mary, Dorking.*

—— Royal Sovereign Strawberries on light soil were a poor crop owing to the drought in April, but Leader and later sorts on clay land were very fine. Small fruits are very good, but Plums are a failure. Last season's drought disabled the trees. Pears set a splendid crop, and Apples required thinning. Birds destroyed the buds of Peach and other trees where the latter were not protected. Apricots do not succeed here, owing to the heavy rainfall in winter. The Black Currant mite is not so pronounced on bushes that receive plenty of manure water from cow sheds. *James Watt, Mynthurst Gardens, Reigate.*

—— The fruit crops are very indifferent, although at one time the prospects were good. Strawberries were badly injured by spring frosts; almost before the flower trusses could be discerned the frost had done damage. Apricots gave full promise for a fine crop, but frost destroyed the prospects. Plums are worse, with the exception of two early trees of the variety Rivers' Early. Apples are an average crop, but fruits of several varieties, Blenheim Pippin for instance, are very scarce, and the trees generally have suffered from blight. To say that the Pear crop is good is rather misleading, for though many varieties set well, the fruits show signs of injury from frost, presenting a rusty appearance. Currants are an average crop, but Gooseberries were damaged by late frosts. *James Lock, Oatlands Lodge Gardens, Weybridge.*

—— We registered 5° of frost on April 10 and 11°. on the following day, which destroyed the greater part of the early Pear blossom and practically the whole of the flowers on Cherry and Plum trees. No frost was registered during the period when late Pears and Apples were in flower, consequently these are full crops. Strawberries were seriously injured by heavy rains in June; many of the early fruits decayed before they were ripe. Raspberries and Black Currants have been heavy crops of first-class fruits. The soil here is a medium to sandy loam with a clay subsoil. *Thos. Smith, Coombe Court Gardens, Kingston Hill.*

(*To be continued.*)

ORCHID NOTES AND GLEANINGS.

BRASSO-CATTLEYA MONETA.

A very beautiful hybrid between Brasso-Cattleya Mme. Chas. Maron (Brassavola byana × C. Warscewiczii) and Cattleya Gaskelliana, under the above name, is flowering with H. S. Goodson, Esq., Fairlawn, West Hill, Putney (gr. Mr. G. E. Day). The plant bears a spike of three very large and finely-shaped flowers, of better substance than most Brasso-Cattleyas, the superiority in that direction being attained through C. Gaskelliana, which has a good reputation for imparting fine proportions and firm texture to the flowers of its hybrids, as well as fragrance. The flowers are of a delicate mauve-pink on white ground, which shows at the base of the segments and in a thin veining on the petals; the broad, fringed lip is bright rose colour, with a white base and greenish-yellow disc.

The Week's Work.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

The Unseasonable Weather.—The dull weather has been very unfavourable for operations in the kitchen garden. Up to the time of writing (22nd inst.) rain has fallen on all but seven days of the month. Notwithstanding this, only 2.36 inches have been registered, the maximum being on the 18th inst., when .44 was recorded. On several days recently, there have been thunderstorms with heavy showers, and the nights and early mornings have been cold, with scarcely a gleam of sunshine. But Runner Beans have grown well and carry abundant pods. The plants are remarkably clean. The Celery crops are looking satisfactory, and also the crops of Winter Greens. Weeds have grown freely, and on heavy land hoeing has been of little use in their destruction. The first favourable opportunity should be taken to stir the surface of the soil between the various crops.

Tomatos.—Doubtless after last season's success with outdoor Tomatos, large numbers have been planted this year, but the results have been almost a failure, even where the plants have had the protection of a wall or fence. Unless the weather changes soon, very few fruits will be obtained. The growth should be kept well thinned, and the leaves, where too dense, shortened to admit of a free circulation of air amongst the trusses and to mitigate the attacks of disease. As soon as the fruits commence to colour, they should be gathered and placed on a shelf in a dry, warm structure to ripen. Waterings and stimulants have been quite unnecessary, but, in the event of a change next month, the plants should be given some assistance to encourage the crop to mature. Stop the leading growths.

Celeriac.—The showery weather has suited this vegetable, and every encouragement should be given the plants to complete their growth within the next week or two. Take every opportunity to loosen the surface soil, first giving a light dusting of soot over the foliage. Towards the middle of next month, when growth is completed, the plants should be lifted and stored in fine ashes or sand. This is much better and much less trouble than lifting a few plants at intervals. All the leaves should be taken off except those in the centre of the crown.

Brussels Sprouts.—Keep the hoe at work, especially amongst the earlier plantings, and support the plants if necessary, at the same time removing any yellow or decaying foliage. If plenty of sewage water is at hand, the plants will greatly benefit by an occasional soaking.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Catasetum, Mormodes and Cycnoches.—Plants of these genera which have bloomed or completed their growth should be removed from the warmest house to a cooler one, where they may be allowed air during the hottest part of the day. The roots should be supplied with water whilst the foliage remains green, but after the leaves have fallen, and the growth is fully matured, very little water will be needed, and the plants should be given a long season of rest in a dry, sunny position in an intermediate temperature.

Odontoglossum crispum.—From now onwards for the next few weeks, many plants of O. crispum and its hybrids will need attention at the roots, either re-potting or replenishing the surface materials as may be necessary. Plants that have grown to the sides of the pots, and those in compost that is exhausted, should be re-potted. The best time for the operation is when the young growths are from 2 to 3 inches in length, as at this stage young roots are developing. The plants should be turned out of the pots and the old material shaken from the roots. Any of the latter that are decayed should be cut away; also the old, leafless pseudobulbs, leaving 2 or 3 behind the young growths. Select a clean pot of a size that will accommodate the plant for two seasons, and fill it to one-quarter of its depth with clean crocks, to ensure efficient drainage. Over the crocks place a layer of Fern rhizomes cut into short portions. Hold the plant in position, keeping the back part near to the side of the pot and the base just level with the rim. Work the compost firmly between and around the roots to within $\frac{1}{2}$ inch of the top and on the surface place a layer of chopped Sphagnum-moss. On no account should the front portion of the rhizome be buried; it should rest on the surface of the moss so that when the new roots develop, they can enter the material at once. The plants should be sprayed overhead on bright days, and the surroundings kept moist at all times. Plants which are growing satisfactorily and have sufficient room in the pot for another season's growth, may, if the compost is good, remain undisturbed, but some of the old moss should be carefully picked from the surface and replaced by fresh. This will be a great aid to the new roots. A good rooting medium for Odontoglossums consists of short pieces of Osmunda fibre and A1 fibre, in equal proportions, with a liberal addition of chopped Sphagnum-moss, crushed crocks, and a little coarse silver sand. After the potting is finished, the plants should be watered through a fine rose and stood in the shadiest part of the house. Watering must be done with extra care until the roots have grown well in the new compost. The compost should be kept moist and this may best be accomplished by spraying the surface each morning; this will cause the moss to grow, an important factor to the well-being of the plant. Many other Odontoglossums, including O. Pescatorei, O. triumphans, O. Harryanum, O. cordatum, O. polyxanthum, O. cirrhosum, O. luteo-purpureum and their hybrids, will need attention at the roots from now onward through the autumn months, and should be potted in the same manner as advised.

Odontoglossum Seedlings. — Seedling Odontoglossums, in their many stages, should also receive attention at the roots, and should be potted in a similar mixture to that recommended above with an equal proportion of half-decayed Oak leaves added. Young plants should not be potted so firmly as the older specimens. When new moss is used, slugs frequently make their appearance and should be trapped by Lettuce leaves placed on the stages among the plants. The slugs should be sought with a lantern when it is dark.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Pineapples.—Young plants which require re-potting should be attended to at once. If they are plunged in a fairly warm hot-bed they will form roots before the winter arrives. Keep the atmosphere moist by frequently damping the paths and walls in the house, and spray the plants two or three times daily with tepid rain-water. Watering must be done with extra care for some time to come. Suckers of the Charlotte Rothschild and Smooth Cayenne varieties which are large enough to place in pots should be taken off and potted. They will be better for planting out, or potting into larger pots, if they are taken from the parent stock directly they are ready. If they are left too long on the old plants, they become drawn and weak, and this may delay the fruiting of the plant for a whole season. The young plants, when potted, should be plunged into a hot-bed and kept in a close, moist atmosphere. During hot weather they should be shaded, and syringed frequently with tepid rain-water. They should not require watering till they have rooted; even then moisture must be afforded with extreme care. When the winter-fruiting plants are producing their Pines, they must be liberally treated in regard to watering and feeding. Liquid manure from the farmyard and guano-water are both excellent stimulants for Pines, and may be given alternately, increasing the strength as the growth of the fruit advances. A top-dressing of fibrous loam, mixed with a little well-decomposed horse manure and concentrated fertiliser, will also be beneficial.

Queen Pines.—In the fruiting of Pines, so much depends on the amount of progress which the plants make during the season preceding the fruiting time, that growers will be alarmed at the continued dull, sunless weather which has been generally experienced through the greater part of July and August. This will undoubtedly have a prejudicial effect on the plants, and probably a large percentage of them will fail to fruit next year. They will need much care during the remainder of the growing season. Every effort should be made to create a suitable atmosphere in the house by careful attention to ventilating the house, the damping of all bare surfaces, and the proper use of artificial heat. During fine, sunny weather, a little air should be admitted to the plants early in the morning, gradually increasing the amount as the sun gains power. Close the ventilators early in the afternoon, after spraying the plants and charging the house with moisture. The temperature should not be allowed to fall below 70° until the growing season is finished. The pots will now be full of roots, therefore the plants should be examined frequently to ascertain if water is needed. Stimulants may be given more frequently and with increased strength.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Richardia africana.—These plants are very useful for decorative purposes during the winter and early spring, and they are well worth any pains which are bestowed on them. Plants which have been resting in pots should be shaken free of the soil surrounding the roots and potted in a fairly rich compost, consisting of a mixture of loam, well-rotted manure, and sand; adding, if desired, a little charcoal and bonemeal. The exact size of the pots should be determined by the use to which the plants are to be put; but, generally speaking, one good tuber in a 6-inch and three in a $9\frac{1}{2}$-inch pot would be right. Where the plants are to be used in a conservatory or winter garden, the former will probably be found the most convenient receptacle. Firm potting is an important point, and with regard to drainage, I always provide plenty, although the roots will live in water. The variety "Little Gem" is, as its name indicates, a small plant, and does not require so much pot-room as the others. A single tuber will grow well in a $4\frac{1}{2}$-inch pot, or three to five in a $8\frac{1}{2}$-inch pot; small, well-grown specimens are often more useful for ornamental purposes than larger plants. Plants which have been put out in the open ground after flowering should be lifted before the roots have had time to spread too far; otherwise, if the weather after lifting is very warm, much of the foliage may be lost. The pots to be used for these plants must be decided chiefly by the size of the ball of soil on the roots. Any small, superfluous growths should be pulled off the flowering stems; if desired, these may be potted up separately for increase of stock. After potting, they usually do very well when placed under the shade of a wall, but they should be removed under cover at night when the weather is cold.

Rehmannia angulata.—This plant is not difficult to cultivate, and it serves a useful purpose during May and June. Plants may be grown in a cold frame up to the time when the flower-spikes begin to show, which is a great advantage to those who have only a limited amount of house-room. Seedlings raised during the early part of the summer should be growing freely, and an endeavour should be made to get them into $4\frac{1}{2}$-inch pots by the end of September. Early in the spring they should be transferred to 6-inch pots. A fairly light, fine compost suits them, and they are materially assisted by a little shade during the first stages of growth.

Gloxinia. — The earliest-flowered plants of Gloxinias are losing their foliage, and the pots may be turned on their sides in a pit. After thoroughly drying off the tubers may be removed to the shed or house where they are to be stored until the spring. Plants of later batches will also be showing signs of maturing, and these must be gradually inured to less water at the roots.

Tuberous-rooted Begonias.—If these plants are required to continue in flower for some time longer, they must be given frequent supplies of liquid manure, as well as a little artificial manure. If cold, damp weather continues a little fire heat should be provided, in order to keep the air dry; the plants are very liable otherwise to rot at the stem. Seedlings which are planted out in beds should be regularly inspected as they come into flower, and labelled according to colour. In the event of any exceptionally good variety being perceived the plant may be lifted at once, and placed in a pot where it may be more convenient to keep it under close observation.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme,
Warter Priory, Yorkshire.

Autumn-fruiting Strawberries.—These plants have grown rather freely this season and made a good deal of foliage. Two-year-old plants will begin to ripen their fruits, and will continue to give a supply until the seedling plants commence to bear. If the damp weather continues lights should be placed over the plants where possible, or many of the best fruits will rot before they are ripe. Fix the lights well above the plants, so that the air may pass in freely. Remove all runners until the fruits are set, and keep the surface of the ground lightly stirred between the plants to keep down weeds. Apply a sprinkling of soot before the fruits ripen to protect the plants from slugs, and place a light mulching of short straw or similar material between the rows to keep the fruits clean. If necessary, the trusses may be thinned, removing all small and malformed fruits. Gather the fruits carefully into small baskets, and send direct to the table to avoid handling more than is necessary.

Gathering Fruit.—Extra care should be taken in gathering Apples and Pears. Early varieties of both these fruits should be gathered before they are quite ripe. Later varieties which may be worth netting should be protected from birds; Apples especially will be of extra value this season on account of their scarcity. Early Pear trees should be frequently examined; it is a great mistake to gather all the fruits at once. It can easily be ascertained which fruits are ready for gathering; if carefully lifted to one side, a ripe fruit parts freely from the wood. Later fruits should be exposed to sun and air, and the largest fruits, which may be required to hang late, should be secured to the tree by placing a piece of raffia around the stalk. This will prevent their being blown off by the wind. If extra large specimens are required feed the trees with liquid or artificial manure. Protect the fruits from birds with netting, or many of the best specimens will be spoiled. Plums should be examined at short intervals, for they soon crack and are spoiled, especially during showery weather.

General Observations.—It is too early as yet to commence root-pruning or root-lifting. There will be more of this work than usual this season, as all fruit trees, especially those that are lightly cropped, are making too much wood. A good deal may be done by getting together materials of all descriptions, including loam, lime-rubble, wood ashes, and bonemeal, ready for use when required. The heavy rains have penetrated both south and west borders, and wall-trees generally are making a great quantity of wood, which renders it all the more necessary to keep the shoots thinly trained to ensure them ripening well. Those who are contemplating planting during the coming season should not delay any longer the selection of the trees. It is a great advantage to order early, and it should be borne in mind when making the choice that the strongest and largest trees are not always the best. Moderately-grown trees should rather be selected, as the wood of very strongly-growing trees seldom ripens satisfactorily. Weeds have been unusually numerous this season, and have been most difficult to destroy. Every effort should be made during next month to clear all fruit quarters by hoeing while the weeds are small, as each week of delay means extra labour and expense in carrying out the work.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote,
Eastwell Park, Kent.

Herbaceous Borders.—The continued wet, dull weather experienced during the past few weeks has caused all late-growing plants to make soft, weedy growth. Late-sown annuals are often used in mixed borders to fill up the gaps caused by the removal of early-flowering plants, such as Lupins, Poppies, and Delphiniums. These annuals are making a lot of soft growth, and it is necessary to look over the borders at frequent intervals to see that they do not encroach on any plant of small, weak growth. These may be extremely valuable, and will be much injured, if not killed outright, by being allowed to become smothered by grossly-growing annuals. Where the border has an edging of turf all plants must be kept quite clear of the grass. Constant attention is necessary during stormy weather to see that all stakes and ties are secure. Much damage may result from a single night's storm if this is neglected. Cut off all decaying flower-spikes and stems at frequent intervals, and, if the ground is not sufficiently dry to hoe, weeding must be done by hand in order to keep the beds clean and attractive. Seedling weeds grow very rapidly during wet weather.

Perennial Asters.—The early varieties of perennial Asters, more especially those of the Amellus type, are now making a good show, and the main batch will soon be in full bloom. With the great number of varieties now in existence the flowering period has been extended over several months, and if the weather improves the later varieties will be charming in October and November. The heads of the strong growers get very heavy as the season advances, and good, firm stakes must be supplied to keep them secure; these should be kept out of sight as much as possible. The prolonged damp weather has caused the plants to grow very strongly, abundance of moisture being particularly suitable to perennial Asters, so that if the weather is favourable there should be a magnificent show of bloom in September. They thrive in almost any situation, but are seen to the best advantage when cultivated in a border entirely by themselves, where a comprehensive collection may be grown, and the varieties tested and compared. Such a border is particularly interesting, even if only on a small scale. They are also indispensable in the mixed border, especially the blue and lavender varieties. These provide a shade of colour which is a pleasing relief from the yellows, scarlets, and whites of the average border.

Early Bulbs.—If the usual supply of bulbs for early outside planting has not already been procured, no time should be lost in sending the order, as those who order early have undoubtedly the pick of the season's stock.

Daffodils.—In gardens, bulbs often have to be lifted from the beds before they are properly ripened in order to make room for the summer bedding plants. They are usually laid thickly in ashes or soil, and when thoroughly dry are cleaned and stored till planting time arrives. Owing to the extra rainfall recently the ground is unusually soft for the time of year, and where planting in turf or woodland walks is contemplated, the present affords a good opportunity to carry out the work. It is a good plan to plant any which are already in stock as early as possible; not only are they thus safely out of hand before the press of autumn planting comes, but the bulbs will otherwise deteriorate, and the flowering will not be nearly so satisfactory. Daffodils of all sorts, Muscari, and Crocuses may be planted now.

Lilium tigrinum Fortunei.—This magnificent autumn-flowering Lily may be recommended as a most satisfactory variety, and one worthy of extended cultivation. It is very hardy, and will thrive almost anywhere and in any ordinary soil. Even if planted in a garden where Liliums do not thrive as a rule, the price of the bulbs is so moderate that a supply can be procured annually at a small outlay. The plant has a very strong habit, growing to a height of from 4 to 6 feet, and bearing immense spikes of orange-scarlet flowers. Whether planted in clumps in the mixed border, in the shrubbery, or in the wild garden, this Lily is most effective, and is one of the most satisfactory varieties flowering out-of-doors just now.

THE APIARY.

By Chloris

Position of the Apiary.—Since some may desire to commence beekeeping at this season of the year, a few notes may be of great assistance, because a good beginning will be essential to success. Provided that it does not contain a river or lake, the lower part of a valley is best. The disadvantage of the water is that when bees are returning home heavily laden during stormy weather, they are liable to be beaten down and drowned, whereas if no water existed, after taking a rest, the bees would be able to resume their journey. If possible, there should be good protection on the north and east, such as a thick hedge, copse or high wall. This shelter has two advantages: it prevents the bees from being tossed about when nearing home in an almost exhausted condition, and it is a great protection in the coldest part of the winter, thus helping to economise the internal heat of the hive. A high position is very unsuitable because it is exposed, and the bees during the busiest portion of the season would be unable to rise to the height necessary to reach home. If possible, the hives should be situated near a clear brook or spring, failing this water must be supplied, because a large amount of water is required to raise brood, and if a pure source is not at hand, then that from a tainted source, such as manure heap, will be utilised, and this cannot be good for the successful raising of healthy brood. The ground under and around the hives should be cleared of all grass and weeds, and if a good coating of fine ashes be strewn on each side occasionally, hoeing will suffice to destroy all weeds. It will be found a good plan to drive tarred stakes into the ground, and to nail on them four battens, making all four perfectly level, about 1 foot above the soil, by the aid of the spirit level. When this plan is adopted the hives may be securely roped to the stands, and there is not the slightest danger of them being blown over during the stormiest portion of the winter, as often happens when hives are on four legs. By having the ground cleared of weeds, should the queen be lost during manipulation, she can be easily found. It is necessary that the path should be formed at the back of the hives so that work may be performed in the apiary without interrupting the workers as they pass in and out of the hives.

Suitable Sites.—It is useless to choose a good position as far as climatic conditions, &c., are concerned, if there is not suitable foraging ground, or better still, a succession of nectar yielding plants near. Early breeding will be encouraged where there is an abundance of early-flowering pollen-bearing trees, such as Hazel and Willow. These should then be followed by fruit trees, Apple, Pear, Cherry, Gooseberry, Raspberry, &c. The fruit trees yield honey which, in the estimation of many experts is without equal. These will be followed by the Plane tree, Clover (white), Sainfoin, Mustard, Alsike Clover, and Lime. Then to make all complete, if Heather be within easy access, an excellent harvest will be assured, and of Heather honey, that from Ling is better than that from the common bell Heather.

Fitting up Hives.—After driving the bees place them in a hive with five or six drawn-out combs, and feed the bees on good syrup, made as directed in our issue of the 24th inst., place in a dummy board, and see that the bees crowd the frames, then place on plenty of warm quilts and never allow the feeding bottle to get empty until the bees have stored and sealed between 20 and 30 lbs. of syrup. This must be thick, or they will not seal it, and thin food at this season, when stored, will cause dysentery. Keep the entrances as narrow as possible to ensure greater warmth and to prevent robbing, which is very common when bees are being fed with syrup. It will be a great advantage if a suitable shed to serve for storage purposes is near the hives. In it the honey may be extracted and the frames quickly returned to the hives to be cleaned out.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

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Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR SEPTEMBER.

TUESDAY, SEPTEMBER 3—Scottish Hort. Assoc. meet.
WEDNESDAY, SEPTEMBER 4—
Glasgow and West of Scotland Centenary Sh. (3 days). Carlisle and Cumberland Hort. Assoc. Fl. Sh. in conjunction with Northern Counties Fruit Congress (2 days). British Assoc. meet at Dundee.
THURSDAY, SEPTEMBER 5—Dundee Fl. Sh. (3 days).
SATURDAY, SEPTEMBER 7—Soc. Française d'Hort. de Londres meet.
MONDAY, SEPTEMBER 9—
Nat. Chrys. Soc. Floral Com. meet. United Hort. Benefit and Prov. Soc. Com. meet.
TUESDAY, SEPTEMBER 10—Royal Hort. Soc. Coms. meet. (Lecture by Miss Troyte-Bullock on "Cape Pelargoniums.")
WEDNESDAY, SEPTEMBER 11—
Royal Caledonian Hort Soc. Autumn Sh. (2 days).
THURSDAY, SEPTEMBER 12—
Nat. Rose Soc. Sh. at R.H.S. Hall, Westminster.
TUESDAY, SEPTEMBER 17—
Nat. Dahlia Soc. Sh. at Crystal Palace (2 days).
WEDNESDAY, SEPTEMBER 18—North of England Hort. Soc. Sh. at Leeds.
MONDAY, SEPTEMBER 23—
Nat. Chrys. Soc. Floral and Executive Coms. meet.
TUESDAY, SEPTEMBER 24—Royal Hort. Soc. Coms. meet. Vegetable Sh. (Lecture by Mr. C. Hermann Senn on "How to Cook Some of the Root Vegetables.")

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—59·6.

Actual Temperatures:—
London.—*Wednesday, August 28* (6 p.m.): Max. 64°; Min. 45°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, August 29* (10 a.m.): Bar. 29·4°; Temp. 64°; *Weather*—Raining.
Provinces.—*Wednesday, August 28*: Max. 59° Cambridge; Min. 54° Scotland N.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.
MONDAY, WEDNESDAY AND THURSDAY—
Dutch Bulbs, at Stevens' Auction Room, 38, King Street, Covent Garden, at 12.30.
WEDNESDAY—
Trade Sale of Bulbs, &c., at 1; Palms and Plants, at 4, at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

The Havoc of the Rain. A year ago, and we were all complaining of the heat and drought, and longing for the gentle trouble of the rain. The whirligig of time has indeed brought about its revenges, and we have now and with even greater reason to deplore the havoc of the rain. Following on the finest August on record, we have one which is without doubt the foulest experienced within living memory. Already it rivals the infamous years of 1860 and 1879, and the forecasts of the meteorologists, as cheerless as the weather itself, give no hope of immediate improvement. During the first 24 days of this month the rainfall in London was almost 200 times as great as that of the whole month of August last year. The rain has fallen with a pitiless impartiality in the north and in the south, though, as is natural with the prevailing wind, the western part of this country has received most. In Southport, the rainfall for 24 days was $5\frac{1}{2}$ inches; at Rhyl this amount was exceeded by $\frac{1}{2}$ inch; Jersey recorded $6\frac{1}{2}$ inches; Bournemouth slightly more; in parts of Cornwall the rain gauge measured during the 24 days $7\frac{1}{4}$ inches. In those western outliers, the Isles of Scilly, there has been no less than $7\frac{1}{2}$ inches. Even this amount was surpassed in Darwen, where the rainfall has been 8 inches. As we write we receive the news that East Anglia, which had hitherto fared better than other parts of the country, has been visited by a rainstorm, the severity of which may be gauged from the fact that in 12 hours, 6 inches of rain fell at Norwich. There is a certain grim humour in the reflection that in ruling the fruit-farms of East Anglia out of bounds during the manœuvres, the War Office, with prophetic insight, ordered them to be regarded as impassable swamps. We fear that this will entail but little imagination. From all parts of the country come the tales of disaster: rivers overflowing their banks, hay floating over hedges, Potatos blackened by blight, and Corn sprouting in the ear. Lack of warmth and sunlight has conspired with the rain to work this damage on the crops. Indeed, the temperature readings and sunshine records for this woeful month are no whit less deplorable in their defect as is the reading of the rain gauge in its excess. Thus the maximum shade temperatures during the present month are as much as 20°, 25°, and, in one case, 32° below those of August of last year. For example, the maximum shade temperature on August 9, 1911, was 97°, and that for the corresponding day of this year was 65°. The extent of the actual loss due to the intemperate weather is hard, if not impossible, to estimate, but there is reason to fear that our agriculturalists will suffer to the extent of millions of pounds. These losses will, of course, be felt in enhanced prices and shorter supplies by all members of the community. The blight has taken a heavy toll of the Potato crop, and with the prospective rise in the cost of food-stuffs, commodities such as bacon are advancing already in price. With the continuation of the present weather the outlook for fruit in the coming year is not propitious, and having regard to the fact that all Western Europe lies under the dark pall of the rain, it would seem probable that many seed crops will be light and that the price of seeds will rule high. Even now, however, were the weather to take a turn for the better, we might be spared some of the worst evils which threaten, and, despite the adverse prognostications of the weather office, we must continue to hope that such a change will come soon. It is but a poor comfort to the grower who sees his produce and profits washed away to be asked to observe how different are the effects of the present weather on the growth of the various plants of the garden. Nevertheless, a rapid visit to the garden made during the intervals between the well-nigh incessant showers shows that, whereas many flowers are hanging their heads in despair of any lightening of the grey skies above them, others persist in being beautiful in spite of the gloom of their surroundings. Many of the later Roses are the pale ghosts of their true selves. The Sweet Peas have ceased, at all events in the garden we have in mind, from attempting to develop their proper colours. The fragile flowers of Petunias and Mimulus are shrivelling in the bud; but, on the other hand, masses of dwarf Antirrhinum have never been more beautiful, and sturdy plants like Zinnias bear their prim heads of blossom bravely. In the vegetable garden the root and stem crops are growing with amazing luxuriance, and even Runner and Dwarf Beans are bearing far better than might have been expected. Perhaps the most remarkable effect of the present spell of rain and greyness is shown by the Grass under trees. Where in normal years are bare or brown patches there is at present a rich greensward extending to the foot of the trees. This is in part due to the plentiful supply of moisture in the soil; but it would appear to be due also to the fact that the cloudy skies, scattering the light of the sun in all directions, provide the ground under the trees with so much diffused light that, although the days are so sunless, the Grass beneath the trees actually receives in a diffused form more light than falls on it in summers with a far greater amount of sunshine. Be this as it may, the non-professional gardener may at all events derive a certain slight cold comfort from the contemplation of the diverse behaviours of the plants which he cares for, though we cannot expect reflections such as these to divert the mind of the grower from the gloomy broodings on the losses which threaten him. To offer such consolation to him were but a form of insolence, and all that may be done is to deplore with him his losses and to admire the fortitude with which he bears them.

R.H.S. Spring Bulb Show.—Subject to the general rules of the Society, the R.H.S. Council offer prizes presented to them by Mr. Robert Sydenham in three classes, open only to amateurs, for bulbs grown in moss-fibre or similar material (not earth) and without drainage. The classes are (a) for six single Hyacinths, in separate vases, not exceeding 6 inches in diameter, to be selected from any one of the following varieties:—Boerhave, City of Haarlem, Enchantress, General Vetter, Innocence, Ivanhoe, Jacques, Johan, King of the Blues, Koh-i-Noor, Lady Derby, La Grandesse, Queen Mary, Schotel, Totula, and Victory; (b) for six vases of Tulips (vases not exceeding 7 inches in diameter, no restriction as to the number of bulbs in a vase), to be selected from the following:—Fabiola, Joost van Vondel, Keizerskroon, Le Rêve, Mon Tresor, Pink Beauty, Prince of Austria, Queen of the Netherlands, Red Admiral, Rose Luisante, Van der Neer, Vermilion Brilliant, and White Joost van Vondel; (c) for six vases of Narcissi (vases not exceeding 7 inches in diameter, no restriction as to the number of bulbs in a vase), to be selected from the following:—Albatross, Bianca, Blood Orange, Bullfinch, Cardinal, C. J. Backhouse, Cresset, Dairymaid, Diadem, Emperor, Firebrand, Glitter, Gloria Mundi, Golden Bell, Goldfinch, Horace, Mrs. H. J. Veitch, Lilian, Lucifer, Lulworth, Mme. de Graaff, Seagull, Victoria, Wheatear, White Lady, and Will o' the Wisp. Five prizes are offered in each class, and if there are more than six exhibits and not less than eight in either of the classes, an extra prize of 7s. 6d. will be given; a further 7s. 6d. if there are 10 exhibits, and so on in the proportion of one prize for every two exhibits exceeding six in each class.

VIOLA TRIALS.—The Royal Horticultural Society has this season carried out a trial of Violas at Wisley, and the report of the Floral Committee is now before us. Fourteen varieties have been honoured with awards of merit—not novelties, but already known varieties which have proved their superior merit in competition with other varieties. The society has granted in all since 1897 twenty-nine awards of merit to Violas, and with very few exceptions all the varieties are still in commerce, showing that the decisions of the society have been confirmed by the experience of cultivators. The most useful colours in Violas are the whites, yellows, blues, and purples. In whites, Marchioness (A.M. 1898) was largely grown for several years, but Snowflake (A.M. 1912) and Palmer's White (A.M. 1912) are purer in the flowers than Marchioness. White Swan, so largely cultivated around London, has never been recognised by the society, possibly because it has never been sent to the trials. Pencaitland (A.M. 1899, confirmed 1912), is a white flower with a large yellow eye, and the plants have almost a perennial habit. In yellows, two excellent varieties received the award of merit this summer—Kingcup and Walter Welsh—the latter giving an especially rich note of colour. Royal Sovereign (A.M. 1905) is also one of the best of the yellow varieties. Mosley Perfection (A.M. 1911) is the largest yellow Viola obtainable, but it is most to be recommended as an exhibition variety as is A. J. Rowbery (A.M. 1895). Archibald Grant (A.M. 1899) has remained practically unchallenged as the best of the violet-purples for a long time, but Edina (A.M. 1912), which seems a better grower, will prove a serious rival. We should like to know if it is an earlier bloomer? Councillor Watters (A.M. 1905), like Archibald Grant, is likely to have its supremacy challenged. Jubilee (A.M. 1912) is a crimson-purple self of undoubted value, having a better spreading habit than Councillor Watters. Among light blues Maggie Mott has no compeer, and it is remarkable that this most beautiful variety was awarded the A.M. at the trial last month for the first time. W. H. Woodgate (A.M. 1912) is a charming and distinct shade of blue and possessed of a good habit. John Quarton (A.M. 1912) is another good blue flower which is largely grown for market, and this is an undoubted testimonial to the value of any flower. Mrs. Chichester (A.M. 1912), though not a self, is a flower of many good qualities, and popular alike with market cultivators and amateurs. The Royal Horticultural Society's trials serve to call attention to varieties of flowers and vegetables which can be relied on to give good results, and we are glad that the Floral Committee has had the courage to commend varieties of Violas for other reasons than novelty.

GARDENER'S FATAL ACCIDENT.—WILLIAM JOHN SMITH, aged 46, a gardener, lately living at Carew Place, Northwood, Middlesex, died in the University College Hospital on the 22nd inst. from lockjaw, following injury through a stake entering his arm whilst picking Peas.

NATIONAL GLADIOLUS SHOW.—We have received the following letter from Mrs. K. ATKINSON, the hon. secretary of the National Society:—"I have noticed that in the report of the Gladiolus Show, held on August 13, there appear several errors, and I have been asked by one or two of the competing members to correct them. I should, therefore, be greatly obliged if you will publish the enclosed official list. Considerable confusion was occasioned by the fact that one of the members who competed for, and won, several of the prizes, removed his exhibits and award cards from the society's stand to another part of the hall, and this made it very difficult for members of the Press to obtain a correct list. Steps have been taken to prevent this occurring again."

The following is the official list of awards:—

The President's Cup for the best collection in the show, Messrs. KELWAY & SON.

Class 1, for 24 varieties: 1st, Messrs. KELWAY & SON; 2nd, Mr. WILHELM PFITZER. Class 2, for 12 varieties: 1st, Messrs. WAARNER & Co. Class 3, for new seedling variety: 1st, Mr. WILHELM PFITZER, with 'Goldfinder'; 2nd, Mr. E. E. STUART, U.S.A., with 'Michigan.' Class 7, for the best group: 1st, Mr. WILHELM PFITZER. Class 8, for the best yellow spike: 1st, Messrs. KELWAY & SON, with 'Golden Measure'; 2nd, Mr. WILHELM PFITZER, with 'Schwaben.' Class 9, for the best pink spike: 1st, Mr FRANK BANNING, with 'Panama'; 2nd, Mr. H. GROFF, with 'Evolution Perfectus.' Class 10, for the best white spike: 1st, Messrs. KELWAY & SON, with 'Duchess of Wellington'; 2nd, Mr. K. VELTHUYS, with 'Europea.' Class 11, for the best blue spike: 1st, Mr. K. VELTHUYS, with 'Vadenia'; 2nd, Messrs. KELWAY & SON, with 'La Nuit.'

THE SHREWSBURY SHOW.—The attendance on the first day of the show at Shrewsbury was very good, and the receipts amounted to £938 18s. 1d., as compared with £799 13s. 1d. last year. The record takings on the first day was £1,203 3s., in 1907. The weather this year was fine throughout the day, but, unfortunately, rain fell heavily in the evening. On the second day it was very fine throughout, and the takings were £1,632—just £650 below the record amount of 1907. Most of the visitors seemed to be townfolk, and it may be inferred that fine weather has been so rare this year that agriculturists feel bound to take the fullest advantage of the few fine days which do occur. The *Shrewsbury Chronicle* Cup, offered for the highest aggregate points made by a county of Salop exhibitor, was won outright by Mr. T. LAMBERT, gardener to Lord HARLECH, Brogyntyn, Oswestry.

THE LATE MR. ALEXANDER DEAN.—The funeral of the late Mr. ALEXANDER DEAN took place on Monday last in the Kingston Cemetery. Notwithstanding the inclemency of the weather a large company attended the ceremony. In addition to the members of the family and representatives of the Kingston Corporation, including the Mayor (Councillor G. E. J. STREET, J.P.) and the ex-Mayor (Alderman G. HUCKLE, J.P.), the following members of the horticultural profession were among those present:—Messrs. J. CHEAL (representing the Royal Horticultural Society), JOHN CROOK, OWEN THOMAS, E. H. JENKINS, T. GIBBONS, W. HAYWARD, W. G. SMITH, S. MORTIMER, W. J. JAMES, W. POUPART, W. BATES, W. HAYWOOD, BRIAN WYNNE (secretary of the Royal Gardeners' Orphan Fund), E. G. QUICK (secretary of the National Vegetable Society), F. W. HARVEY (Editor of *The Garden*), A. E. BURGESS, H. J. WRIGHT, J. NAYLOR, J.P., Wimbledon (representing *Gardening Illustrated*), and G. F. TINLEY (*Gardeners' Chronicle*). There was a large number of wreaths and other floral tributes from members of the family, the National Vegetable Society, Sir HARRY J. VEITCH, the Editor of *The Garden*, The Kingston Humanitarian Society, The Kingston and District Liberal Association, The Kingston Coffee Tavern Co., members of The Old Kingston Saturday Popular Entertainment Committee, the Kingston tradesmen, Mr. and Mrs. CROOK and family, and Mr. E. H. JENKINS.

NORTHERN COUNTIES FRUIT CONGRESS AND SHOW.—A fruit show and congress will be held at Carlisle, on Wednesday and Thursday, September 4 and 5, in conjunction with the Carlisle and Cumberland Horticultural Association's annual show. The congress meetings will be held in the Arcade Room, adjoining the markets. The subjects for discussion include demonstrations in "The Bottling of Fruit," by Mr. J. S. CHISHOLM, Horticultural Instructor to the Northumberland County Council, and Mr. G. P. BERRY; "Soils, in Relation to Fruit Growing," by Mr. G. P. BERRY, Horticulture Instructor, Edinburgh and East of Scotland College of Agriculture; "The Washing and Spraying of Fruit Trees as a means of Combating Insect Pests and Diseases," by Professor F. V. THEOBALD, Wye College, Kent; "Canker and other Bark Diseases of Fruit Trees," by Mr. F. J. CHITTENDEN, Director R.H.S. Laboratory, Wisley; and "The Pruning of Fruit Trees and Bushes," by Mr. CHISHOLM. Spraying demonstrations will be given by various firms during the mornings of both days in the Victoria Park.

POTATO IMPORTS IN JERSEY.—The Board of Agriculture and Fisheries desire to inform Potato growers and merchants that the States of the Island of Jersey have adopted an Act authorising the importation of Potatos from the United Kingdom, as from the 17th inst., on the following conditions:—Each consignment must be accompanied (a) by a declaration by the shipper, indicating the farm where the Potatos were grown, and certifying that no case of wart disease of Potatos has occurred on such farm; and (b) by a certificate of the Board of Agriculture and Fisheries, the Board of Agriculture for Scotland, or the Department of Agriculture and Technical Instruction for Ireland, as the case may be, to the effect that no case of the said disease has occurred within five miles of the farm where the Potatos were grown. Intending exporters of Potatos to Jersey should forward the declaration from the grower of the Potatos referred to above, when applying to the Board for a certificate. The declaration should state the name of the farm on which the Potatos were grown, the parish in which it is situate, and the nearest post town, in order that its exact position may be readily identified.

AGRICULTURAL APPOINTMENTS IN UGANDA AND NIGERIA.—Mr. S. SIMPSON has been appointed Director of Agriculture, Uganda, in succession to Mr. P. H. LAMB, who has been appointed Director of Agriculture, Northern Nigeria. Mr. F. EVANS, Curator, Royal Botanic Gardens, Trinidad, has been appointed Assistant Superintendent in the Agricultural Department, Southern Nigeria.

HOSPITAL CHARITIES AND VEGETABLE MARROWS.—A writer in the *Pall Mall Gazette* describes a novel method of collecting funds for St. John's Hospital at Twickenham. A huge Vegetable Marrow is exposed in the window of a shop in the neighbourhood, and the public is invited to make a guess—at a small charge—as to the weight of the monster Marrow. The best guesser gets the Marrow and the hospital the proceeds.

Research Scholarships in Agricultural Science.—The Board of Agriculture and Fisheries have awarded research scholarships in agricultural science to Messrs. A. W. Ashby, Univ. Dip. Economics and Political Science (Oxford), (Economics of Agriculture); W. Buddin, B.A., Univ. Dip. Agric. (Cambridge), (Plant Nutrition and Soil Problems); A. E. Cameron, M.A., B.Sc. (Aberdeen), (Agricultural Zoology); F. Cook, B.Sc., M.B., B.S. (London), (Animal Nutrition); A. Cunningham, B.Sc., Agric. (Edinburgh), (Bacteriology); J. Davidson, M.Sc. (Liverpool), (Agricultural Zoology); F. C. Minett, M.R.C.V.S. (London), (Animal Pathology); P. A. Murphy, A.R.C.Sc. (Dublin), (Plant Pathology); M. S. Pease, B.A., Univ. Dip. Agric. (Cambridge), (Genetics); W. W. P. Pittom, B.A., Univ. Dip. Agric. (Cambridge), (Animal Nutrition); J. A. Prescott, B.Sc. (Manchester), (Plant Nutrition and Soil Problems); and F. Summers, B.Sc. (London), M.Sc. (Liverpool), (Plant Physiology). The scholarships, which are of the annual value of £150 and are tenable for three years, have been established in connection with the scheme for the promotion of scientific research in agriculture, for the purposes of which the Treasury have sanctioned a grant to the Board from the Development Fund, and they are designed to provide for the training of promising students under suitable supervision with a view to enable them to contribute to the development of agricultural science.

School Gardens in Monmouthshire.—In a paragraph in last week's issue of the *Gardeners' Chronicle* dealing with a recently-issued Blue Book, "Statistics of Public Education," it was stated that there are no gardening classes for boys or girls in Monmouthshire. Though this is to be inferred from the tables published on pages 353 and 354 of the Blue Book, we are glad to hear from Mr. W. J. Grant, Director of Agricultural Education to the Monmouthshire Education Committee, that, as a matter of fact, gardening instruction has been given in that county for 20 years. Rather than be hampered, however, by the restrictions under which they would have to work for the purpose of obtaining a small grant at each school from the Board of Education, the Monmouthshire Education Committee have provided all the necessary funds for the work. This, presumably, is the reason why the Board of Education's Blue Book contains no reference to the work. At the beginning of the present year, horticultural instruction was being given at 30 schools in the county, at which 466 lads were receiving practical lessons. The gardens are worked on the one general-plot and single-plot systems, and the boys receive instruction on the raising and growing of fruit, flowers, and vegetables upon the most modern and approved principles. The instruction is given and the general arrangements are made in such a manner as to fit in with the work of each individual school. We are glad to learn from Mr. Grant the true position of affairs.

Gardens and How to Sell Them.—Messrs. Watkins & McCombie, who will be remembered by visitors to the International Exhibition as the printers in charge of the stationery section, have published a booklet, which bears the ingeniously-attractive title of *Gardens and How to Sell Them.* Among the illustrations are numerous colour-prints and pictures in half-tone representing some of the more striking gardens which were laid out at Chelsea during the time of the Exhibition. Thus, in so far as colour photography can represent the natural beauty of these admirable works of horticultural art the illustrations of this booklet help to carry out the wish expressed by Her Majesty the Queen during her visit to the Exhibition that those gardens might be permanent.

Rainfall at Dolgelly.—Mr. F. G. Brewer, of Bryntirion Gardens, Bont Dhu, Dolgelly, sends particulars of the rainfall measured at Bryntirion during the present month. Up to the morning of August 26 the total rainfall was 10.29 inch. A measurable quantity of rain fell on 24 of the 26 days, and more than 1 inch fell on each of three different days. The greatest fall in one period was 4.60 inches, which fell in 36 hours on the 23rd and 24th inst.

The World's Corn Crops.—The August number of the *Bulletin* of Agricultural Statistics published by the International Institute of Agriculture, contains four tables showing preliminary estimates of the production of Wheat, Rye, Barley and Oats for all countries from which estimates had been received up to the time of publication. The total of the estimates for Wheat amount to 543,664,789 quintals as against 562,141,600 quintals in 1911 (96.7 per cent.), the countries considered being: Prussia, Belgium, Bulgaria, Denmark, Spain, England and Wales, Hungary, Italy, Luxemburg, Switzerland, Canada, United States, India, Japan, Egypt and Tunis. Some of the principal variations as compared with last year's figures are: Spain 30,595,000 quintals (40,414,000 quintals in 1911); Hungary 49,968,000 (51,737,000); Italy 47,108,000 (52,362,000); Canada 51,145,000 (58,746,000); United States 185,069,000 (169,100,000); India 99,862,000 (102,016,000). The production of Rye amounts to 102.5 per cent. of last year's production, being estimated at 134,300,000 quintals against 131,065,000. The countries included in the estimate are: Prussia, Belgium, Bulgaria, Denmark, Spain, Hungary, Italy, Luxemburg, Switzerland, Canada, United States, and Algeria. The estimated production of Barley is 144,557,000 quintals or 99.9 per cent. of last year's production (144,747,000) in Prussia, Belgium, Bulgaria, Denmark, Spain, England and Wales, Hungary, Italy, Luxemburg, Switzerland, Canada, United States, Japan, Egypt, and Tunis. The production of Oats is estimated at 333,038,000 quintals as against 298,707,000 quintals, i.e., 111.5 per cent. of last year's production in Prussia, Belgium, Bulgaria, Denmark, Spain, England and Wales, Hungary, Italy, Luxemburg, Switzerland, Canada, United States, Japan, Algeria, and Tunis. Estimates are, however, still missing for a few important countries, among which Russia should be specially mentioned. The totals and percentages given above will, therefore, undergo further changes when estimates for these countries are received. In two tables which are given showing the area and production of Maize and Rice, this year's production in the United States is estimated for these two crops respectively at 714,022,000 quintals (111 per cent. of last year's production) and 4,695,000 quintals (100.3 per cent.), and in Egypt at 19,418,000 quintals (112.6 per cent.) and 2,960,000 (76.9 per cent.) respectively. Short reports as to the progress of the crops in a number of countries follow the tables; among these, that for Russia is of special interest, and states that, although the weather has not been very favourable in European Russia, an over-average yield is anticipated for all the cereal crops. The *Bulletin* also contains five other tables showing the area, crop condition, and, for a few countries, a preliminary harvest estimate for Flax, Sugar Beet, Vineyards, Tobacco, and Cotton. Among others, the production of linseed in the United States is given as 7,112,000 quintals, i.e., 144.6 per cent. of last year's production, and the production of Cotton in Egypt as 3,828,702 quintals (133 per cent.), the production of Grapes in Spain as 24,134,551 quintals (89.5 per cent.), and the production of Tobacco in the United States as 4,445,182 quintals (108.3 per cent.). A table relative to the silkworm industry reproduces the date published in the *Bulletin* for July, with the addition of the figures showing the production of summer cocoons in Japan, which amounts to 17,195,000 kilogrammes or 86.9 per cent. of last year's production. The total production of cocoons in 1912 is given as 157,574,000 kilogrammes, as against 161,901,000 in Austria, Bulgaria, Spain, Hungary, Italy, Switzerland, Japan and Algeria.

Flowers in Season.—The wet, cold summer has had very serious effects upon many of the flowers which are usually at their best this month; but Sweet Peas seem to have suffered but little. We have just received a large box of these popular flowers, comprising over 40 of the finest varieties, showing an excellence of culture and condition seldom equalled, even in Essex. The flowers were grown by Mr. G. B. Blackwell, of the Wood Green Park Estate, Cheshunt, and Mr. Blackwell is certainly to be commended for the care he has bestowed upon them. Rainbow Spencer is a particularly fine mottled variety, of a delicate shade of pink. Maslin Spencer is a self-coloured flower of a deeper shade of pink, very suitable for decorative purposes. Of the purple selfs, Arthur Green gives a fine effect, especially when blended with Helen Pierce, a mottled purple variety with well-marked, irregular streaking. All the flowers are particularly well developed, with fine, upstanding stems, and graceful, well-shaped blossoms. One variety, an interesting sport from America Spencer, with bright pink standards and wings, and white keel, is specially noteworthy.

Australian Botanists.—Mr. J. H. Maiden is indefatigable both as a systematist in botany and as a historian of Australasian botanists. He has now published (*Australasian Association for the Advancement of Science*, iii., pp. 224-243, with four portraits) the first supplement to his "Records of Australian Botanists." The present contribution consists largely of additional information respecting botanists previously noticed. It also contains an alphabetical list of all the botanists mentioned in the seven previous papers published by the author, with references to the places of publication. The portraits are: Amalie Dietrich, Ronald Gunn, Carl Wilhelmi, and Sir William Macarthur.

Sun-dried Strawberries.—A berry grower of the State of Washington is stated, in an American Consular report, to have discovered, after many experiments, a sun-drying process for Strawberries which has proved so successful that he now receives orders for the product from many States in the Union, and also from Alaska, He intends later to organise a company, and turn out the fruit on a large scale.

Publications Received.—***The Harvest of the Hives,*** by the Rev. Gerard W. Bancks, M.A. Second edition, price 6d. (London: Unwin Brothers, Ltd., 27, Pilgrim Street, E.C.)—***Sugar Cane Experiments in the Leeward Islands.*** Reports of Experiments conducted in Antigua and St. Kitts in the season 1910-11. Part I, Experiments with Varieties of Sugar Cane. Part II, Manurial Experiments with Sugar Cane. Imperial Department of Agriculture for the West Indies. Barbados. Issued by the Imperial Commissioner for the West Indies, 1912. Price 1s.—***Bulletins of the Agricultural Experiment Station of Nebraska, U.S.A.*** 129, Results of the Douglas County Cow Testing Association, by A. L. Haecker and J. H. Frandsen; 130, Forage Rations for Growing Horses. Report of Experimental Sub-station. North Platte, Nebraska, by W. P. Snyder and E. A. Burnett; 128, Studies in Water Requirements of Corn, by E. G. Montgomery and T. A. Kiesselbach; 127, Competition in Cereals, by E. G. Montgomery; 126, Native Seed Corn, by E. G. Montgomery; 125, Wheat Breeding Experiments, by E. G. Montgomery; 123, 124, Fattening Hogs in Nebraska, by W. P. Snyder and E. A. Burnett; the Germination Test for Seed Corn, by T. A. Kiesselbach, &c.

THE EUGENIAS OF SOUTH AFRICA.

(Continued from p. 153.)

5. E. natalitia, Sonder, in Harv. and Sond. Fl. Cap. II., 522.

An erect, divaricately-branched, glabrous shrub, 1.5 to 3 m. high; second and third year's branches, slender, roundish, greyish-white, and marked with longitudinal striae, the ultimate twigs short, flattened and subangulate, brownish, densely leafy. Leaves opposite (rarely alternate or ternate), patently spreading, usually twice or three times as long as the internodes, elliptic, narrowing to the base into a very short, grooved petiole, apex obtusely triangular, or obtusely cuspidate, 3 to 4.5 cm. long, 1 to 2.5 cm. broad, membranous or thinly coriaceous, dark lustrous green, smooth or slightly puckered above, the midrib sunken, but the lateral veins slightly elevated on both sides and coalescing into an intra-marginal band, the lower surface pale and dull green, dotted with minute glands; margin undulate and usually recurved towards the apex of the leaf. Cymes or racemes, axillary or appearing in fascicles on the older wood, 3 to 10-flowered, or by abortion one-flowered, with the slender, compressed and angular, brownish peduncles 2 to 5 mm. long. Flowers white, staminate or perfect, 5 to 8 mm. in diameter, subtended by two minute, deltoid, concave bracteoles. Receptacle obconic, glandular; sepals four, broadly ovate, concave, rounded, slightly exceeding the receptacle. Petals spreading, oblong or broadly ovate, rounded, and, like the sepals, dotted with large glands, ciliolate. Stamens, 20 to 25. Style stout, erect, exceeding the stamens; stigma subcapitate. Fruit globose, thinly fleshy, 1 to 1.3 cm. in diameter; stone large, globose and pale brown.

Wood in *Trans.* S.A. Phil. Soc., XVIII, ii, 1908, 157 (in part).

Eastern Region.—Natal, Port Natal, Gueinzius, 3C. Mrs. K. Saunders. Gerrard, 558. 73. 1644. Inanda, 540m., Wood, 1145. Zululand, Qudeni Forest, 1800 m. Davies, 54. Ex Herb. Medley-Wood, 7893.

E. natalitia, Sond., appears to be confined to Natal and Zululand, where its flowering season is from October to December. Its omission, both from Sim's and Fourcade's contributions to the *Forest Flora* indicates that it does not play an

Whether the fruit is edible or not I am unable to say. An excellent figure of this species is given by Thonner in his *Blütenpflanzen Afrika's*, t. 115, 1908.

6. E. Simii, Dümmer, sp. nov. (see fig. 83); E. Zeyheri, Harvey, affinis sed ramulis haud dense foliosis, foliis fere duplo longioribus tenuioribus, marginibus recurvis haud incrassatis, floribus saepe solitariis longe pedicellatis, sepalis corollisque glandulosis facillime distinguenda.

An evergreen tree? Ultimate branchlets, straight, slender, subquadrangulate, smooth, whitish and dotted with blackish lenticels. Leaves opposite, subsessile, patently spreading, twice or three times as long as the internodes, narrowly elliptical, obtuse or rounded at the apex, gradually tapering from the middle to the base into an almost imperceptible flattened petiole, 5 cm. long, 12 to 13 mm. broad, shiny green above, paler and dull beneath, with the midrib and reticulations prominent on both sides, thinly coriaceous and glabrous, the margin slightly undulate but not thickened. Inflorescence axillary, invariably one-flowered (rarely cymose). Flowers white, with a slender peduncle 5 to 10 mm. long; bracteoles two, opposite, deltoid, acute subtending the receptacle and about half as long as it. Sepals four, concave, dotted with spherical sessile dark glands, two broadly and shortly ovate, rounded and about 2 mm. long, the remaining broadly oblong and nearly twice as long; petals four, glandular, broadly oblong with rounded apices, 4 mm. long; stamens about 15, as long as the petals; anthers oval with blackish connectives. Style erect, subulate; stigma capitate. Fruit not seen.

Natal. Gerrard, in Kew Herbarium and British Museum, 47.

More material and information are required as to the habit of this species, the nature of its timber and whether it forms an important constituent of the forests of Natal. It is not unlikely that Sim and also Wood, in stating that E. Zeyheri, Harvey, extends to Natal, are alluding to this species, which is, however, quite distinct from the preceding, differing mainly in the less leafy, ultimate branchlets, longer and thinner leaves, which are not thickened and recurved at the margins, and in usually solitary flowers with conspicuously glandular calyces and corollas.

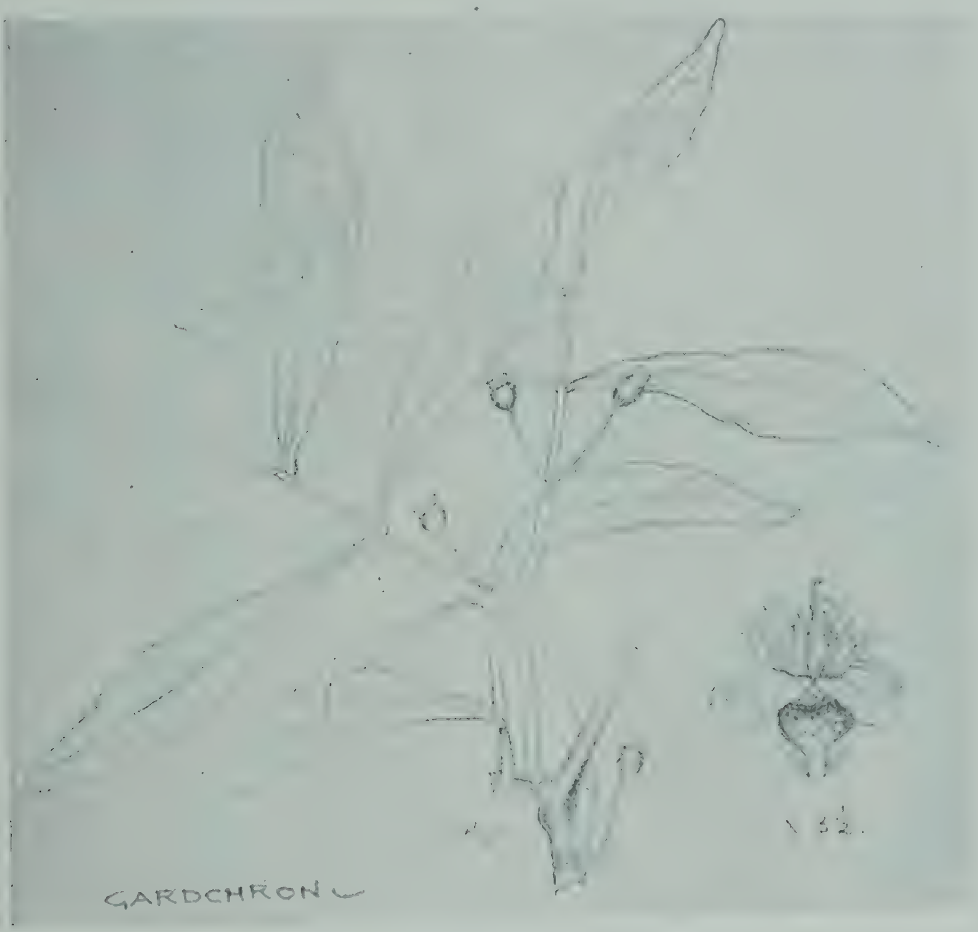

Fig. 83.—Eugenia simii, Dummer.

7. E. incerta, Dümmer, species nova distincta, E. Woodii, maxime affinis sed ramulis juventute albidis, foliis longius petiolatis majoribus caudato-cuspidatis tenuioribus fere bullatulis, racemis 5-10 floris distat.

A shrub or small tree; second and third year's branches terete and brownish, with prominent nodes and cicatrices; ultimate branchlets straight, subcompressed, whitish, dotted with brownish lenticels, 10 to 15 cm. long; internodes 3 to 4 cm. long. Leaves opposite, shortly petiolate, spreading, thinly coriaceous and glabrous; blade 5.5 to 8 cm. long, 3 to 3.7 cm. broad, elliptic, caudately and obtusely cuspidate, with the cusp 1 to 1.5 cm. in length and narrowing from below the middle into the grooved petiole, which rarely exceeds 5 mm.; dark green and shining above, with a sunken midrib and the principal lateral veins 4 to 8 mm. apart, slightly raised and looping into an intra-marginal band, which is succeeded by a secondary band in closer proximity to the margin of the leaf; lower surface dull and paler green, with the costa and nerves more prominent, obscurely glandular-dotted, and irregularly puckered, the margin slightly undulate. Racemes or cymes 5 to 10-flowered, much shorter than the leaves, axillary, and with the exception of the stamens and style, glandularly puberulous; bracts small, ovate, and concave. Flowers whitish, 8 to 10 mm. in diameter, borne on slender pedicels 5 to 8 mm. long. Receptacle obconic or infundibuliform, subtended by a pair of small, thickish, ovate, concave bracteoles, united at the base. Sepals unequal with rounded apices. Petals free, spreading, broadly ovate, concave and dotted with large glands rounded at the apex. Stamens 20 to 30, rarely exceeding the petals, with flattened filaments and small, oblong anthers. Style filiform, erect or slightly uncinate, 2.5 to 3 mm. long.

Natal Botanic Gardens. Block, B2. Medley-Wood, 1813.

The uncertainty as regards the precise origin of this plant is implied by its specific name. It is cultivated in the Natal Botanical Gardens, and was raised from seed probably gathered on one of the periodic excursions into the interior of the colony, which have been instituted to investigate its flora. At first I was inclined to suspect its nativeness, believing it to be like E. Fambos, Linn., one of the species introduced in the early days by the East Indiamen from India, but this is not supported by an examination of foreign material.

8. E. capensis, Harvey, Genera South African Plants, 416 (1838).

A much-branched, densely-leafy, evergreen shrub, averaging 1 to 2 m. high, usually with opposite branches, which are roughly striate or scaly-barked and ashy grey or brownish in the second or third year; twigs short, distinctly flattened and four-angled, chestnut-brown, with short, minute, erect pubescence. Leaves small, imbricate or patent, opposite or sometimes in threes, very shortly petiolate, shortly elliptic or rarely obovate or orbicular, rounded at both ends or subcordate at the base, 8 to 20 mm. long, 5 to 13 mm. broad, coriaceous, glabrous, glaucescent and shining above, paler and dull below, with the midrib and reticulations upraised on both surfaces, but most prominent on the lower surface, which is, moreover, thickly dotted with obscure pellucid glands; margin thickened and reflexed, but scarcely undulate. Flowers white, axillary, or appearing on the old wood, solitary, in pairs or threes (rarely more), about 1 cm. in diameter, disposed on slender, glabrous, ascending, nude peduncles, 5 to 15 mm. long. Receptacle shortly obconic, with two small ovate bracteoles subtending it. Sepals concave, rounded, sparingly glandular and ciliolate. Petals spreading, broadly ovate or oblong, eglandular. Stamens numerous, as long as the corolla or exceeding it. Style stout, erect, equalling the stamens, with a peltate oval stigma. Fruit oblong or globose, purplish, 1 cm. long, crowned by the persistent sepals; stone large.

Sonder, l.c., 522. Sim in *Agric. Jour. Cape of Good Hope*, XVI, 1900, 41; Forest *Fl. Cape Col.*, 227, pl. lxxi, f. ii; Wood, l.c., 156; Sim, *For. Fl. Port. East Afric.*, 68. Memecylon capense, Ecklon and Zeyh. *Enum.*, Pl. 274. Myrtus capensis, Harvey, l.c., 99 (not of Burmann).

Coast Region.—Uitenhage Div.; at the mouth of the Bushman's River, Ecklon and Zeyher, 1772; sandhills near the seashore, between the Zwartkops River and the Coega River, Zeyher, 7; 8. Linch Post, Bowie. Bathurst Div., near Port Alfred, Burchell, 3810. At the mouth of the Great Fish River, on the western side, Burchell, 3749. Albany Div., Albany, Bowker. Grahamstown, MacOwan.

Eastern Region. Transkei; Kentani, near Rock Cove, Miss Alice Pegler, 872. Natal: Gerrard, 93. Near Durban, Haygarth, ex Wood, 1629.

Var major, Sonder, l.c. 523.

Leaves 22 to 25 mm. long, 13 to 22 mm. broad. Flowers 1.3 cm. in diameter.

Eastern Region. Natal; between Umzimkulu River and Umkomanzi River, Drège, 5367b. Natal, Cooper, 1261. Durban, Rehmann, 8970.

This shrubby species is of considerable importance as a sand-dune binder, and forms a conspicuous feature of the maritime vegetation along the eastern coast from Uitenhage to Natal, where it usually covers the dunes, down to water-mark. The variety frequents a similar locality, and is only distinguishable from the type by the broader, longer leaves and slightly larger flowers. The latter appear between February and May, and are succeeded by oblong, purplish drupes, which are, however, not edible, according to Sim (l.c.). Sim also remarks that the species abounds on the sand-dunes in Portuguese East Africa up to Inhambane, where the natives know it by the name of Ngoba. *R. A. Dummer.*

(To be concluded.)

FLORISTS' FLOWERS.

PRIMULA SINENSIS.

Primula sinensis and its many varieties can be had in flower over an extended period. Seeds may be sown as early as March, and with proper treatment the resulting plants will flower in the following autumn. Later sowings may be made until the end of August; if properly attended to, the seedlings from the later sowings will supply good plants for flowering during the following spring. For general purposes it is best to sow the seed during June. The seed should be sown thinly in shallow, well-drained pans, filled with a light compost, consisting of leaf-mould and sand, with the addition of a little loam; the pans should be placed in a warm frame or pit, and shaded until the seed germinates. If sown thinly, the seedlings may remain in the seed-pans until they are large enough to pot into thumb-pots; but if they show any signs of damping they must be at once pricked off into fresh soil. During their earlier stages they should be kept in a warm pit, for preference on a shelf close to the glass, as it is essential that the plants should be kept sturdy.

When well established they may be placed in cold frames, where they should receive ample ventilation during mild weather, and the plants be dewed with the syringe and the frames shut early in the afternoon.

When the plants have filled the small pots with roots they should be shifted into 3-inch pots, using a light, rich compost, consisting of two parts loam to one each of spent manure from a Mushroom bed, and leaf-mould, with the addition of sufficient sand to render the whole porous. Some old mortar-rubbish is also excellent. The final shift should be into 5-inch or 6-inch pots; the former size is best, unless large plants are required. In potting, the base of the plant should be kept well down, as if this is neglected the plants later on will tumble over if not kept supported. During their growing season success depends on proper attention to watering, shading and ventilation. During the summer the plants will require plenty of water, especially when well established; during autumn and winter they will need less, and care must be taken not to over-water at that time. Some slight shading will be required during the hottest part of the day, but this should not be too dense, or the plants will become weak and drawn, and ventilation must be given according to the weather, but it should always be ample. During winter and spring, when the plants are in flower, a temperature of 50° to 55° will be most suitable. When the plants are growing and the pots are well filled with roots, frequent applications of liquid manure or soot-water will be found beneficial. The above treatment will be suitable for most of the other greenhouse Primulas, such as P. obconica, P. malacoides, P. kewensis and P. verticillata.

CINERARIAS.

Like Primulas, these plants may be sown over an extended period. If wanted in flower during November and December, they must be sown as early as April; but for general purposes June is sufficiently early. The seed should be sown in shallow pans, containing a light compost, and stood in a cool frame or on the shady side of a greenhouse, shading until the seeds germinate. When large enough to handle, the seedlings should be potted singly into thumb-pots, returning them to a close frame, where they should be syringed mornings and afternoons until they are established, when more air should be given. When the pots are filled with roots the plants should have another shift into 5-inch pots. Cinerarias are rapid, coarse-growing subjects, and, therefore, require frequent repottings; in fact, at no time during their growing period must they be suffered to become pot-bound, but should be potted on, whenever necessary, until they are in their flowering pots, which may be 8 inches or 10 inches in diameter if large specimens are required.

The potting compost should consist of rough, lumpy loam, with leaf-mould and spent manure from a Mushroom bed, or well-decayed farmyard dung. The plants should be grown on in cold frames during the summer, keeping them closed for a few days after repotting. At all other times ample ventilation, with shade during the hottest part of the day, should be afforded, syringing freely mornings and afternoons, except during dull weather, when care should be exercised in applying water, as Cinerarias are subject to mildew, though this is generally caused by overcrowding. A sharp watch must be kept for aphis, which must be destroyed by fumigation. The plants may be kept in the cold frames until the end of September, when they should be removed to a cool greenhouse, where abundance of light and air may at all times be admitted. When the flowering pots are well filled with roots the plants must be afforded plenty of liquid manure, alternated with some approved artificial fertiliser. Cinerarias do not generally come true from seed, so, if it is desired to increase any particular sort, it is best done by means of cuttings, which are thrown up from the base of the old plants.

SCHIZANTHUS.

For flowering in pots during early spring, seeds should be sown during September in pots or pans of light compost, and stood in a cold frame, where they should be shaded until they germinate. When large enough to handle, the seedlings may either be pricked off singly into thumb-pots or into pans or small seed-boxes, until they are large enough to be transferred to 3-inch pots. Schizanthus are easily grown in cold frames, or, better still, on a shelf close to the glass, in a cool greenhouse. The secret of success is to keep the plants strong and sturdy from the beginning, and for this plenty of air is necessary at all times, though the amount must be regulated according to the out-door temperature. A too-close and warm atmosphere ruins the plants, especially during mid-winter, when they should be kept growing as little as possible, as during the dull days growth is weak and spindly. The young plants, when well rooted, should be transferred from the thumbs to 4-inch pots, using a light, rich compost; this size should be large enough to carry them over the winter. When a few inches high the plants should have their growing points pinched out to induce a more bushy habit. In the case of S. Wisetonensis this is not necessary, as it is naturally of a bushy habit. Early in the new year the plants should be shifted into their flowering pots, which should be 6 inches or 7 inches in diameter. They should have a position in a cool greenhouse, where they can have ample light and air. They should also have plenty of room, as overcrowding soon results in weak, drawn growths.

In the London area lack of light during the winter months renders it almost impossible to grow these or any other annuals with hopes of good results; thus it is best to start in the new year, sowing the seed early in January. The resulting plants, if grown on without any check, will not be much behind the autumn-sown ones in point of size and time of flowering. They can be successfully grown outdoors during the summer months, sowing the seeds in an open, sunny position towards the end of April or early in May. When thinning, care should be taken to allow plenty of room, as, in common with all annuals, they are not seen at their best when overcrowded. *J. C.*

PLANT NOTE.

POTERIUM OBTUSATUM.

This species, which was recently introduced from Japan, is a desirable addition to summer-flowering border plants. Poterium obtusatum has handsome pinnate foliage of a pleasant light green colour. The flower stems grow to a height of about 3 feet, and bear charming drooping inflorescences of rose-pink flowers from July to September. It is quite hardy, and will flourish in ordinary garden soil. *Iris.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

A Family of Gardeners.—Reading the obituary notice of the late Mr. Alexander Dean, I was reminded of another family of gardeners who received their early training at the same then well-known, Hill Nursery of Mr. Page, Southampton. Some of them were contemporaries of the late brothers Dean. They, too, were sons of a gardener long connected with the same firm. I first met their father, James Barter, when I was at Hackwood Park, in the late 'sixties of last century. He was then manager of the cemetery at Basingstoke, having been sent to carry out the plan supplied by Mr. Page. On its completion, the authorities engaged him permanently. He had five sons, all gardeners, viz., Charles, Frederick, Walter, Edward and William, four of whom I knew personally. Charles went out from Kew about 1858 on a botanical expedition up the river Niger, in West Africa. He died there, and his body was interred by his comrades under a Palm tree. I believe one or more soft-wooded stove plants he sent home were specifically named Barteri, but as I am writing from memory, I forget their generic name or names. Frederick also had a Kew training, and was sent out from there first to the Isle of Ascension, with a view to establish arboreal vegetation thereon, and so attract moisture, and bring about a supply of fresh water for the Pacific fleet. I believe the idea came from the late Dr. Lindley. On his return home, he was sent out to Bengal, India, in order to establish experimental plantations of Cotton, and to teach the natives how to cultivate this crop. This was about 1870. A few years after he was invalided home, but died on the s.s. *Seenda*, and was buried at sea. Walter was gardener to the Earl of Gosford, in Ireland. Afterwards he became gardener at Culzean Castle, in Ayrshire. Later he became manager of an estate and garden near Rio de Janeiro. He, too, died abroad. Edward was for a time gardener at

Bolton Hall, Bedale, in this county, about 1871. William was gardener to the late Mr. Mark Firth, near Sheffield. I have lost sight of them for many years. Such are the chances and changes in some gardeners' lives! *Yorkshire Gardener.*

Storm at Henham Gardens, Wangford.—Great damage was done by a storm which visited this district on the 26th inst. Rain commenced to fall about two o'clock in the morning; the wind increased in strength as the day advanced until, about 11.30 a.m., it blew with hurricane force from the north-east and it was at about that hour that most damage was done. A fine tree of Ailanthus glandulosa, standing at the east side of the residence, was uprooted and blown down. Its height was 75 feet, and at 6 feet from the ground it was 12½ feet in circumference. It has been seen at various times by the leading arboriculturists of England, and only two years ago was inspected by Sir Hugh Beavor, of Norfolk, and Mr. H. J. Elwes, F.L.S., of Colesborne Park, Gloucestershire, who considered it the finest specimen north of the Thames, if not the finest in England. Various other trees on the estate were blown down, including a row of 11 very fine Poplars. In the kitchen gardens bush Apple trees planted seven and eight years ago, and carrying heavy crops, were blown on their sides and almost uprooted. Bushels of Apples and Pears were strewn all over the ground, all kinds of green vegetables were laid flat, whilst plants of Paul Crampel Pelargonium were blown completely out of the ground. To-day we have picked up nearly a ton of Apples which have been blown off the trees. The rainfall for the 24 hours was 3.77 inches, a record for the past 10 years. *Thos. Simpson, Henham Gardens, Wangford, Suffolk.*

House Flitting by Wasps.—A powerful nest of wasps established itself among the Alpines last July in the garden of H. T. Mennell, Esq., Park Hill Rise, Croydon. One afternoon, as hundreds of the insects were flying in and out, Mr. Mennell and his daughter stood within two yards for some while, unmolested and unmolesting. They decided to treat the nest that night with boiling water and paraffin oil, for it was in level ground. Coming back a quarter of an hour later, they were astonished to find the wasps busier than ever, but all flying off in one direction over a fence, laden with eggs, grubs and pieces of the nest. In about an hour the place was practically deserted, as it has remained to date (August 22), though the hole has not been touched. *J. Edmund Clark, Asgarth, Riddlesdown Road, Purley, Surrey.*

Apples in Prize Collections of Fruit.—I notice in the report of the Shrewsbury show that the first prize collection of dessert fruit contained four varieties of Apples, these receiving as many, and in some cases more, points than Figs, Grapes, Pineapples, and Peaches. I am not suggesting that more points were given them than they deserved, but I ask: can a dish of Apple Gascoyne's Scarlet Seedling be in any way compared to any of the fruits named above for dessert purposes? At this time of the year and for some time to come this Apple has little to recommend it beyond its brilliant colour. I note also that Apple Emperor Alexander was included in one collection of twelve dishes. But this is an Apple of little worth beyond its beautiful appearance. If these inferior sorts of Apples had been replaced by Cox's Orange Pippin no objection could be raised. The R.H.S. code of rules in judging fruit allows more points for Apples than for Plums, and as many as for Figs. No one, I think, will say Apples are equal to either of these fruits when in equally good condition. I would reduce the number of dishes and restrict Apples to two dishes, which are quite sufficient in a collection. *E. M.*

Reversion in Gladioli.—When walking through the gardens at Grimston Park recently, Mr. Bound, the gardener, drew my attention to two rows of Gladioli Lemoine's Seedling. The corms were purchased in the spring of 1911. They flowered well, and were very varied and interesting. This year, fully nine-tenths of them have thrown flower-spikes very much alike, but not nearly so good as last year. The corms were lifted last November, stored in a dry place, and planted on fresh ground last spring. Is this degeneration a usual occurrence? *H. J. C.*

A New Carnation Treatise (see p. 131).—In reply to Mr. R. P. Brotherston's somewhat unfavourable review of my new book, *The Perpetual Flowering Carnation,* I would point out that he, out of 19 reviewers, stands alone in his opinion. My first book, of which 5,000 copies were sold, is now out of print, hence this new and enlarged work, which is selling far in excess of our expectations. My brother and I have spent 32 years in the cultivation of Perpetual-flowering Carnations with some of the leading firms in England and America. At the recent International Horticultural Exhibition, Chelsea, our firm beat every British firm in the premier Carnation competition class, receiving the silver cup. We also won the American Floral Societies' Medal, offered for the best American Carnations in the show. This indicates that our methods must be fairly reliable, and we question if any combination can claim such wide experience of the subject. *Montagu C. Allwood, Haywards Heath.*

Rose Minnehaha (see p. 150).—Mr. Taylor describes the colour of Minnehaha and Dorothy Perkins as being almost identical, whereas the former is of a pure salmon shade, and the latter rose-pink. A beautiful and harmonious combination of colour is obtained by planting Minnehaha and Hiawatha together, but the charm would be lost by substituting Dorothy Perkins for Minnehaha. The writer does not mention that Minnehaha possesses strong flower stems, thus enabling the large panicles to be gracefully displayed. That much maligned variety, Veilchenblau (or so-called Blue Rambler), when planted in combination with Débutante (mauve-pink) will appeal to æsthetic tastes, both being in flower at the same time. *R. W. Proctor, Junr., Chesterfield.*

Preserving Ripe Grapes.—With reference to Mr. Wm. Taylor's experience, if he will turn to my paper on "The Absorption of Rain and Dew by the Green Parts of Plants" (*Journal,* Roy. Hort. Soc., 1908), he will find a quotation of Dr. Hugo de Vries, and a paragraph on Sach's observations on the withering of plants, which may perhaps explain the phenomena he experienced. I have also added my own experience of leaves on cut flower shoots absorbing water. It is recommended to leave one or two leaves on the stalk below the water. In striking certain cuttings, it has also been suggested to bury a leaf or two to assist the cutting to absorb water. *George Henslow.*

The Bearing of Apples.—Your leader on this subject (p. 156) furnishes interesting food for thought to fruit growers. From my own experience, extending over a period of 25 years, I incline to the belief that some varieties of Apples are not strong enough in constitution to produce and mature annually the necessary fruit buds to bear a crop of fruit every year. I am of the opinion, however, that annual crops of most leading sorts grown in this country can be secured provided the trees are treated properly and judiciously fed in the autumn when the fruit buds are maturing. On taking charge of these gardens several years ago, I found that the majority of the Apple trees were in an unsatisfactory condition. But by lifting, root-pruning, branch-pruning, and attending to their annual wants as to feeding, &c., we have not failed to secure good crops of Apples from the majority of the trees every season for the past nine years, and it is only in the case of two or three varieties that average crops are alternated with light ones. The variety you cite, "Wealthy," is no doubt of delicate constitution. I planted trees about 10 years ago, and they soon died from canker. The variety Lady Henniker grows well here, is unaffected by canker, but bears good crops only in alternate years. Another variety of this character is September Beauty. Among varieties which have borne good crops continuously for the past nine years here are Irish Peach, Worcester Pearmain, The Queen, American Mother, Keswick Codlin, Duchess of Oldenburgh, Bramley's Seedling, and Tower of Glamis. Other sorts might be mentioned which have done equally well, but the variety last mentioned has never ceased to bear very heavy crops of Apples each year during the above period, and this year is no exception, the trees being covered with fruit, necessitating thinning, which has also been done during past years. One constantly comes across fruit trees that are badly pruned, but if the roots are attended to and the branches thinly and properly trained, much can be done towards assuring average crops of good fruit annually, excepting in the case of a very few varieties. *Wilmot H. Yates, Rotherfield Gardens, Alton, Hants.*

Pavetta Cecilæ.—On p. 149, *W. T.* recommends Pavetta caffra for the greenhouse or conservatory, and it may interest your readers to know of another very pretty Pavetta, which I was fortunate in finding in South Africa, and which, so far as I know, has not yet been grown in England. The species was named at Kew after me, Pavetta Cecilæ (see *Kew Bulletin,* No. 4, 1906, Diagnoses Africanæ, xvi., description No. 832, N. E. Brown). I found it in Rhodesia, near Selukwe, in 1889. I have often thought that the plant would be found useful if grown in the same manner as the Bouvardia, which it greatly resembles. It has white flowers, in loose terminal heads, with long, conspicuous styles. I should be interested to hear if anyone has met with this plant in cultivation in this country. *Alicia M. Cecil, Weycombe, Haslemere, Surrey.*

Double Standards in Sweet Peas.—In your interesting leader (see p. 136) on the above, the following passage occurs: "Whilst it may be claimed that, the conditions being equal, certain varieties are more capable than others of producing a greater proportion of flowers with double standards, nevertheless this particular duplication is very often merely an indication of high cultivation attended with a very liberal use of manures." The first part of this sentence is entirely in accord with my experience; the latter is not. In a soil notoriously poor and shallow—we touch gravelly marl at 15 inch deep, and may then descend 12 feet into nothing but gravel and sand—and which in times of drought is rendered into dust-dry particles by reason of the excessive and rapid filtration of all moisture, a great number of flowers having double standards have appeared this year on plants grown in the ordinary unmanured soil. The chief offenders—if this duplication is to be regarded as an offence—has been Aurora (Spencer), though other varieties have contributed their quota. Nor is it a question of standards alone; there are evidences, if in lesser degree, of duplication in other parts of the flower. Hence one not unnaturally inquires whether these increased floral parts do not rather represent a stage in evolution which the very absence of uniformity or fixity would suggest is as yet but in the infantile stage? I think so. To what extent high cultivation might develop the sportive tendency is a moot point. At the moment, however, experience tends to show that it is inherent in the plant. *E. H. Jenkins.*

SOCIETIES.

ROYAL HORTICULTURAL.

August 27.—The Hall in Vincent Square, Westminster, was well filled at the meeting held on Tuesday last, and there was a much larger attendance than is customary at this time of the year. The chief interest was centred in the magnificent collections of hardy fruits growing in pots. The Fruit and Vegetable Committee awarded the Hogg Memorial Medal, one Gold, three other Medals, one First-class Certificate, and one Award of Merit. The Orchid Committee granted five Medals, five Awards of Merit, and one Card of Cultural Commendation. The Floral Committee awarded 12 Medals, one First-class Certificate, and, in conjunction with the National Dahlia Society, seven Awards to Dahlias.

The Chairman of the Fruit and Vegetable Committee, in proposing a vote of condolence and sympathy with the relatives of the late Mr. Alexander Dean, V.M.H., expressed the great loss which horticulture in general and that Committee in particular had sustained by his death.

At the 3 o'clock meeting in the Lecture Room Mr. James Hudson, V.M.H., read a paper on "Water Lilies."

Floral Committee.

Present: Henry B. May, Esq. (in the Chair); and Messrs. Chas. T. Druery, John Green, George Gordon, W. J. Bean, G. Reuthe,

W. Bain, John Dickson, Charles Dixon, H. J. Jones, J. T. Bennett-Poë, Chas. E. Pearson, W. P. Thomson, George Paul, Wm. J. James, E. A. Bowles, R. C. Notcutt, F. Herbert Chapman, C. Blick, and E. H. Jenkins.

Leopold de Rothschild, Esq., C.V.O., Gunnersbury House, Acton (gr. Mr. J. Hudson, V.M.H.), exhibited blooms of tropical blue-flowered Water Lilies. These were the Berlin variety of Nymphæa stellata and N. pulcherrima, with large, long-petalled flowers, and N. gigantea var. Hudsoniana, which has large, round flowers; the circular, golden filaments nestling in the middle of the broad-petalled, blue flowers were very charming. For this exhibit and the large number of blooms used to illustrate Mr. Hudson's lecture a Silver Flora Medal was awarded.

Mr. L. R. Russell, Richmond, made a very large display of Celosias, in blocks of distinct colours, and many excellent foliage Begonias. At the end of the hall under the clock, Mr. Russell exhibited a group of exceedingly good standard plants of the lemon-scented Verbena, Aloysia citriodora. These well-grown plants, which were in flower, attracted considerable admiration, and illustrated an excellent means of providing a change from the standard Fuchsias and Heliotrope which, beautiful though they be, are too frequently used in summer bedding schemes.

Messrs. John Piper & Sons, Barnes, Surrey, showed a large number of Lilium speciosum magnificum in pots. The plants were exceedingly fine examples, but the sage-green colour of the background did not enhance their beauty. (Silver Banksian Medal.)

Messrs. James Veitch & Sons, Chelsea, filled a long table with ornamental greenhouse plants. A batch of Streptocarpus, raised from seed sown seven months ago and arranged in distinct shades of colour, was excellent. Standard plants of Fuchsia "Thalia" displayed the floriferousness of this variety. The greenhouse hybrid Rhododendrons were quite as good as ever; the flowers of R. Ne Plus Ultra were exceedingly rich in colour. The large block of Cannas in very small flower-pots bore astonishingly fine heads of bloom. (Silver Banksian Medal.)

Messrs. H. B. May & Sons, Upper Edmonton, arranged sturdy plants of Ixora Williamsii, I. Fraseri, I. salicifolia and Codiæum edmontoniense amongst many excellent Ferns and Selaginellas. Ixora salicifolia is an uncommon and very ornamental species. As the specific name suggests, the leaves are long and narrow, and the bright-red flowers are borne in a large truss. (Silver Banksian Medal.)

Mr. James Box, Lindfield, Sussex, made a very pleasing show with large stands of herbaceous Phlox tastefully disposed and many other hardy border flowers. The small white Gladiolus-like spikes of Watsonia Ardernei alba were unusually good. Other desirable flowers were those of Galtonia (Hyacinthus) candicans, many Gaillardias (including the clear-yellow Lady Rolleston), Lobelia cardinalis Queen Victoria, and Aconitum Wilsonii. The Phloxes, which formed the chief feature of this fine exhibit, were exceedingly good, and the colours were skilfully arranged. (Silver-gilt Banksian Medal.)

Messrs. Wm. Cutbush & Son, Highgate, London, had an imposing collection of cut border flowers. A very large vase of the terra-cotta-coloured Gladiolus Hollandia was especially noteworthy. Other large stands contained Crinums, Pentstemons and Tritonias, whilst the groundwork was composed of various Heleniums, standard bushes of Rose "Jessie"—rising above small fruiting bushes of Skimmia japonica—Rudbeckias and Gaillardias. In the front there were choice flowers of hardy Nymphæas. (Silver Flora Medal.)

Mr. Ernest Dixon, Putney, showed hardy flowers edged by a row of Viola cornuta purpurea.

Messrs. George Bunyard & Co., Maidstone, Kent, displayed border flowers in great profusion. The spikes of Tritoma (Kniphofia) Star of Baden, T. nobilis and T. erecta were very fine, as also were the spikes of Delphiniums. (Silver Banksian Medal.)

Messrs. W. Wells & Co., Merstham, Surrey, arranged many spikes of Delphiniums, Phloxes, and other border flowers.

The Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. E. Beckett), showed an interesting collection of species and varieties of Buddleia, mostly of B. variabilis, which bore very large racemes of honey-sweet flowers. (Silver Banksian Medal.)

The Rev. Chalmers Hunt, Willian Rectory, Hitchin, contributed a very fresh collection of Roses. Some vases of Asters contained fine but somewhat weather-strained flowers, a regrettable but not unexpected condition.

Mr. A. Ll. Wwillim, Cambria Nursery, Sidcup, Kent, showed many blooms of this year's seedling tuberous-rooted Begonias set out on exhibition boards. The flowers, which had been grown in the open ground, showed signs of the weather, but were of large size and distinct colours. A few pot plants of named double Begonias were very good specimens. At the end of the Begonias there was a collection of border flowers in vases. (Bronze Banksian Medal.)

Mr. G. Reuthe, Keston, Kent, arranged small pot plants and cut sprays of various hardy shrubs and plants. Amongst the lesser-known plants there were Linaria alpina, Gentiana bavarica, Campanula grandiflora Mariesii, and Polygonum Brunonis.

Messrs. Wm. Fells & Son, Hitchin, Herts., showed Violas, various cut border flowers, and arranged a small rock garden, in which they planted Origanum hybridum, the rich purple-flowered Myosotis azorica, and Tunica saxifraga.

Mary Countess of Ilchester, Holland House, Kensington (gr. Mr. A. Dixon), contributed a collection of fruiting branches of ornamental Crabs. The sprays of Pyrus Malus, P. M. pendula, P. prunifolia, P. Niedzwetzyana, with large purple fruits; P. Dartmouth and P. spectabilis, which have smaller rosy flushed fruits, and the green-fruited P. salicifolia were very ornamental.

Mr. Amos. Perry, Enfield, Middlesex, arranged a very attractive collection of Delphinium sprays. The blue and purple-coloured varieties Perfection and Mrs. Brower; the pale blue Persimmon and Lizzie and the darker flowers of King of Delphiniums, Lemartin and Sister Lugden were attractive. The group was lighter by a row of Achillea "The Pearl" at the front and Japanese Maples in the background.

The Misses Hopkins, Shepperton-on-Thames, contributed a small rockery in which were planted Hypericum olympicum, various half-hardy Mesembryanthemums and Convolvulus althæoides.

Dahlias.

Messrs. H. Cannell & Sons, Swanley, Kent, arranged a very attractive collection of Dahlias in stands of different varieties. The single-flowered varieties Mrs. L. de L. Simonds, Mr. Walter Jackson, Cannell's Favourite, and Hall Caine were especially good. The blooms of the Cactus and decorative varieties were exceptionally fine. Messrs. Cannell also showed plants of Crassula falcata with heads of vivid scarlet flowers, and many good blooms of double and single tuberous Begonias. (Silver Flora Medal.)

Messrs. J. Cheal & Sons, Crawley, exhibited many varieties of Dahlias. The Cactus Mrs. Winstanley, Mrs. Edward Mawley, Avoca, and the Pæony-flowered blooms were very large, and such varieties as Eleanor possessed good colouring. At one end there was also a collection of Collarette and single-flowered varieties and three heavily-fruited plants of the Siberian Crab. (Silver Banksian Medal.)

A representative collection of cut blooms of Dahlias was sent by Reg. R. Cory, Esq. The Pæony-flowered and Collarette varieties arranged in large Bamboo stands with branches of Japanese Maple and Taxodium distichum were exceedingly decorative. There were also many good examples of Pompon Dahlias. (Bronze Banksian Medal.)

Messrs. Dobbie & Co., Edinburgh, showed a splendid collection of Collarette Dahlia blooms in a large number of distinct varieties of the many sorts. Antwerpa (crimson, with yellow collar), Queen Mary (rose-purple, with white collar), Holyrood (red and yellow, with yellow collar), Princess Louise (carmine, with pale yellow collar), Queen Bess (fiery orange, with yellow collar), and the now well-known Maurice Rivoire are a representative selection.

AWARDS.

First-class Certificate.

Cotoneaster divaricata.—A low, compact and spreading bush, from China, with a profusion of erect, oval, bright-red berries. Shown by the Hon. Vicary Gibbs, Aldenham House, Elstree.

Dahlias.

A joint sub-committee of members of the Floral Committee, R.H.S., and the National Dahlia Society inspected a large number of Dahlia blooms, and each of the following varieties received the Award of Merit of the Royal Horticultural Society and the First-class Certificate of the National Dahlia Society:—

Princess Louise.—A collarette variety which has rich crimson florets and a pale primrose collar. Shown by Messrs. Dobbie & Co., Ltd., Edinburgh.

Edith Carter.—A long-petalled Cactus variety with a yellow centre, merging to rosy-purple at the outside. Shown by Mr. H. Shoesmith, Woking.

Leopold.—A deep-crimson, single-flowered variety.

Marion.—A buff and rose-coloured single variety.

Irene.—A mauve Pompon. The three foregoing were shown by Messrs. J. Cheal & Sons, Crawley.

Pegasus.—A compact-flowered Cactus variety; the rose ground is striped and spotted with crimson; the centre greenish-yellow. Shown by Messrs. J. Stredwick & Son, St. Leonards-on-Sea.

Antwerpa.—An exceptionally good collarette variety of crimson colour set off by a yellow collar. Shown by Mr. Riding, Chingford.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); and Messrs. Jas. O'Brien (hon. sec.), W. Bolton, Gurney Wilson, de B. Crawshay, A. Dye, W. Cobb, H. G. Alexander, J. E. Shill, W. H. Hatcher, A. A. McBean, T. Armstrong, F. J. Hanbury, Stuart Low, R. A. Rolfe, Sir Jeremiah Colman, Bart., and Sir Harry J. Veitch.

E. H. Davidson, Esq., Borlases, Twyford, staged the most remarkable group, for which a Silver-gilt Flora Medal was awarded. The plants were very well grown, and included several new hybrids, which will show their beauty more fully in a year or two. Three of the best received Awards of Merit. In the centre of the group was a fine specimen of Odontoglossum Rolfeæ with three branched spikes, a perfect fountain of bloom; O. crispo-Harryanum had two spikes each 4 feet long; a small plant of the new O. Nathaniel bore an inflorescence of well-formed, dark claret flowers with white margins. O. Ceres "Davidson's variety" is a pretty hybrid of O. Rossii. O. percultum, O. ardentissimum and other hybrid Odontoglossums were included. Sophro-Cattleya Pandora had a large, rich red flower; Lælio-Cattleya Lord Rothschild "Borlases variety" is a good white-petalled form; L.-C. Colmaniana "Borlases variety" resembled a dark Cattleya Hardyana, and there were good varieties of C. Fabia, C. Adula, and C. Dowiana aurea.

Messrs. Sander & Sons, St. Albans, were awarded a Silver Flora Medal for an effective group, principally hybrids, among which were a very pretty form of Lælio-Cattleya Walter Gott, with a remarkably broad mauve lip; L.-C. Wellesleyæ (C. Warscewiczii × L.-C. Martinetii) of very rich colour and good shape; L.-C. Fabius (L.-C. Bletchleyensis × L.-C. elegans), a bright flower and very distinct; Cattleya nobilis (granulosa × Warneri); varieties of C. Lord Rothschild; Brasso-Cattleya Mme. Chas. Maron, and other Brasso-Cattleyas; and a showy selection of Odontoglossums and Odontiodas. Among the species noted were Bulbophyllum virescens, B. galbinum, B. cylindraceum, B. congoense, Catasetum maculatum and others.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Banksian Medal for an interesting group, in which were noted Cattleya Source d'Or (Forbesii × Pittiana), a distinct and pretty hybrid, C. Dowiana, C. Suavior, C. Clarkiæ; Lælio-Cattleya Argus (C. intricata × L.-C. Ingramii), and L.-C. Delicia (C. Harrisoniana alba × L.-C. Constance Wigan), white with yellow disc to the lip; a selection of good Cypripediums, including Baron Schröder var. Ardens, Neptune, Maudiæ, Wootonii, Chas. Richman, Felicity, and Fascinator; Miltonia vexillaria rubella, Brassia brachiata and B. Lawrenceana longissima, Chondrorhyncha Chestertonii, Bulbophyllum barbigerum, Angræcum Scottianum, and hybrid Odontoglossums.

Messrs. Charlesworth & Co., Haywards Heath, received a Silver Banksian Medal for a very select group of rare species all in fine condition, and including Houlletia Wallisii, with four spikes of its large yellow flowers spotted with purple; the singular Polycycnis muscifera with two tall spikes densely set with its curious insect-like blooms; the white Mormodes luxatum; a grand specimen of the rare Miltonia Schröderiana; Angræcum falcatum, with a head of pure white flowers; Cœlia macrostachya; the violet Calanthe violacea; two fine forms of Pescatorea Roezlii; a noble specimen of Aërides Lawrenciæ Sanderiana, with three spikes; and various Cypripediums.

Messrs. Stuart Low & Co., Bush Hill Park, received a Silver Banksian Medal for an effective group, at the back of which were graceful plants of the white and mauve Oncidium incurvum and the yellow O. varicosum. In the centre was a fine specimen of Lælia crispa. with good Dendrobium, Phalænopsis Schröderianum and various Cattleyas and Lælio-Cattleyas. We also noted good plants of Odontioda Charlesworthii, Anguloa Ruckeri, Physosiphon Loddigesii, and Catasetum Darwinianum.

Messrs. J. & A. A. McBean, Cooksbridge, staged Vanda Sanderiana, with two spikes; three plants of good varieties of Cattleya Dowiana, C. Iris, Maxillaria grandiflora, with eight large white flowers; a very brilliant scarlet Cochlioda Noezliana; two Oncidium Mantinii; and some pretty Odontoglossums.

Messrs. A. J. Keeling & Sons, Westgate Hill, Bradford, showed the rare and pretty Eria rhyncostyloides, four plants of Vanda cœrulea, Cattleya Harrisoniana violacea, Cypripedium A. de Lairesse, and C. Ultor.

Messrs. Armstrong & Brown, Tunbridge Wells, showed Cypripedium Clara Armstrong (Germaine Opoix × Prewettii), a finely-formed large flower near to C. Germaine Opoix. The large dorsal sepal is yellowish at the base, from which ascend feathered and dotted dark purple lines into the rose-coloured zone below the white margin. The petals and lip are pale yellow, veined and tinged with purple; and C. Memoria Alma Gevaert (Lawrenceanum Hyeanum × Maudiæ), larger than C. Maudiæ, emerald-green, with pure white upper part to the dorsal sepal.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), exhibited a grand plant of Cypripedium Daisy Barclay (Godefroyæ leucochilum × Rothschildianum), white, beautifully marked with claret-purple.

J. S. Bergheim, Esq., Belsize Court, Hampstead (gr. Mr. H. A. Page), showed a very singular Bulbophyllum of the B. Calamaria section, with a black fringed labellum, the petals whitish spotted with black; also Angræcum O'Brienianum. (See Awards.)

J. J. Neale, Esq., Lynwood, Park Road, Penarth (gr. Mr. H. Haddon), sent the curious Epidendrum laterale, with two spikes of greenish flowers produced from rudimentary growths as in E. Stamfordianum.

Messrs. Mansell & Hatcher, Rawdon, Yorks, showed Brassia caudata, Trichopilia laxa, and the clear yellow Acineta densa.

AWARDS.

Awards of Merit.

Odontioda Euterpe "Davidson's variety" (Odontoglossum Uro-Skinneri × Cochlioda Noezliana), from E. H. Davidson, Esq., Borlases, Twyford.—A very free-flowering hybrid, with the sepals and petals dark bronzy-red, the showy labellum vermilion-red, with a whitish zone on the front lobe.

Lælio-Cattleya amabile "Borlases variety" (C. Luddemanniana × L.-C. Fascinator), from E. H. Davidson. Esq.—The large flowers are of fine substance. The sepals and petals are broad, white with a pearly blush. Front of lip purple, disc yellow.

Odontoglossum Helene (parentage unrecorded), from E. H. Davidson, Esq.—A fine hybrid of the O. Lambeauanum class. Flowers heavily blotched with claret colour; front of lip white.

Lælio-Cattleya Golden Fleece (L.-C. Golden Gem × C. Dowiana aurea), from Lieut.-Col. Sir Geo. Holford, K.C.V.O. (gr. Mr. H. G. Alexander).—A beautiful, bright yellow flower, with dark red markings at the base of the lip.

Angræcum O'Brienianum, from J. S. Bergheim, Esq., Belsize Court, Hampstead (gr. Mr. H. A. Page).—A fine species from Western Uganda. It is a strong grower, with broad, strap-shaped leaves borne on stout, erect stems. The plant had six spikes, five of them bearing arching racemes of pretty, pure-white, wax-like flowers, with curved spurs tinged with cinnamon-brown. The segments are recurved, and lip included nearly equal. A single plant of this species was shown by Messrs. Sander & Sons on June 21, 1892, since when it had not appeared again until now.

Cultural Commendation

to Mr. H. G. Alexander, Orchard Grower to Lieut.-Col. Sir Geo. L. Holford, K.C.V.O., for a splendid plant of Cattleya Euphrasia "Westonbirt variety" (superba × Warscewiczii), with a spike of 10 rose-coloured flowers with showy ruby-crimson labellums.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the Chair); and Messrs. A. H. Pearson, W. Poupart, John Harrison, Owen Thomas, George Wythes, A. Scrubb, James Vert, Joseph Davis, George Kelf, A. R. Allan, W. E. Humphreys, J. Willard, Edwin Beckett, George Woodward, and Jos. Cheal.

Messrs. James Veitch & Sons, Ltd., Chelsea, arranged a magnificent collection of hardy fruit trees in pots. All the plants of this superb collection, which was composed chiefly of Apples and Pears in a variety of shapes—as bushes, standards, pyramids, cordons and espaliers—had the short-jointed wood and firm foliage which tell so eloquently of first-class cultivation. The tall standard John Downie Crab trees in the back row had a profusion of bright fruits. The many varieties of Apple, among which were wonderfully prolific bushes of the variety the Rev. W. Wilks, bore splendid fruits, and the Pear trees were heavily laden. The Apples in boxes, placed along the front of this group, included the following varieties:—Worcester Pearmain, Lady Sudeley, and Feltham Beauty. (Hogg Memorial Gold Medal.)

Messrs. Bunyard & Co., Maidstone, showed many splendid fruit trees in pots. The fruits of one young tree of the variety Rev. W. Wilks were of great size. Other fine examples were the trees of Emperor Alexander, Gascoyne's Scarlet Seedling, Cox's Orange Pippin, Wealthy, Golden Noble, and Baumann's Red Winter Reinette. The Pears of such varieties as Beurré Superfin, Beurré de Jonghe, Marguerite Marillat, and Fondante Thirriot were especially good, and the Plums were heavily laden with yellow and deep-red fruits. At the end of the group there was a heavily-fruited Black Hamburgh vine in a pot. On a side table Messrs. Bunyard exhibited many baskets of very good Apples and Pears, and in the annexe a collection of Filberts, Cob-nuts, and fruits of Crabs. (Gold Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, staged a collection of hardy fruit. The dishes of such Gages as Jefferson's, Denniston's Superb, and Decaisne were superb examples. Amongst the many splendid Apples, the dishes of Duchess of Oldenburgh, Worcester Pearmain, Zitowka, James Grieve, and Lady Sudeley were of more than ordinary merit. (Silver Banksian Medal.)

The Hon. Mrs. Merry (gr. Mr. G. Kelf), Danesbury Park, Welwyn, Herts., exhibited 17 varieties of Plum which had been grown out-of-doors. The boxes of Jefferson's, Kirke's and Belgian Purple Plums and Transparent and Greengages were especially good in this fine collection. (Silver Banksian Medal.)

Messrs. Stuart Low & Co., Bush Hill Park, Middlesex, exhibited a large number of good pot fruits. The Grapes included Royal Muscadine and the Sloe-black variety Strawberry. Amongst the varieties of Figs Black Ischia, Brunswick, Bourgasotte Grise, and Brown Turkey bore plenty of fruit, as also did the Apples Stirling Castle, Bismarck, and Duchess's Favourite. (Silver Knightian Medal.)

The Rev. L. C. Chalmers Hunt, Hitchin, showed nine dishes of Runner and French Beans and four of Peas. There were fine pods of Gladstone, Sutton's Selected, and Duke of Albany Peas. Of the Beans, Prize Winner, Best of All, and Scarlet Emperor were very large and succulent, and the small pods of Ne Plus Ultra and Canadian Wonder were equally good. (Bronze Banksian Medal.)

A very meritorious collection of Potatos was exhibited by S. Hardy, Esq. (gr. Mr. G. H. Chitty), Highgate. The tubers were clean, of good shape, and free from grossness. The coloured varieties included King Edward VII, Mr. Bresse, and Reading Russet; prominent amongst the white-skinned sorts were noted Express, Duchess of Cornwall, and Ringleader as being especially good. (Vote of Thanks.)

A collection of Carrots shown by Mr. G. Gray, Sandy, was composed of perfectly-formed roots of rich colour, and included the varieties Early Market, Gray's All the Year Round, and Carter's Red Elephant.

AWARDS.

First-class Certificate.

Melon John Massey.—A scarlet-fleshed, well-netted Melon, which has been grown for trial at Wisley. The Committee were unanimously of the opinion that this variety, which has a very rich flavour, is one of the best Melons submitted to them for a long time. From Messrs. Wm. Rowlands & Co., Liverpool.

Award of Merit.

Apple "Padnall Seedling."—The fruits of this culinary variety so favourably impressed the Committee when shown on August 3 last that a deputation visited Chadwell to see the tree, when its vigour and tremendous crop amply justified the Award. Shown by Mr. R. Roberts, Chadwell Heath.

Roger Leigh, Esq., was awarded a Card of Cultural Commendation for a dish of Brown Turkey Figs.

THE LECTURE.

Mr. E. A. Bowles occupied the Chair, and some 60 members were present. Mr. Hudson dealt with the newer as well as the older varieties of Water Lilies. Of the newer varieties he enumerated a dozen that had been tested at Gunnersbury House Gardens. These were Nymphæa Mrs. Richmond, Formosa, Attraction, Conqueror, Newton, Escarboucle, Meteor, Masaniello, Colossea, Somptuosa, virginalis, and suavissima. He classified the hardy hybrid Nymphæas into various sections, including those of vigorous, medium and smaller-growing habits, and gave advice respecting insect pests and remedies. Mr. Hudson also treated upon the floral beauty produced by collective grouping in various colours. An exhibit of some 36 varieties of hardy hybrid Water Lilies grown at Gunnersbury House served to illustrate the lecture.

CO-PARTNERSHIP FESTIVAL SHOW.

August 24.—There were between 800 and 900 exhibits at the Co-partnership Flower Show held on the above date at the Brentham Garden Suburb of the Ealing Tenants Ltd. The 1st prize for the best-kept garden on the estate was awarded to Mr. E. J. New, 23, Meadvale Road, Ealing, who is one of the hon. secretaries of the Ealing Tenants Horticultural Society. In addition to the exhibits for competition, Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. James Hudson), sent a beautiful display of Ferns, Palms and other decorative plants. In the open classes there was a fine show of table decorations. The 1st prize for annuals was won by Mr. W. Nye, Acton; while Miss Bashford, of Carshalton, arranged the best epergne of cut flowers. The table decorations of fruit and cut flowers on spaces of 8 feet by 4 feet were particularly fine, the prize-winners, who were local exhibitors, being Mrs. Mole, Mr. W. Owen, and Mrs. Whitmore in the order named. The most successful exhibitors of vegetables were Mr. D. W. Bedford, of Berkhamsted, and Mr. J. Fossey, of Hendon. The classes restricted to members of Co-operative and Co-partnership Societies attracted entries from Harborne, Leicester, Ealing, Letchworth and Hampstead. Some excellent collections were submitted. The prizes offered by Messrs Sutton & Sons for collections of vegetables were won by Messrs. D. W. Bedford, Berkhamsted; J. Rowlett, Leicester; W. Gulliver, Leicester; and W. Owen, Ealing. The first three of these exhibitors also won the prizes offered by the Agricultural and Horticultural Association.

HAARLEM (HOLLAND) GENERAL BULB GROWERS'.

The following awards were made at the recent meetings of the Gladiolus Committee :—

First-class Certificates.

Gladiolus Glory of Noordwyk.—Flowers soft-yellow.

G. Red Emperor.—Flowers scarlet-red, shaded brownish-red.

G. Panama.—Flowers of an exceedingly fine form, colour pink, shaded lilac; imported.

G. Sieger.—Flowers orange-vermilion, the lower petals lilac with white; a cross from G. Brenchleyensis × G. princeps.

Cactus Dahlia "Richard Box."—A large, soft canary-yellow variety.

Awards of Merit.

Gladiolus Darling.—Flowers violet, spotted white; raised from seeds in 1905.

G. Eldorado.—Flowers clear yellow, spotted reddish-brown.

G. Loveliness.—Flowers creamy-white, shaded rose and pink; obtained from seeds.

G. Météor (Pfitzer).—Flowers orange-scarlet, spotted velvety-red.

G. Apollo.—Flowers dark salmon-rose, shaded carmine.

G. Badenia.—The clear, lilac-blue flowers are striped with dark blue.

G. Johanna.—Flowers dark brown-red.

G. Martha.—Flowers purplish-violet.

G. L'Immaculée.—Flowers white, the lip yellow; raised from seeds.

G. Princepine.—Flowers bright scarlet-red, with a large white spot.

G. Sulphur King.—Flowers clear yellow.

G. Carmen.—Flowers dark violet.

G. Dr. Dotter.—Flowers clear sulphur-yellow.

G. Empress.—Flowers dark red; raised from seeds.

G. Scheybeek.—Flowers orange-red, spotted white and carmine; obtained from seeds.

Cactus Dahlia "Florid."—Flowers bright scarlet.

C. D. "Flossie Wells."—Flowers violet-red.

C. D. "Stability."—Flowers lilac-red.

Pæony-flowered Dahlia "White Lady."—Flowers white, in the centre creamy-yellow; raised from seeds.

Montbretia "Fire King."—Flowers bright scarlet, shaded orange. Obtained from seeds by E. H. Krelage & Son, Haarlem. Shown by E. H. Krelage & Son, Haarlem, and N. H. Roozen & Co., Overveen.

PORTUMNA HORTICULTURAL.

August 7.—The members of Portumna (County Galway) Horticultural Society held their annual exhibition of fruit, flowers, plants and honey on the above date. The exhibits in all the classes were exceedingly good, and entries were more numerous than usual. The "Jones" Challenge Cup, offered for Sweet Peas, was won by Mrs. Segrave, Partlaw House. The cup offered for nine varieties of hardy herbaceous plants was won by Capt. G. H. Burdett, Coolfin (gr. Mr. W. R. Maxwell), who also excelled in the class for annuals.

COUNTY GALWAY HORTICULTURAL.

August 17.—The second exhibition of this Irish society was held at Ballinasloe on the above date, when there was some splendid exhibits of plants, flowers, fruits and vegetables. The competition in the several classes was very keen. Silver cups were awarded to Lord Clonbrock for 12 vases of hardy flowers, and to Miss Armstrong, Ballinasloe, for hardy annuals.

Sir J. Mahon, who excelled in the classes for fruit, showed some magnificent bunches of Muscat of Alexandria and Black Hamburgh Grapes.

ROTHESAY HORTICULTURAL.

August 15.—The entries at the annual show of the above society were more numerous than last year. Considering the unfavourable season the exhibits in the flower section were very meritorious; there was not so much fruit shown as usual, but the quality of most of the exhibits in this section was excellent.

The John Reid Cup was won by Mr. S. Thornburn; Mr. John Kirkhope proved to be the winner of the Harry Hope Cup; and Sergt. Alex. Gray won the Lamont Cup.

Open Classes.

The best display of cut flowers was shown by Messrs. A. Lister & Son; 2nd, Mr. M. Cuthbertson. In the class for 12 bunches of Sweet Peas the 1st prize was awarded to Mr. John Smellie. The 1st prize for 12 vases of early-flowering Chrysanthemums was awarded to Messrs. A. Lister & Son, who also won the 1st prizes in the classes requiring 24 Show Pansies. 24 Fancy Pansies, 24 Cactus Dahlias, and 36 Roses. The best 12 vases of Carnations were arranged by Mr. Duncan Penney.

Amateurs' Classes.

The 1st prize for a shower bouquet was awarded to Mr. Duncan Macfie. Mr. S. Thornburn won the premier prize in the class for three lady's sprays and for the best epergne of flowers. Mr. John Gillies was the most successful exhibitor in the classes for 12 Roses, 12 Dahlias, and 12 Pompon Dahlias. The most effective group of plants was arranged by Mr. David Penney, who also exhibited the best six table plants.

In the fruit classes Mr. John Davidson was the most successful exhibitor; he won the 1st prizes in the following classes: two bunches of black Grapes, two bunches of white Grapes, one bunch of Grapes, one Melon, dish of Red Currants, six dessert Apples, dish of red Gooseberries, dish of green Gooseberries, and collection of fruit.

The 1st prize for a collection of vegetables was awarded to Mr. Duncan Macfie.

LANCASTER AGRICULTURAL.

August 21.—There were more entries than usual in the horticultural section of the above society's exhibition. Unfortunately, the death of Mr. R. L. Garnett, of Wyreside, deprived the Rose classes of some of the best exhibits. The Sweet Peas were especially fine. Cactus Dahlias and herbaceous flowers were also good. The table decoration arranged by Miss Foster, of Hornby Castle, who used various Orchid blooms, was especially good. She also gained the 1st prize for an epergne of Sweet Peas. Fruit testified to the backward season, but the vegetables, especially the collections, were very fine.

Messrs. Shand exhibited a capital display of floral designs. In the centre was a crown of purple Asters outlined with white Chrysanthemums. On either side were bouquets of Raby Castle Carnations, Lilies of the Valley, &c. Ferns and Conifers were grouped on each side. (Gold Medal.)

Another fine exhibit was of Violas, shown by Mr. S. Pye, of Bowgreave. There were 80 varieties, including the following:—Jessie Greenwood, Miss Fulton, Mrs. Morrison, Rob Roy, Gladys Finlay, Bessie Finlay and Mr. Pell. (Gold Medal.)

Mr. Robert Bolton, Warton, showed many splendid Sweet Peas, including the varieties Mrs. Hardcastle Sykes, Clara Curtis, Queen of Norway, Tom Bolton, W. R. Beaver, and Charles Foster.

Messrs. Castle Bros., Warton, also exhibited Sweet Peas.

Mr. Bolton also exhibited a splendid collection of British Ferns. (Gold Medal.)

Messrs. Mawson, of Windermere and Lancaster, had an artistically-arranged stand of hardy flowers, including Gladioli, Liliums, and Phloxes.

Open Classes.

The 1st prize in the class for Cactus Dahlias was won by Mr. A. E. Corless, Lancaster, who also had the best Show Dahlias. Mrs. E. Huntington, Bay House, was the most successful exhibitor in the class for the Pompon Dahlias, and she also won the 1st prize for a collection of decorative Roses. The best 12 Roses were shown by the Rev. A. R. Tomlinson, and Mr. R. B. Jackson won the chief prize offered for six Roses. The best collection of hardy herbaceous flowers was arranged by Mr. W. Robinson. The 1st prize in the class for 12 vases of Sweet Peas was won by the Rev. A. R. Tomlinson. Miss H. L. Foster, Hornby Castle, arranged the best epergne of Sweet Peas, and she also won the 1st prize for a decorated table. The best three dishes of culinary Apples were exhibited by Mr. W. Robinson, whilst Mr. A. E. Corless showed the best dessert Apples. Mr. W. Robinson won the 1st prize offered for a collection of vegetables; 2nd, Mr. W. Goodwin.

NATIONAL HARDY PLANT.

SECOND ANNUAL CONFERENCE.

August 22.—The second annual conference of the above Society was held at the George Hotel, Shrewsbury, on the second day of the Shrewsbury Show. Mr. W. H. Paine presided over a large attendance. A letter was read from the Chairman, Mr. A. J. Macself, regretting his inability to be present.

Mr. T. W. Sanders, F.L.S., read a paper on "Are Flower Shows Advancing Hardy-plant Culture as They Might and Ought to do?" Mr. Sanders contended that horticultural societies and those responsible for flower shows were not doing justice to hardy plants, and that substantial prizes should be offered to trade, professional, and amateur growers for hardy plants. He advocated the formation of new classes, and stated that in this direction the National Hardy Plant Society had been already of some assistance with their model schedule. Prizes might be offered, said Mr. Sanders, for a collection of hardy flowers staged in various colours, say six of each colour. Such a class would be of value to people who visited flower shows for the purpose of selecting new plants to add to their borders. Classes might also be included for a group of hardy plants. Classes for Alpine and other plants grown in cool houses would show the amateur the number of beautiful subjects which might be grown without the expense of a heated glasshouse. The present methods of showing and judging were also discussed.

Mr. G. Gibson, who agreed with most of the suggestions, thought that with regard to the colour scheme it would be a difficulty, owing to the limited number of colours available in any one month, but Mr. J. Harkness thought that the difficulty as to a colour scheme could be surmounted. The wording of the schedules should be absolutely definite, and in the big classes he considered that the money should be pooled and allotted to all the exhibitors by points. Culture should be considered first and effect second.

Mr. Edgington thought that the large classes of hardy plants were badly defined, and, as the schedules were framed at present, it was impossible to exhibit in a space of 300 feet for natural effect. He criticised the wording and the judging of several classes at recent shows, and instanced, as examples of natural effect, the exhibiting of Gladiolus America in May, and Lilium umbellatum cut down to 6 inches in height. He thought that rock-gardens would be more natural if made on a space of 600 square feet, with two fronts, and containing the same number of plants which are at present crowded into 300 feet. Backgrounds of Bamboo should be discarded.

Mr. T. R. Hayes agreed with the lecturer, and also endorsed Mr. Edgington's remarks. He thought that the National Hardy Plant Society should communicate with the Shrewsbury Committee as to more clearly defining their grouped class.

Mr. Bouskell also agreed, and thought that from the exhibits at Shrewsbury, any large grower could have arranged a colour-scheme class. Individual members of the Society should endeavour to influence societies in their districts.

Mr. Quick thought that it would be a step in the right direction if non-competitive, as well as competitive, exhibits were judged on their merits, and if it were the rule that no trade cards be displayed until after the judging is finished.

The Chairman said that they should demand proper treatment for hardy flowers. Gladiolus America exhibited in May was not advancing hardy-plant culture, and would be calculated to deceive persons who would regard the group as typical of plants in bloom at the period. He should like to see a class for Delphiniums, 12 spikes of each, staged for natural effect. With regard to the wording of a class, he thought it would be better to have a given number of sorts, with a given number of spikes of each.

AWARDS.

The following Awards to new plants were made:—

Awards of Merit.

Erica cinerea atro-coccinea.—Shown by Messrs. Hayes, Keswick. *Bidens dahliodes.*—A fine plant, with pink flowers, very similar to those of Cosmos. Shown by Messrs. Artindale. *Gaillardia Mrs. Mackella.*—A large, yellow bloom, with carmine centre. Shown by Messrs. Harkness, Bedale. *Primula japonica "Autumnale."*—A local variety from Japan, which flowers in the autumn; robust habit and fine flower trusses. Shown by the Tully Nursery Co., Kildare. *Lobelia "Glory of St. Ann's," L. "Glow,"* and *L. "W. H. Paine."*—The last-named was considered the finest of recent introductions. As only one spike was exhibited, the Committee expressed a wish to see it again. The Lobelias were shown by the Tully Nursery Co. *Thalictrum dipterocarpum,* which was introduced by Messrs. James Veitch & Sons.

Messrs. J. Kelway & Son exhibited some fine spikes of Delphiniums, which the Committee desired to see again.

There was a discussion on the herbaceous species of the genus Veronica, about 50 species and varieties being exhibited. The confusion in the genus was pointed out by Messrs. Bouskell and Paine, who had made a list of every species exhibited at the show, many of which appeared under several names, and many under wrong names.

ABERDEEN ROYAL HORTICULTURAL.

August 22, 23, 24.—The annual show of this important north of Scotland society was held on these dates in the Duthie Public Park, Aberdeen. Favoured with magnificent weather—the best since August came in—and situated in ideal surroundings, the exhibition proved very successful. The entries numbered over 1,600. The secretary is Mr. J. B. Rennett, advocate, Aberdeen.

Pot Plants.

There was a very fine display in this section, Pelargoniums, Fuchsias, Begonias, Gloxinias, and early-flowering Chrysanthemums making a capital show. One gratifying feature here was the fact that the majority of the exhibitors took some place in the prize list, proving the general equality of the exhibits. For the four best specimen plants in flower, Mr. Alexander Ledingham, S.S.C., Queen's Road, Aberdeen (gr. Mr. W. Dick), won the 1st prize with a very meritorious exhibit. Both the 1st and 2nd prizes in the class for a specimen plant in flower were won by Colonel W. S. Gill, Dalhebity, Aberdeenshire (gr. Mr. A. Brebner), with well-grown specimens of Disa grandiflora. There was a somewhat keen difference of opinion amongst the experts over the placing of Mr. Thomas Ogilvie, Kepplestone, Aberdeen (gr. Mr. A. Douglas), 3rd in this competition, the feeling being that the fine Eucharis grandiflora entered by that gentleman deserved higher honours. The plant was well grown, and showed eight spikes, but the writer once saw a specimen at this show with 48 spikes, grown by the late Sir William Henderson, of Devanha, Aberdeen (gr. Mr. John Proctor). Foliage plants were a very attractive feature, there being shown some fine Palms (Phœnix canarensis), Dracænas, and Asparagus deflexus and A. decumbens. The 1st and 2nd prizes for Palms were won by Mr. Oglivie, of Kepplestone. Colonel Gill, of Dalhebity, showed the best Ferns; his Adiantum cuneatum and gracillimum varieties and a fine Nephrolepis Whitmanii were particularly good. Professor Baillie, of Norwood, Aberdeen (gr. Mr. J. Elder), showed the best four foliage plants. Mr. J. W. Brechin, Ardo, Belhelvie, Aberdeenshire, led for best specimen foliage plant. Lord Provost Maitland, Rubislaw Den House, Aberdeen (gr. Mr. A. Duncan), won by Mr. Brechin, Ardo. Mr. Ledingham, Queen's Road, was successful with Pelargoniums and Begonias (single and double). The Summerfield Hospital Committee (gr. Mr. James Burnett) won the 1st prizes for Fuchsias and Petunias. Mr. James Anderson, Constitution Street, Aberdeen, was 1st for early-flowering Chrysanthemums. Sir Thomas Burnett, Bart., of Crathes Castle (gr. Mr. John Petrie), was 1st and 2nd in the class for six plants for dinner table decoration.

Cut Flowers.

The effects of the adverse weather were most noticeable in this section. Nevertheless some very fine exhibits were shown in the professional classes. Roses were good, and Colonel Gill, of Dalhebity, won the Silver Challenge Cup presented by Messrs. James Cocker & Sons, Aberdeen, with very choice blooms. The other honours for Roses were divided between Sir Thomas Burnett and the Summerfield Hospital Committee. Mr. Lockhart, Cragiebuckler Cottage, Aberdeen, was 1st for Tea or Noisette Roses. Sweet Peas have always been a good feature at Aberdeen, and despite the untoward season there were some very fine entries. Sir Thomas Burnett had a very meritorious collection, the intense colouring of the blooms evoking much admiration, especially of the varieties Dobbie's Cream, Scarlet Empress, Thomas Stevenson, Rosabelle, Hercules, Edrom Beauty, and R. F. Felton. Mrs. Dunbar Dunbar, of Seapark, Forres (gr. Mr. J. A. Grigor), was placed 2nd, while Mr. T. Ranken, Dalswinton, Dumfries (gr. Mr. R. A. Grigor), was 3rd. The last-named was 1st for six bunches, Lady Aberdeen being 2nd. Mr. A. Cumming, Rubislaw, Aberdeen, also showed well in the Sweet Pea Classes. Dahlias were well shown. Mr. J. W. Brechin, Ardo, Mr. W. Lockhart, and Mr. J. M. Dunn, Aberdeen, won the leading prizes, whilst Mr. Brechin was also principal winner for Gladioli and Asters, his entries being specially noteworthy. Marigolds were very good, Mr. John Grieve, Woodside, Aberdeen, leading. Colonel Gill's Pelargoniums were much admired. For 20 varieties of cut flowers and fine foliage bedding plants Mr. Ledingham, Queen's Road, had a greatly-admired exhibit, which won the 1st prize. Sir Thomas Burnett gained similar honours for his fine stove and greenhouse cut flowers. Mr. Lockhart's Carnations well deserved their prize, as also did the Begonias shown by Mr. J. McCombie Brown, Park House, Aberdeenshire. Phloxes, Stocks, Pansies (show and fancy), Violas, and Chrysanthemums were well shown, the leading prizes being won by Mr. Brechin and Mr. John Garden, Inverurie.

Fruit.

The display here was very good. For the best collection of hardy fruit Mr. W. Harper, Tulliebelton, Perthshire, won the 1st prize, his collection including Peaches (Hale's Early), Pears (Beurré Boussoch), Plums (Victoria and Kirke's Purple), Apples (Stirling Castle), and Cherries (Morello). Mrs. Dunbar Dunbar, of Seapark, was placed 2nd. Neither Apples nor Pears were numerous; the leading prizes were won by Mr. John Davis, Ballathie, Perthshire, Mr. W. Harper, and Mr. H. B. Smith, Burdshaugh, Forres. Gooseberries were of great size, but owing to the wet season the berries were soft; the chief prizes were won by Messrs. Pegler, Aberdeen, and Mr. Taylor, Inchgarth, Aberdeen. Sir Thomas Burnett and Mr. J. Ferguson, Linton House, Cluny, Aberdeenshire, showed the best Red and Black Currants. Grapes, both black and white, were very good, the chief honours going to Mr. T. Ranken, Dumfries, and Sir Thomas Burnett; Lord Aberdeen made a good 2nd. Melons were poorly shown, the best by Misses McLennan, Springhill, Aberdeen (gr. Mr. W. Scorgie). Many of the Peaches had but little flesh on them, but those from Ballathie, Perthshire, were very good. Nectarines were fairly good; the best were shown by Lord Sempill, Fintray House, Aberdeenshire (gr. Mr. W. Smith). Tomatos were very well finished, those from Mrs. Dunbar Dunbar's garden being the best.

Vegetables.

This section was undoubtedly the outstanding feature of the show, the excessive moisture being

very meritorious win in a class for a collection; Cauliflower (Autumn Giant), Turnips (Golden Ball), Peas (Gladstone), Purple Beet, Potatos (Abundance) and Cabbage were especially good. For Salads the Misses McLennan, Springhill, won the 1st prize; Mr. W. Harper, Tulliebelton, Perthshire, who has in past years shown remarkably fine produce at Aberdeen shows, was successful for Carrots and Cauliflower, while Mr. J. Davidson, Aberdeen, had the best Cabbages. The Turnips were good, clean, well-grown examples, and Mr. Ferguson, Linnton Gardens, won the 1st prize. Peas were good, Leeks well grown, and Onions were specially fine, the prize-winners being Mr. W. Harper and Mr. T. Ranken. Beetroot were well shown, Mr. John Garden, Inverurie, having fine roots. Celery was also good, and little difference could be detected between the 1st and 2nd exhibits, which were shown by Mr. T. Ranken and Mr. J. McCombie Brown. As usual at this show, the outstanding feature in the vegetable section was the excellent Potatos; the display evoked great admiration. The chief prize-winners in these admirable classes were Mr. J. McCombie Brown, Mr. J. W. Brechin, Mr. John Yule, and Mr. Ferguson, Linton House.

Nurserymen and Florists.

The section devoted to the trade growers was one of the most delightful in the show. For the fourth year in succession Messrs. Cocker & Sons, Springhill Nurseries, Aberdeen, won the Silver Cup in the class for 36 Roses, H.P. and H.T., or either, named, distinct varieties, with a magnificent entry. Last year the same exhibitors gained outright the cup offered as a prize in the premier class. Messrs. Adam & Craigmile, Fernielea Nurseries, Aberdeen, were a very close 2nd.

Amateurs' Classes.

These made a very creditable display in all departments. For pot plants the honours were divided between Mr. John Davidson, Hardgate, Aberdeen; Mr. Alexander Gillespie, Northfield Place, Aberdeen; and Mr. Alexander Kemp, Stoneywood, near Aberdeen. In the cut flowers section, the competition was very keen. Some capital arrangements were shown by Mr. G. Maclennan, Forres, N.B.; Mr. George Harper, Huntly, Aberdeenshire; Mr. W. Farquharson, Cults, Aberdeenshire; Mr. John Davidson, Mr. John M. Dunn, Aberdeen; Mr. J. M'Laren, Aberdeen; and Mr. R. Marnoch, Kintore, Aberdeenshire.

The cottagers' exhibits were, as usual, exceedingly meritorious.

Non-competitive Exhibits.

The local florists, nurserymen and seedsmen had capital displays. Messrs. Cocker & Sons, Springhill Nurseries, Aberdeen, showed a magnificent and greatly-admired collection of herbaceous and hardy perennial flowers and Roses. Messrs. W. Smith & Sons, Burnside and Silverhillock Nurseries, Aberdeen, had a very prominent exhibition, as had also Mr. M. H. Sinclair, seedsman, Aberdeen; Messrs. Ben Reid & Co., Aberdeen; Mr. James Robertson, seedsman, Aberdeen; Messrs. Leslie & Macdonald, West End Nurseries, Aberdeen; and Mr. P. McHardy, Green, Aberdeen.

Obituary.

Harry Dodd.—The death of this promising young gardener is announced in the *Kew Bulletin.* Mr. Dodd entered Kew as a gardener in March, 1904, and left in July, 1906, to take up the post of curator at Onitsha, Southern Nigeria. Before entering Kew he spent some three years in the Liverpool Botanic Gardens. He resigned his post in West Africa in June, 1910, at the close of his fourth year of service, partly with the object of obtaining a post in the East. In February, 1911, Mr. Dodd was appointed a probationer gardener in India, and, after spending some time at the Royal Botanic Garden, Calcutta, was transferred to Delhi, where he died of enteric fever on July 3.

R. L. Garnett.—The death occurred on Monday, the 19th inst., of Mr. Richard Lawrence Garnett, Wyreside, Lancaster. Deceased, who

ANSWERS TO CORRESPONDENTS.

Acreage under Fruit and Vegetable Crops: *F. A. Glaefer.* We regret the delay in answering your letter, but we have been awaiting a reply from the Board of Agriculture, to whom we sent your query. They say, however, that there are no official statistics of the acreage under fruit and vegetable crops grown in nurseries as distinct from other kinds of holdings in this country. The Board of Agriculture and Fisheries inform us that the areas under small fruit and orchards in Great Britain and the Channel Islands, as returned on June 5, 1911, by occupiers of more than one acre of land, were 84,574 acres and 251,974 acres respectively. Of the area under small fruit, 29,320 acres were returned as being grown between the trees in orchards.

Begonias: *P. M.* The plants from which the Begonia leaves were taken have been subjected to excessive moisture and insufficient ventilation.

Begonias and Streptocarpuses Unhealthy: *W. Moore.* There is no trace of any fungus or insect on the specimens of Begonia and Streptocarpus; the scorched appearance of the leaves must be due to some cultural fault.

Begonias Unhealthy: *Ensign.* The rusty-looking spots are not due to disease or insect pests, but to excessive atmospheric moisture.

Carnations Diseased: *R. R.* The stem submitted is injured by the maggot of the Carnation fly (Hylemia nigrescens), and the roots by the maggots of the crane fly (Tipula oleracea)—both of them deadly pests to the Carnation. In potting the young plants, do not employ fresh turf or the outsides of old compost heaps, as such material often contains the grubs of the crane fly. Destroy all the old plants so soon as the young layers have been removed.

Celery Diseased: *H. F. Z.* Your Celery plants are badly affected with Septoria. See reply to *J. A.* in the last issue.

Celosias for Examination: *Ajax.* The specimens of Celosias have not been injured by any fungus or insect. It seems probable that, as you suggest, wrong cultural treatment has been the cause of injury.

Chrysanthemums: *W. H. M.* On some of the leaves of the Chrysanthemum there are pustules of spores of the rust (Puccinia chrysanthemi). Spray the plants with liver of sulphur solution (1 ounce dissolved in 2 gallons of water). Use the solution as soon as it is mixed, and take care woodwork painted white is not wetted, as liver of sulphur blackens white paint. The blackened Chrysanthemum leaves do not show any fungus.

Conifers: *D. C.* The branch of Abies nordmanniana is infested with the bark-louse (Chermes pini), and it is highly probable that this insect has caused the injury to the trees in question. We would strongly advise you not to plant other species of Abies between the infested trees, as this pest also attacks other species of the genus, notably A. nobilis and the Silver Firs.

French Gardening Journals: *C. F. P.* Jardinage, 90 bis, Avenue de Paris, Versailles; *Le Jardin*, 84 bis, Rue de Grenelle, Paris (VIIe Arr); or *Revue Horticole*, Rue Jacob, 26, Paris—6.

Grapes: *E. G. W., Dorset.* There is no mycelium in the tissues of the Grape; the roughness of the skin is probably to be attributed to the action of the spray fluid. (There is a surface growth of purely saprophytic fungi.)

Growing Cut Flowers for Market in an Acre of Land: *C. T.* In the circumstances indicated in your letter there is every chance of your making a living by growing flowers on an acre of suitable land for cutting for market purposes. In the first place, the ground should be ploughed deeply, the cultivator should then be worked over it lengthwise and crosswise in order to thoroughly cleanse the ground of all deep-rooted weeds, these being picked up and burned in the process of scarifying, harrowing, and re-harrowing of the land. Previous to planting perennials the soil should

intended to be used for selected annuals should not be attended to in these respects until a week or so of planting-out time. Meanwhile you should carefully consider and determine what kinds and varieties of flowers—perennials and annuals—are most suitable to grow for cutting for marketing, bearing in mind in doing so the kinds and varieties that find a ready sale in the towns referred to in your letter, growing most, as a matter of course, of the flowers in greatest demand. The following, among other perennials, should be grown in more or less quantity: Pyrethrums (double and single-flowered varieties), Scabiosa caucasica, Phloxes, Gaillardias, Coreopsis grandiflora, Delphinium (approved varieties), Gypsophila paniculata alba plena, Centaurea montana (perennial Cornflower), Aster (Michaelmas Daisy) ericoides, Decorator and other approved varieties; Chrysanthemums (Shasta Daisies) King Edward VII, Mrs. Head, and Mrs. Charles Bell, Rudbeckia nitida magnifica, early and mid-season Chrysanthemums; yellow Marguerites and red and white Dahlias are also desirable plants to grow for cutting from for marketing. Annuals which pay for good cultivation are Asters Comet (tall section), Ostrich Plume, Vick's Branching Late White, Snowball or Princess White, Daybreak and Salmon Queen; Centaurea (Sweet Sultan) Imperialis hybrids, Sweet Peas, Sweet Scabious, and a good bed of Mignonette (new Giant Crimson). The utilisation of your glasshouse, as suggested, is quite right and practicable, though you could very well avoid the expenditure involved in the purchase of flower-pots by planting your late-flowering Chrysanthemums out-of-doors and transplanting with good balls under glass in October, when cleared of the Tomatos.

Grubs Infesting Fruit Trees: *B. Gallop.* The so-called "grubs" are the caterpillars of the common vapourer moth (Orgyia antiqua). The female is wingless and sedentary, remaining upon the cocoon from which she emerged, and thereon she also lays her eggs. Collect the cocoons within the egg masses and destroy them. The caterpillars are easily destroyed by spraying the trees with Swift's arsenate of lead in paste form. Instructions are issued with this preparation.

Lilac Diseased: *Foliage.* The disease on the Lilac foliage is caused by the fungus Cladosporium herbarum. This fungus attacks leaves weakened by adverse weather conditions (continued wet weather and cold nights). The trouble will disappear under normal weather conditions. It would not be worth while to spray; the damage done will not be sufficient to affect next season's growth.

Names of Fruits: *F. E. C.* Plums: 1, Guthrie's Golden; 2, Early Blue; 3, Early Mirabelle; 4, Prince Englebert.—*J. Smith.* Apples: 1, The Queen; 2, Ecklinville Seedling; 3, Duchess of Oldenburgh; 4, Bismarck; 5, Nanny; 6, Worcester Pearmain.—*Alty.* Apples: (a) Tippet's Incomparable; (b) Duchess of Oldenburgh; (c) Old Hawthorden.—*J. S., Ross-shire.* 1, Lord Napier; 2, Peach, not recognised.—*J. MacD.* Plums: Yellow, Oullin's Golden; Red, Prince of Wales.—*F. Denny*, Plum, Pond's Seedling.—*T. Summerfield.* Plums: 1, Diamond; 2, Goliath; 3, Pond's Seedling.—*Anxious.* Pear, Jargonelle.—*W. C. Bishop.* Pears: 1, Hessle; 2, Green Chisel. The Apples are too small to name.—Correspondents sending Peaches and Nectarines for naming should enclose leaves of each variety, and state whether the flowers are large or small, and if the trees are grown under glass or in the open.

Names of Plants: *J. MacD.* 1, Steironema ciliatum; 2, Cornus sanguinea.—*W. H. Baker.* 1, Acanthus mollis; 2, Kerria japonica variegata; 3, Acæna microphylla.—*C. J.* 1, Spiræa japonica; 2, Sauromatum guttatum; 3, Artemisia vulgaris; 4, Viburnum Tinus; 5, Symphoricarpus racemosus; 6, specimen too scrappy to identify.—*Ceux.* Either Fabvier or Crimson China; the bloom was too shattered to determine which.—*W. H. & Co.* Hippeastrum equestre.—*W. G., Sidmouth.* 1, Abelia floribunda; 2, Myrtus Ugni (commonly known in gardens as Eugenia Ugni); 3, Indigofera Gerardiana.—

lightest coloured flowers is the variety King of Denmark.—*J. M.* Chelidonium majus.—*J. S., Ross-shire.* 1, Tecoma jasminoides; 2, Asparagus scandens.—*C. M.* 1, Cratægus tanacetifolia. The plant may be propagated by seeds or by budding on stocks of the common Hawthorn or Quickthorn; 2, Ailanthus glandulosa (Tree of Heaven); 3, Cupressus sempervirens. — *Correspondent.* Cratægus nigra.—*H. A. S.* Oncidium longipes (syn. O. janeirense).—*H. T.* 1, Trichopilia luxa; 2, Oncidium trulliferum; 3, O. pubes.—*F. O.* 1, Pteris geraniifolia; 2, Adiantum hispidulum; 3, A. formosum; 4, Dracæna congesta; 5, Cyperus laxus; 6, Caladium argyrites.—*W. H. Lee.* Aneimia (Anemidictyon) phyllitidis.—*H. F. Z.* Clethra alnifolia.—*J. R.* Humulus lupulus ("Common Hop").—*P. P., Crawley.* 1, Polygonum affine; 2, Spiræa japonica; 3, Leycesteria formosa; 4, probably Cornus sp, specimen too scrappy; 5, Stephanandra flexuosa; 6, Rhus cotinus; 7, Neillia opulifolia; 8, Spiræa Menziesii.

Rhododendrons: *I. W. T.* The leaves are infested with a small species of plant-bug belonging to the family Tingididæ, characterised by the large reticulations of the wings and thorax. The adults are very few in number and not in very perfect condition, but we believe that they are referable to Derephysia foliacea, which is usually found upon Ivy. Spray the undersides of the leaves with a rather weak paraffin emulsion.

The Mummy Pea: *C. E. F.* The specimen which you send has the characters of the Crown or Mummy Pea. This variety occurs in two forms—a white and a purple-flowered race. The peculiarity of the race consists in the fasciation of the stem near the top, and in bearing on the fattened and thickened upper part of the stem a close bunch of many flowers. The legend that the Mummy Pea was derived from seed found in a mummy case and brought to England is as old as it is absurd, and was, as it would seem, first promulgated by a Mr. Grimston. As is stated in an article in these pages (*Gardeners' Chronicle*, p. 45, 1873), "it is really most amusing to find with what circumstantiality this tale is repeated—how that the retailer knows somebody who knows somebody else who knew the party who actually picked the Pea out of the mummy." We should recommend you to draw the attention of your friend to the article from which we have quoted, and can assure you that the idea that the seed came from the source ascribed to it is erroneous. It is as certain as things in this uncertain world can be, that no Pea or other seed ever taken from a mummy case proved capable of growth unless it had been put there after the case was opened. Certain seeds possess the power of retaining their vitality for a considerable number of years. Thus in experiments made with seeds stored in a museum, some known to be over 80 years old were found to germinate. It is a far cry, however from 80 years to many centuries, and the legend of the viability of Peas from mummy cases must be put in the same category with that of toads hopping out of quarried stone, wherein we are asked to believe they had remained potentially lively for hundreds of centuries.

Under Gardener's Notice: *F. B.* In the absence of an agreement, custom rules the length of notice which must be given or taken to terminate an engagement. The general rule is a month's notice in the case of head-gardeners, a fortnight's notice for foremen, and a week's notice for under-gardeners. The periods at which the wages are paid is immaterial. In the future you should have the terms of any engagement set down in writing.

Vine Leaves Spotted: *D. C.* The variegation of the vine foliage is not due to fungous or insect pests. The appearance suggests scalding.

Communications Received.—H. W.—W. H. J. S.—J. H. M.—S. S.—F. E. C.—A. J. J. G.—E. J. B. & Sons—Mrs. A. D.—M. J. G., Cheshire—J. E. C.—L. H. B.—Barr & Sons—S. M. C—A. C.—O. T.—E. J. W.—J. B.—S. C.—W. P.—A. D.—D. P. & Son—W. C.—F. A. G.—R. W. T.—Hon. Mrs.

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JOHN KENNEDY.

KENNEDY was a gardener, and appeals to us on the ground of having written a book on gardening. From it we gather that he was a Scotsman, that he had engaged in gardening, forestry and agriculture for a period exceeding 30 years, and that the cultural methods he exploited were different from and superior to those of his contemporaries. His book appears never to have been common. It is absent from the lists of Weston, Dr. Martyn, and J. C. Loudon, while Johnson merely mentions it, and that in a manner which is conclusive of its never having passed through his hands. Not improbably its scarcity is due to the custom stated by Lackington in his *Autobiography* to have prevailed among booksellers of arranging among themselves to destroy remainders which were not in great demand; to which custom is due the scarceness of many books of the period within which Kennedy's book appeared. The volume is entitled *A Treatise on Planting and Gardening and the Management of the Hothouse, &c., &c.* By John Kennedy, Gardener to Sir Thomas Gascoigne, Bart. York: Printed by A. Ward for the Author, 1776. A second edition followed in two volumes in 1777, but that I have not seen, and another in one volume, Dublin, 1784. The first edition contains a lengthy list of names of subscribers.

The volume, an 8vo., extends to 420 pages, exactly half the number being occupied with matter relating to sylviculture, and the remainder to a few garden plants, and to Cabbages and Carrots as farm crops. The horticultural section consists of essays on the Vine, Pineapple, Mushroom, and Asparagus. Though Kennedy regarded himself as in advance of his generation, it is painfully evident that, compared with those of Speechley, or even of Abercrombie, his methods were antiquated. Yet it is not unpleasing nor unprofitable to possess a record of the horticultural opinions and beliefs of a bonâ-fide middle-class gardener of the latter part of the 18th century. The remarks on the Vine and the Pineapple indicate a transition stage between modern methods and the very crude systems that obtained 40 or 50 years before Kennedy's time.

He treats of viticulture on walls, forcing Grapes in the open on walls, covering Vines partly with glass in vineries and in Pine pits. The cutting he recommended for propagating contained three eyes, and it was dissevered with a portion of the main rod attached, long pieces being usual at the time, though Speechley used eyes. A stone flag was so placed that the roots of Vines could not enter the subsoil, a custom which Sir Walter Scott mentions in *The Antiquary* as having been derived from pre-Reformation times. Kennedy distinctly objected to covering Vines which were being forced on walls till the flowering stage was past; this, though the wall-flues had been in active operation many weeks previously. In vineries the Vines were also set with flags under them, and the whole floor-space was covered with similar material. Once the crop was gathered, the sashes were removed, and the Vines exposed till "boisterous" weather supervened, when they were replaced. Kennedy seems not to have recognised the propriety of reducing the berries in a bunch of Grapes as an expedient of first-rate importance in Grape-growing, and merely notes that very close-set bunches ought to be partially thinned, and advises the selection of "loose" growing varieties for the hothouse in order that thinning might be obviated altogether. He, indeed, appears to have looked upon the practice as only a less evil to leaving the clusters to nature, and is solicitous that his students should operate only early in the day, so that "the wounds may be dried before night by the heat of the sun." The extent of glass esteemed adequate may be comprehended from the remark that few cared to possess more than one vinery. Seventeen varieties of Grape-vines are described.

The vast distance we have travelled since Kennedy's day is even more obvious when we turn to his directions for growing Pineapples. The pots he recommends were half-penny, penny, three half-penny, and twopenny; denominations which afford no idea of their size or capacity. He advised repotting at all seasons, winter included, and root-burning seems to have been a usual experience. Composts and their preparation form no small item in Pine growing as practised by Kennedy. He calls them "moulds." Each stage of the life of the plant had a "mould" suited to its age and condition. The ingredients consisted of light loam, rotted dung, "as small as mould," wood earth "turned four or five times," rotten bark (tan) sifted, and sharp sand. What we should now call the lightest compost was made up of one part tan, two parts wood earth, one part dung, half part sand; and the heaviest—four parts loam, two parts wood earth, two parts dung, half part sand. Like many another, Kennedy had discovered an infallible recipe for the destruction of mealy bug, which consisted of 4 lbs. brimstone, 1 lb. Scotch snuff, and 2 ounces leaves of Walnuts dried and ground to powder. The preparation was applied dry, dusted thickly over the plants and the surface of the soil. The pits were fumed with burning sulphur, the plants for the time being removed. After these measures, "properly administered, the future will discover no bug to the most patient searcher." He favours his readers with the result of his observations on the life history of the above-named insect, of which the following may be given as an example:—"The white speck on the leaves of Pines is the spawn of the white, creeping insect, and is deposited on the leaves of the Pines much in the same manner as the caterpillars on the leaves of Cabbages."

The treatment accorded to Mushrooms, which were an indispensable crop in a garden of any account, differed materially from that in general use. Three beds sufficed for a year's supply; one made up in July for winter gathering; a bed was formed in March for summer, and another in December for spring cropping. For the bed he used ten loads of stable manure, with three loads of tan made up in layers, with 3 inches of horse-droppings superimposed, and after the lapse of six or eight weeks the bed was covered with soil. Each bed was productive for six months, and he disapproved of Mushroom spawn, because, though when it was used Mushrooms were produced in shorter time, the beds were much sooner exhausted. This was a very old-fashioned cultural system, and it is interesting to find a gardener persisting in it so long subsequent to the time when Bradley had endeavoured to introduce the Continental method of spawning the beds.

We learn in the chapter on Asparagus

that Battersea and Gravesend were the chief centres for its production, and that the finest was grown in the vicinity of Pontefract. Size was everything, and though no data are supplied from which a comparison may be made, it is obvious from the immense labour involved and the care taken that very fine growths must have ensued. The beds were 2 feet wide, excavated to a depth of 2½ feet, and filled with a compost that took two years to prepare. The ingredients were "two loads of river or pond sludge, one load soft peat-mould, one load loam, two loads rotten dung, and two loads sand. When the materials had settled seeds were sown, and as soon as the seedlings were large enough they were thinned to a proper distance apart. At the end of each year the beds were covered with a layer of compost till 12 inches had been added to the bed as at first made. Cutting commenced in the third year, though Kennedy preferred not to cut till the fourth. The space between each bed was 3 feet in width, and this was highly cultivated to afford a suitable root-run as the plants gained in age. The remarks on Cabbages and Carrots exhibit the same capacity for taking pains, and the tone of the book as a whole demonstrates that though its methods have changed, gardening was no less in Kennedy's day than it is in our own an exacting and laborious profession. *R. P. Brotherston.*

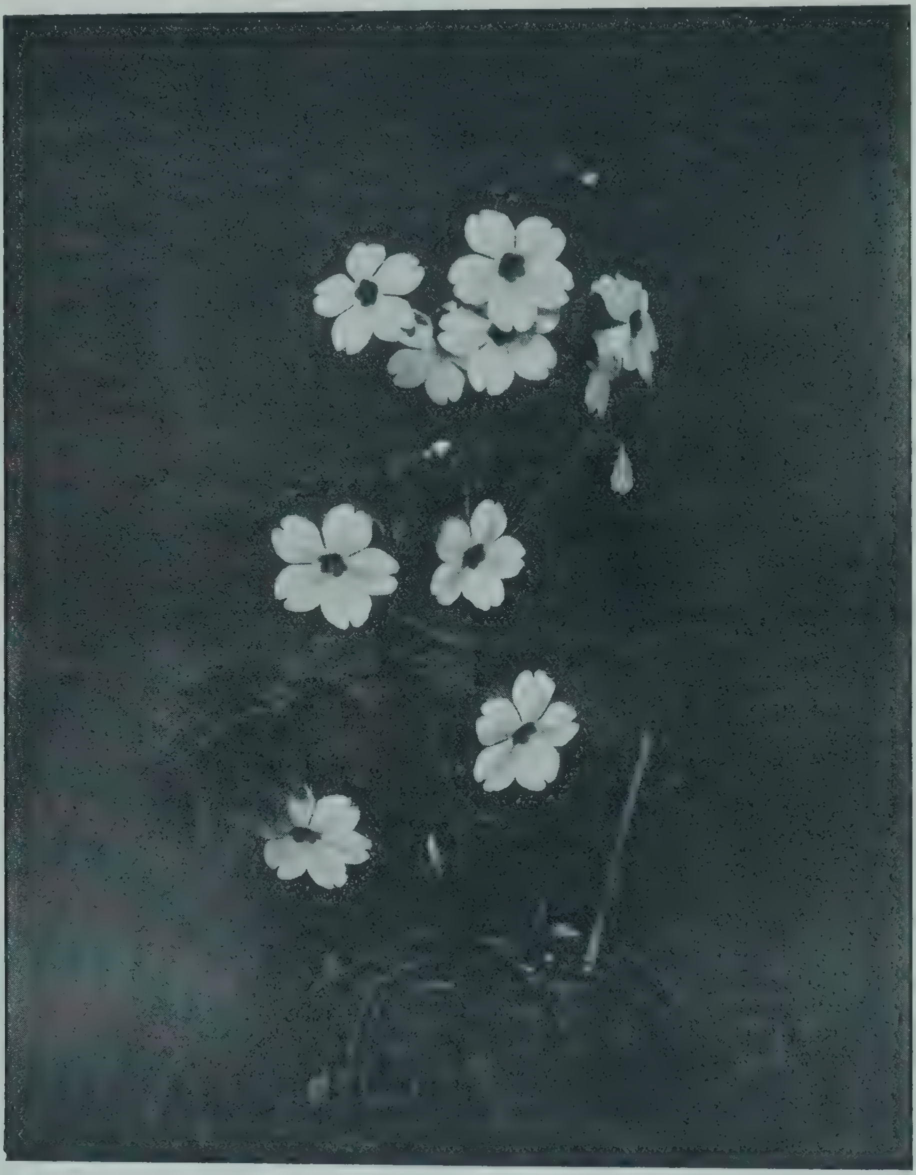

FIG. 84.—PRIMULA SINENSIS "WHITE QUEEN STAR," NORMAL VARIETY.

GIANT CHINESE PRIMROSES.

THE giant strains of Primula sinensis characterised by massive foliage and large heads of imposing flowers are well known and widely grown; but, as is so often the case with interesting garden subjects, little is known as to the origin of these giants. That they breed true is appreciated by all seedsmen, as is also the fact that they owe their gigantism to nature and not to nurture: in other words, the gigantic habit is not induced by, nor dependent upon, methods of cultivation. A recent article by Dr. Keeble in the *Journal of Genetics* gives an account of the origination of a giant race from an ordinary normal-sized race of Primulas. The variety from which the giant originated is a white-flowered race of "stellata" habit known as White Queen Star (fig. 84). Plants of this variety were grown at Reading for some years, and seed was saved from flowers which possessed more than the usual number of petals. After several years of "selection" from plants bearing six or seven-petalled flowers, there arose suddenly and in one instance a giant variety. Eleven plants grown from the seed of one capsule taken from a normal plant all exhibited the giant habit. An examination of figs. 84 and 85—which by the courtesy of the Syndics of the Cambridge University Press we are enabled to reproduce from the *Journal of Genetics*—shows that the giant race is distinguished from the normal not only by larger and more massive flowers, but also by the fact that its petals meet and overlap. The giant race which originated in this way breeds true to its habit. No difficulty is found in obtaining seed from its flowers; but what is remarkable is that, though many attempts have been made to cross it with other varieties of Primula sinensis, all have failed. Even when crossed with normal White Queen Star it fails to produce seed. In addition to putting these facts on record, the article produces evidence both from the experiments of the author and from those carried out by Messrs. Sutton and Sons at their Trial Grounds to show that the character of gigantism in Primula sinensis depends on no fewer than three Mendelian factors, and that the gigantic appearance is produced only when the plant contains at least two of these factors in the pure state, or, to use the ordinary terminology, when the plant is homozygous for these two factors. If it is also pure for the third factor, the giant breeds true; but if the plant is impure for the third factor it throws when self-fertilised both giant and normal offspring. This behaviour may throw light on the failure of certain races of giant P. sinensis to breed true, for the imperfect giant presents much the same appearance as the true-breeding giant, and it is only by their respective offspring that the one may be distinguished from the other. The results of crossing giant with normal varieties are by no means always the same. Sometimes the first generation of the cross presents the gigantic appearance of the one parent; sometimes the giant habit appears to be lost altogether. The key to the explanation of this apparently capricious inheritance of the habit is to be found in the fact that certain so-called normal races of P. sinensis are semi-giants, and carry, say, two of the factors concerned in the production of the giant character. In that case the first generation of the cross between giant and "normal" has the giant habit. Other normal varieties lack at least two of the factors for gigantism. Hence when they are mated with a giant the offspring do not possess the necessary two pure factors, and so cannot exhibit the giant character.

NEW OR NOTEWORTHY PLANTS.

GAULTHERIA VEITCHIANA.*

THE Chinese plant for which the name Gaultheria Veitchiana is here proposed is a very close ally of the Sikkim G. Hookeri. So closely allied are they that, from a purely systematic point of view, the Chinese plant might be regarded as a geographical race of the Sikkim one. The best distinguishing character noticed by the writer in the herbarium specimens is to be found in the calyx lobes, which in G. Veitchiana are acuminate and acute, and slightly longer than the rather obtuse lobes of G. Hookeri. Unfortunately, the Sikkim plant is unknown in cultivation—at least, so far as the writer is aware—but, according to the collector's field notes, the corolla is pinkish, whereas in the Chinese plant it is white.

G. Veitchiana was collected in W. China by Mr. E. H. Wilson, who sent seeds of it to Messrs. Jas. Veitch, in whose nurseries it has flowered and fruited. The description has been drawn up partly from the herbarium specimens and partly from specimens grown by Messrs. Veitch. *W. G. Craib.*

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* GAULTHERIA VEITCHIANA, CRAIB, SP.N., G. Hookeri, Clarke, persimilis sed calycis lobis acuminatis acutis differt. Suffruticulus 0·3–1·8 m. altus; ramuli primo parce longe brunneo-setosi, tenuiter compressi, mox glabri, leves vel setarum basibus persistentibus verrucosi. Folia obovata, obovato-oblanceolata vel fere oblonga, apice breviter obtuse punctata, basi late cuneata vel cuneato-rotundata, 2–9·5 cm. longa, 1–3·8 cm. lata, subcoriacea, supra glabra, viridia, subnitentia, subtus setosa, pallidiora, nervis lateralibus utrinque circiter 4 longe ascendentibus subtus prominulis supra leviter impressis, nervis transversis subtus conspicuis supra leviter impressis, margine setoso-serrulata, petiolo brevi supra canaliculato suffulta. Inflorescentia e racemis circiter 3 cm. longis simplicibus axillaribus vel terminalibus vel simpliciter paniculatis constituta; bracteae ovato-ellipticae, ad 6 mm. longae et 3·5 mm. latae, acuminatae, acutiusculae, ciliatae; bracteolae 2, cucullatae, 3 mm. longae, acutae, ciliolatae; pedicelli breves. Calycis lobi deltoidei, acuminati, acuti, ciliolati, circiter 1·75 mm. longi et 1 mm. lati. Corolla, stamina pistillumque iis G. Hookeri similia nisi corolla alba haud puniceo-alba. W. China, 1800–3000 m., Wilson, 3916, Herb. Kew, et cult. Hort.

THE ROSARY.

AUGUST ROSES.

The Roses of August are quite different from those of early summer, which we find in June and the first weeks of July, and they differ again from the autumn Roses, though in a way they seem to be approaching the latter. In August we less often see the voluptuous form of the exhibition or specimen Rose. The Hybrid Perpetuals, save for a few belated blossoms, are over, and the Hybrid Teas, many of which in the June flowering put up single-flowered shoots carrying fine flowers, now often push up strong panicles carrying, if they are allowed, numerous and small flowers, coming into bloom in succession from the top. We might almost fancy these Roses as conscious of an obligation to provide material for our exhibition boxes, exhibiting a certain restraint in their first flowering, but now that the shows are over throwing off the restraint and revelling in exuberant flower production. The Teas are now even more prodigal of flower-buds; no sooner is the crown bud formed than two or three side buds are pushed out, which soon get beyond the crown bud, and are in turn attended by satellites of their own. In a normal year we find plenty of flowers and plenty of colour in our August Rose beds, but the flowers are small and generally inferior in quality to both the June and autumnal blossoms. As compared with the autumn flowers, however, those of August are often of better colour. The days are longer, the Roses get more sun, and in most years (not in this) they have less rain falling upon them to wash, as it were, the colour out of the petals.

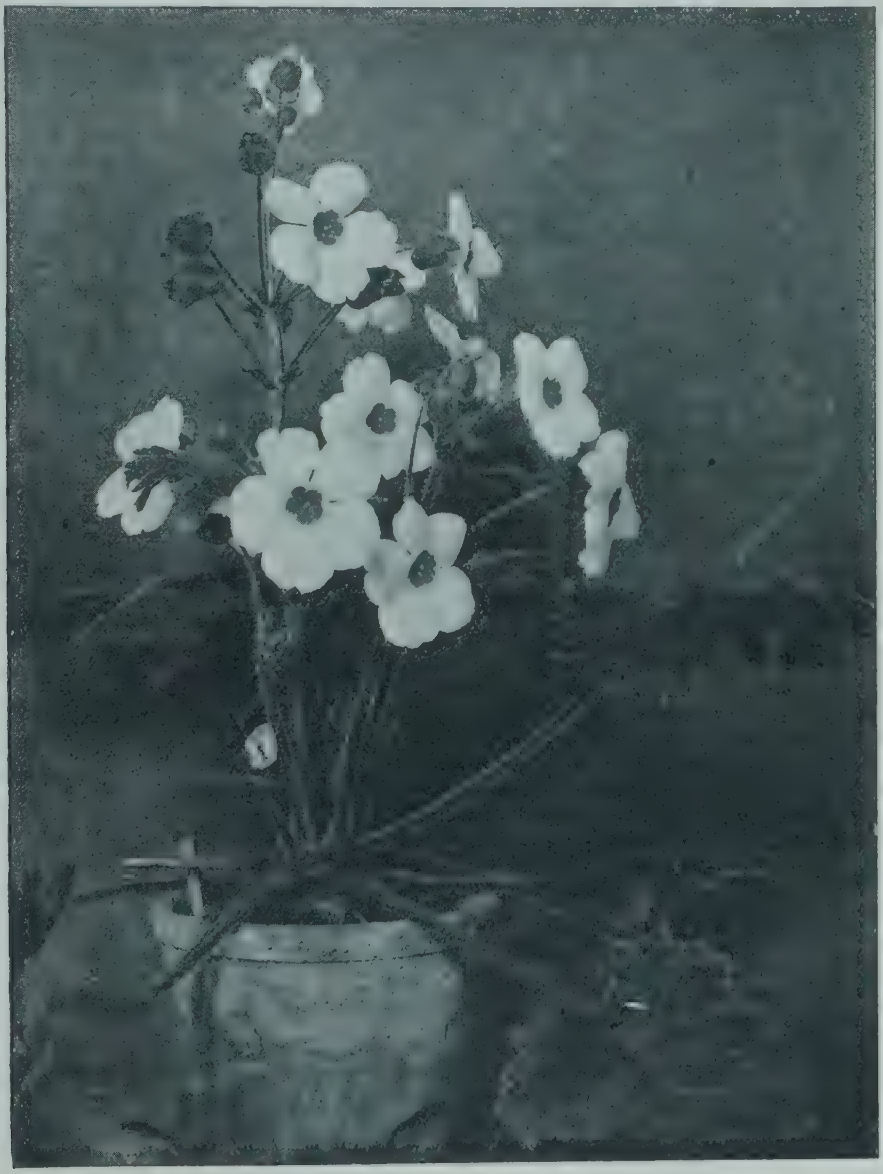

FIG. 85.—PRIMULA SINENSIS "WHITE QUEEN STAR," GIANT VARIETY.
(See p. 188.)

London, absorbed in their profession or business, much as they may love their gardens, may catch but few and hurried glimpses—possibly in some week-end visit—of their Rose beds in June and July. In August, however, they hope to enjoy their garden and their Roses, in a short but doubtless well-earned leisure, and for these it is of some importance that they should take care to obtain varieties of a sort which will naturally flower freely during the holiday month.

This will rule out all or nearly all the Hybrid Perpetuals. If there are to be exceptions, they must be found in Frau Karl Druschki, which gives a few August flowers, in Hugh Dickson and Commandant Félix Faure, and perhaps Mrs. R. G. Sharman Crawford. These will afford no wealth of blossom in August, but all will give a certain number of flowers from time to time, particularly if instructions have been given for the removal of all the early buds as they form. Most of the Ramblers, also, will be over, but Dorothy Perkins and Minnehaha will often last till the middle of the month, and Coquina even later, while in some seasons Hiawatha may still be in flower at the close of August.

Chief reliance, however, will be placed on the Hybrid Teas, Teas, and Chinas. Can I pick out a small list of good garden Roses among the H.T.s, practically certain to be in flower through the greater part of the month? I am by no means certain that I could do so for all gardens, but I know what I can reasonably count on in my own. For red Roses I should take without hesitation Richmond and Ecarlate; both are nearly continuously in flower throughout the season, while Gruss an Teplitz could be also counted upon in three years out of four. Some

mond. It is a stronger grower, but not so beautiful a flower. In the pinks I think the two most certain to be in flower the month through are Dr. J. Campbell Hall and Mrs. E. G. Hill. The first is as continuously in flower as Richmond, and, being dwarf, is an excellent bedder, but it should be syringed carefully early in the year with some fungicide, such as Abol, to check the first approach of mildew. If this is done, it gives no trouble, at all events with me. Mrs. E. G. Hill is, I think, best in a cool, moist position in half shade; it has the advantage of fine foliage, nearly mildew-proof, and its loosely-arranged trusses require no disbudding. Very reliable, too, is Gustav Grünerwald, which has the advantage of a delightful perfume; the full flowers hang their heads, and, but for this, which seriously detracts from its value, it would be a first-rate garden Rose. Princess Marie Mertchersky has been specially good with me this August. At this time its flowers, thinner and smaller than those of June, have a particularly charming effect when arranged on the breakfast table. The petals have a curious translucent appearance, which enhances their soft and delicate colouring. Lady Ashtown has this year been in flower most of the month, but in many years there is a considerable gap between its first and second flowering, which often includes the early part of August.

In shades of blush I would take three Roses as reliable in August: Pharisaër, Mme. Léon Pain and La Tosca. The first two are special favourites in this garden, for the upright carriage of their flowers and the beautiful contrast between flower and foliage. I must make another group for Roses with a deeper shade of salmon than the last, and I will select two from this group, namely, Betty and Mrs. Alfred Tate. Both are with me first-class garden Roses, and, if Betty is the freer in bloom, Mrs. A. Tate has the merit of being less readily spoilt by wet, a consideration in an August such as this. Irish Elegance will appear some time during the month, but is not quite continuous. It is a charming Rose for a bed of tall Roses, and pays for being massed into a large bed. I think it the best of its class, and would place next to it Irish Glory.

Of the yellows I will take but two also: Mme. Ravary and Duchess of Wellington. Both are good bedding Roses. Mme. Ravary is the better flower and less easily spoilt by wet, but the Duchess keeps her colour better, and is, I think, even more free and continuously in flower. The attraction here lies chiefly in the half-open buds.

Of the Teas I must write more briefly, and, in fact, the number of really good garden Teas is few. Pre-eminent among them all is Molly Sharman Crawford. It blossoms continuously the season through, carries its flowers erect, and is, in my opinion, the best white bedding Rose at the present time. It may find a rival in Mrs. Foley Hobbs, but I have not yet grown this Rose in sufficient quantity to judge. Mme. Antoine Mari is also a good garden Tea, and may be relied on to flower during most of the month, so, too, will Mme. Henri Berger, and in a normal year Mme. Lambard and Mme. Jean Dupuis. This year, however, they came too soon, and I have had few flowers since the beginning of August.

Lady Hillingdon is quite worth growing for its brilliant colour, which contrasts charmingly with the brown or chocolate tint in the foliage. It seems to be fairly vigorous and of quite good enough a habit for the garden. The colour, unfortunately, varies, and when the deep apricot is absent the flowers look washed-out and uninteresting, but they are well carried on the plant.

I will conclude with the China Roses. Perhaps the two or three which we may count on with most certainty are Comtesse du Cayla (orange red), Queen Mab (pale apricot pink), and Charlotte Klemm (scarlet). I think Charlotte Klemm is more showy in the garden than Fabvier and both good garden Roses. A very brilliant-red China is Leuchtfeuer, but at present it is hardly so free flowering as Charlotte Klemm; it may, however, improve in this respect.

In this selection I have tried to confine myself to varieties that have proved in my garden generally to be counted upon to flower well for a considerable part of the month, and to be really of value for the adornment of the garden. There are many other good Roses which will often flower then, but I hope the Roses in my list will always be more or less trustworthy for the purpose I have in view. *White Rose.*

FRUIT REGISTER.

PLUM REINE CLAUDE COMTE ALTHAN.

To those about to plant Plums, I would recommend this choice Gage as one of the finest sorts for culture out-of-doors. I lately saw in a nursery bush trees not more than a yard high crowded with fruits. The plants were growing in the open nursery quarter. The flavour of the fruits was all that could be desired.

GRAPE PRINCE OF WALES.

I was glad to see how well Mr. Gibson staged this Grape at Shrewsbury; he evidently understands its requirements. I note he received more points for that variety than he did for its parent, Mrs. Pince. Prince of Wales was sent out by Messrs. J. Veitch & Son many years ago, and has taken a long time to come to the front as an exhibition variety, although its fine quality is undeniable. It should receive similar treatment to that which is given, under favourable conditions, to its parent, viz., a restricted rooting space in an inside border, whereby the roots are under full control in the matter of both

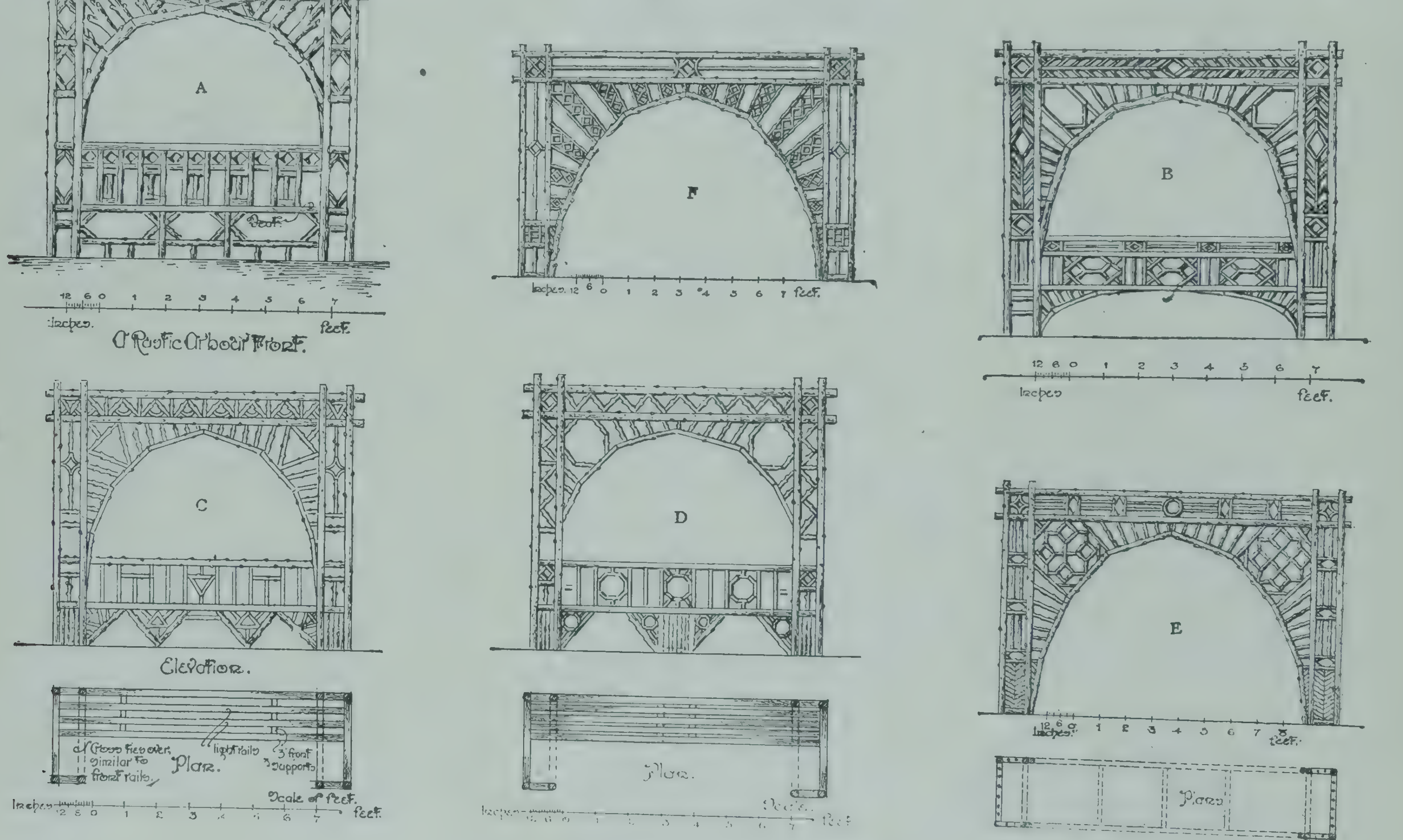

FIG. 86.—(A–F) DESIGNS FOR RUSTIC ARCHES.

RUSTIC ARCHES.

An ill-built and badly-placed arch or arbour is nothing but an eyesore in the garden; superfluous in summer and emphasising the inevitable forlornness of winter. When new and bare of vegetation, such a structure exposes its stark ugliness all the year round, and when climbers have at last succeeded in clothing it with gracious foliage and blossom, the ill-built arch decays and collapses. On the other hand, it is becoming recognised more and more that arches, arbours, screens, and pergolas may, if made well and employed judiciously, add very considerably to the amenities of the garden.

Even though such structures had not been used in gardens previously, the recent introduction of so many beautiful climbers from China and elsewhere would have forced the garden architect to evolve them for the support of these most desirable aliens. No one who seeks to introduce into the garden the effects of semi-tropical luxuriance and of autumnal colour can dispense with representatives of the newer species of Vitis and Clematis; for instance, Vitis armata, V. armata Veitchii, V. Cognetiæ, V. Thomsonii, the evergreen C. armandii, C. montana Wilsonii, which

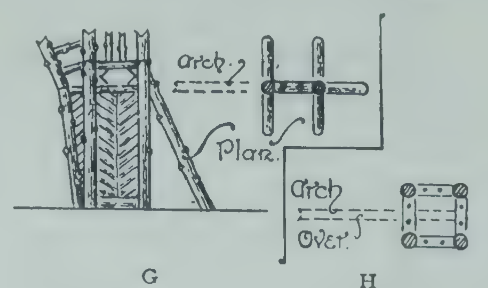

FIG. 87.—(G–H) DETAILS OF DESIGNS (IN FIG. 86 AND TEXT).

flowers in August, and all the array of coccinea hybrids.

lochias, Ivies of many kinds, Jasminums, Loniceras, Passifloras, the quick-growing Polygonum baldschuanicum, Wistarias, and, last, but not least, the Wichuraiana Roses, demand to be represented in the garden, and riot in the ample spaces of pergolas and arches. It is true that the most effective of garden structures are often those which are built on the most simple lines. Nevertheless, it must not be forgotten that arbours and arches and the like must be strongly constructed, and in contriving that they possess these two qualities of simplicity and strength, the designer has his opportunity to produce works of art. A simple, average style of rustic work is illustrated in fig. 86 (A), an examination of which will at once reveal the fact that the design suffers from the close monotony of the panels. If the latter were reduced in numbers and spaced out more, a better effect would be produced. Further improvement without oppressive elaborations could be brought about by the introduction of simple designs in the spandrel pieces and of a double rail at the top, thereby producing a frieze-like appearance. These additions are shown in the designs illustrated in fig. 86 (B-F), wherein the timbers are represented as being halved, pinned together, or notched on to one another and nailed. Seats for work of this kind should be made of fairly straight timbers, which should be dressed smooth, and not, as is so often the case, left rough.

Larger arches of designs similar to those illustrated in fig. 86 (B-F) serve as admirable boundary screens. The arches shown at E and F are double, as is illustrated by the plan in fig. 86 (E). Needless to say, the double arch is not only stronger, but has also a better appearance than the single structure. If the latter be used, it requires struts, as shown in fig. 87 (G). Or a good combination may be effected by making the arch itself in single work across the centre and providing the structure with square ends, as shown in fig. 87 (H). Thereby a better effect and

NOTICES OF BOOKS.

The New Gardening.*

One need not extend one's researches beyond last century to discover that gardening is subject to ever-changing fashion. The authoress of *The Florist's Manual* thought she had discovered in "The Mingled Flower Garden" the ultimate in garden design, her queer-shaped flower-beds being like nothing imaginable. Donald Beaton, in the same way, imagined that the style of bedding he did so much to extend could never be superseded. The carpet bedders, a few decades later, were happy in having reached perfection, and then came the struggle, renewed after a long armistice, between the natural stylists, who seem to have believed themselves inspired, and the severe formalists who to-day are triumphing over the suppression of endless curves and the re-introduction of straight lines. It need not therefore be remarked that "new" in gardening is a vague expression. There have always been men who work out ideas which the gardening public scramble to put into practice, the leaders meanwhile advancing, or not impossibly retrograding, but anyhow working apart from the vast majority. What was novel last year may therefore be thrown aside this, and both may embody principles and methods that were known and practised long ago. In this new book of Mr. W. P. Wright's, the reader will discover much that is old, 50 to 300 years old or more, and not a little that is novel. It is in the nature of things that it should be so, and no one need grumble that every plant that is named is not a recent introduction, nor every practice that is recorded should mark a new development. But if, in the strict sense of the word, he does not find everything brand new, the reader will at least have it presented in a new way, burnished and shining, after Mr. Wright's best manner, and his best manner, as his readers are aware, is very good. Mr. Wright has developed a picturesque style and, apart from the gardening notes, his books are always a pleasure to read. No other of his books is quite so fascinating as *The New Gardening.* It is more starred with epigram than any former production. He assures us that "Formalism is not dead," that "Humanity is a being of form," "Beautiful gardens come from beautiful plants." It is conventional to "talk flowers." "What is design but the harmonious arrangement of plants?" "The sum of achievement is invariably in inverse ratio to the amount of inefficient labour applied to it." "Gardening is living art." It is true that we may disagree with many of his propositions, e.g., that in large places nothing save grass and trees should be close to the windows, or that in border planting, every group must stand clear of the next and every plant in a group must show its individuality. The new border gardening insists, on the contrary, that there shall be no clear spaces, and no plant individuality in groups. There may be for the single plant, but not when the plants are employed in numbers. Exception might also be taken to the lists of novelties. The Carnation man, the flower gardener, the Alpinist, and the shrub grower will look in vain for the latest and the best achievements with his favourites; but those novelties which are recommended are, so far, good, and it is one of the impossibilities that one person can be up-to-date with everything.

The best chapters in Part I are those on Rose growing and Sweet Pea growing. In this part, besides many chapters on other phases of gardening—Alpine, Japanese, water, &c.—is one on the new gardener which is interesting, but in endeavouring to do justice to the new, the old gardener has been painted in colours that do him injustice. Of course, an individual is to you just what you think him to be, and it is the old gardener, as seen by Mr. Wright, that is presented to us in this chapter; but the writer cannot say that he ever met him. Part II is devoted to new fruit growing, cordon and quick-fruiting bushes being lavishly praised for their extraordinary cropping qualities. But the system was not new 50 years ago, and 250 years ago it was not unknown, and even with the better stocks now employed it has failed to hold its own in gardens where large supplies are demanded. In Part III, "French" gardening is rather severely handled; none too severely perhaps, because not a few have suffered from its too hasty adoption. Mr. Wright reckons it requires £1,000 per acre to equip a "French" garden, with three men to work it, but these figures are perhaps exaggerated. At the same time, the light in which the system as a commercial undertaking is presented can do nothing but good to those who with a little capital might be tempted to invest their all in a rash undertaking. The volume is profusely illustrated in half-tone reproductions of photographs of unequal merit, and six in colours which are not worthy the rest of the book, the get-up of which is otherwise deserving of all praise.

Dairy Farming for Smallholders.*

This book is full of interesting and practical information, and is written in plain, concise language, a feature which will appeal to the class of reader for whom it is intended. We are convinced that the less that is said with regard to bacteriology and the fewer the technical terms employed the more a work of this kind is approved by the practical man. Also, while the compounding of albuminoid ratios is instructive to the student it is exceedingly difficult, and in many cases impossible, for the smallholder to grasp its intricacies. The advisability of keeping milk records has been well impressed, and this is a subject which to our minds is of paramount importance to all cowkeepers, as there is unlimited evidence to prove that a cow yielding less than 500 gallons per year, when adequately fed, is unprofitable. The hygienic treatment of milk is another feature with which the book deals in able manner. The varieties of cheese referred to are somewhat numerous. Hard-pressed and blue-veined cheeses, such as Cheddar, Stilton, and Wensleydale, peculiar to certain districts, can undoubtedly be made with advantage by smallholders in those districts, but it is rarely that they are in a position to deal with a sufficiently large quantity of milk to warrant their engaging to any extent in this branch of dairy farming. We agree with the author with regard to his remarks on soft cheeses, such as Pont l'Evêque, Coulommiers, Cambridge, and Cream Cheese, all of which are easily made and prove highly remunerative. The book is of a type that should prove useful to gardeners who are responsible for the management of small private dairies.

TREES AND SHRUBS.

ARUNDINARIA ARISTATA.

The heavy rains experienced this season have suited Bamboos admirably, and plants of Arundinaria aristata have made exceptionally vigorous growth. The erect culms have grown to a height of 16 feet, which is probably a record growth for this plant. It is a distinct and handsome Bamboo, with purplish stems and tesselated leaves, and is perfectly hardy. In the North-eastern Himalayas, A. aristata is found growing at an altitude of 11,000 feet above sea-level. In common with the other species of Arundinaria, it resents drought, which necessitates planting it in a moist situation. This fine Arundinaria is deserving of extended cultivation. *J. Gardner, Batsford Park Gardens, Gloucestershire.*

COLONIAL NOTE.

THE GENUS FICUS ON THE GOLD COAST.

This genus is well represented on the Gold Coast, and there must be a considerable number of distinct species and varieties as yet undetermined. Ficus Vogelii seems to be the most common; it grows on many of the large forest trees, developing very quickly, and its roots soon strangle its host. Birds carry the seeds and drop them in the branches or crevices of large trees, where they quickly germinate under the very favourable tropical conditions. The genus includes F. elastica, the Indiarubber tree, which yields a rubber of only fair quality. All the trees in the genus yield latex, but it contains only a very small percentage of rubber, and the trees are very hard to tap. It is thus of little importance from a commercial point of view. Ficus carica, the Fig, does not appear to be distributed in this part of Africa.

"HORTICULTURAL EDUCATION."

I have read with interest the views expressed by Mr. W. H. Divers on this subject, in the issue for July 6, p. 7. Surely it is not essential for a lad to pass through a secondary school in order to qualify for training as a professional gardener. This is hardly a practical view to take, and it does not say much for the education obtained in the council schools, which have made considerable progress of recent years. I consider that a gardener's education begins, not always at school, but with a love for Nature. The horticulturist who combines scientific and practical experience gained from observation is the successful one. The experience may have been gained under varied conditions, but provided it begins on a practical basis and there is a desire for knowledge, things will work out all right. From my own experience in private gardens, I am aware that very few trouble to gain a knowledge of the scientific side of their profession. In our Colonies, agricultural and horticultural education is making rapid strides, even on the West Coast of Africa. *A. R. Gould, Curator, Agric. Dept., Coomassie, Gold Coast.*

PLANT NOTE.

MIMULUS ROSEUS.

Mimulus roseus (syn. M. Lewisii) is said to be a native of California, but I have found it to be quite hardy in Scotland, and have grown it in the open border for nearly 20 years. I obtained my plants from an old florist in the West of Scotland, and he informed me that this Mimulus was of garden origin. I am inclined to believe this statement, because I have raised seedlings from my stock of plants, and I find that they vary considerably from the parent, and one or two forms of M. luteus were present when the young plants flowered. No other Mimulus, other than M. roseus, was under cultivation when the seed was saved, so that cross-fertilisation was impossible. This fine Mimulus, be it hybrid or species, is at its best during August, and is a very attractive and beautiful plant in the flower border. It does not appear to be much grown, and it is evident that it is not known as well as it should be. The pale rose-coloured flowers, with their white throats, have a decided resemblance to Regal Pelargoniums, and the pyramidal habit of the plant is very pleasing and pretty. On a light soil, exposed to full sunshine, I have had plants 2 feet high, with the foliage almost completely hidden by flowers. Well-flowered specimens always compel attention, this Mimulus being distinct from any other. I find that a mulch of well-decayed manure applied in early summer is of great benefit to the plants, and they do not appear to need the same moist conditions as other kinds of Mimulus. A stock may be propagated easily from cuttings inserted now and made from shoots at the base of the old plants, and these are readily rooted in a cold frame. Under the name of Mimulus Lewisii I obtained a few plants last spring, as they were catalogued as synonymous with M. roseus. I was anxious to grow the two varieties together for trial in order to see if any difference exists between them, but both seem similar in every respect. *George M. Taylor, Mid-Lothian.*

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* *The New Gardening:* A Guide to the most Recent Developments in the Culture of Flowers, Fruits and Vegetables, by Walter P. Wright. (London: Grant, Richards, Ltd.) Price 6s.

* *Dairy Farming for Smallholders*, by James Long. Published by C. Arthur Pearson, Ltd. Price 2s. 6d.

THE EUGENIAS OF SOUTH AFRICA.

(Concluded from p. 180.)

9. E. ZEYHERI, Harvey, Genera of South African Plants, 416 (1838).

A shrub or small, umbrageous, evergreen tree, attaining to a height of 9 m., with a short trunk 36 cm. in diameter; bark thin, grey, longitudinally rent and exfoliating into thin scales, the second and third year's branchlets terete and striate, and the ultimate subquadrangulate, ashy-grey or chestnut-brown, dotted with blackish lenticels. Leaves opposite, very shortly petiolate, spreading (emitting a perceptible odour when rubbed), elliptic or narrowly elliptic (rarely obovate), obtuse or rounded at the apex, shortly attenuate at the base, 2 to 3½ cm. long, ¾ to 1½ cm. broad, at first minutely puberulous. ultimately glabrous, coriaceous, dark green and lustrous above with an impressed midrib, paler and dull green on the lower surface with the midrib prominent; lateral nerves approximately six pairs, coalescing into an intramarginal band most conspicuous above, more or less obsolete below; margins slightly thickened and recurved. Inflorescence axillary or terminal, short, 1 to 12 flowered with the shortly pedicelled white flowers cymosely or racemosely arranged; peduncle rarely exceeding 1 cm. Flowers staminate or perfect, white. Receptacle glabrous, subtended by a pair of appressed subulate bracteoles equalling it. Sepals short, rounded; petals spreading, four, or occasionally with accessory smaller ones, broadly ovate or oblong, obtuse, 6 to 7 nerved, 3.5 mm. long; stamens 13 to 20, as long as the petals, with oval anthers; style very short, conic, with a minute stigma. Fruit globose, crowned by the persistent calyx-lobes, 1 to 2 cm. long, scarcely fleshy, bright red or purplish; stone invariably solitary, large, globose, horny; kernel black, cotyledons unequal in size.

Sonder, in Harvey and Sonder *Fl. Cap.*, II, 522; Pappe *Silva Capensis*, 19; Sim in *Cape of Good Hope Agric. Jour.*, XVI, 1900, 41, and *Forest Flora Cape Col.*. 226, pl. lxxi, f. 1; *Forest Fl. Portuguese East Afr.*, 68, 1909. Memecylon Zeyheri, Harvey, l.c. 99

This handsome small tree, owing to its simulation (both in flowers and foliage) of the Myrtle, has been named, not inappropriately, the Wild Fambos or Wild Myrtle by the colonists, and to others it is known as the Black Tea Bush, but for what reason, is obscure. Sim records the Kaffir name as Isiduli-we-hlati.§ The flowers appear from December to May, and are followed by fruits not unlike a small Cherry, which are edible and have a slight acidulous flavour, but, owing to the largeness of the stone, they are not much in demand. The trunk and branchlets are often encrusted with Lichens, such as Usnea barbata, &c.

The species abounds in light forests along streams in the coastal regions of Cape Colony, extending from Uitenhage to Natal (Sim), and is also frequent in the Egossa forests in Pondoland, where it reaches an elevation of 1,200 m., but, being a poor wood-producer, is not included in the Conservation Act; its more precise geographical distribution is suggested by the specimens quoted, which are in the Kew Herbarium, Sim records it also for Portuguese East Africa, where it occurs sparingly along the coast from Maputa to M'Chopes, but the author may be alluding to a different species, as herbarium specimens do not suggest so northerly a distribution.

Coast Region.—Uitenhage Div., Forests near the Vanstadensberg River, Zeyher, 681. Drège, 5366a.|| Port Elizabeth Div., around Krakakamma, Burchell, 4558. Bathurst Div., near Barville Park, between Rietfontein and the source of the Kasuga River, Burchell, 4152. Near Barville Park, between Rietfontein and the seashore, Burchell, 4061. Albany Div., Albany, Zeyher, 681. In woods near Grahamstown, 600 m. MacOwan, 280.

Central Region.—Carnarvon Div., at Carnarvon, Schietfontein, Burchell, 1553. Somerset Div., Somerset, Bowker.

Of its wood Pappe (l.c.) states:—"Wood white, hard, heavy, fine-grained, somewhat resembling white Maple; fit for the manufacture of carpenter's tools, ploughs, axles, &c." Woodcutters claim that for spokes it is not excelled (Sim, l.c.). It takes a good polish and with age becomes a pale ochre-yellow. A block in the Kew Museum, presented by Governor Wodehouse, of a pale chocolate colour, may belong to a different species.

Burchell's specimens (Nos. 4,061 and 4,152), from Barville Park, must be taken with reserve, owing to the absence of flowers; of its fruit (No. 4,061) the collector says:—"Fructus drupa gratissima ab abstringens avide quasitur ab omnibus (Wilde Abrikoos)?" viz., Wild Apricot. The habit of these specimens of Burchell is eminently suggestive of E. albanensis, Sond.

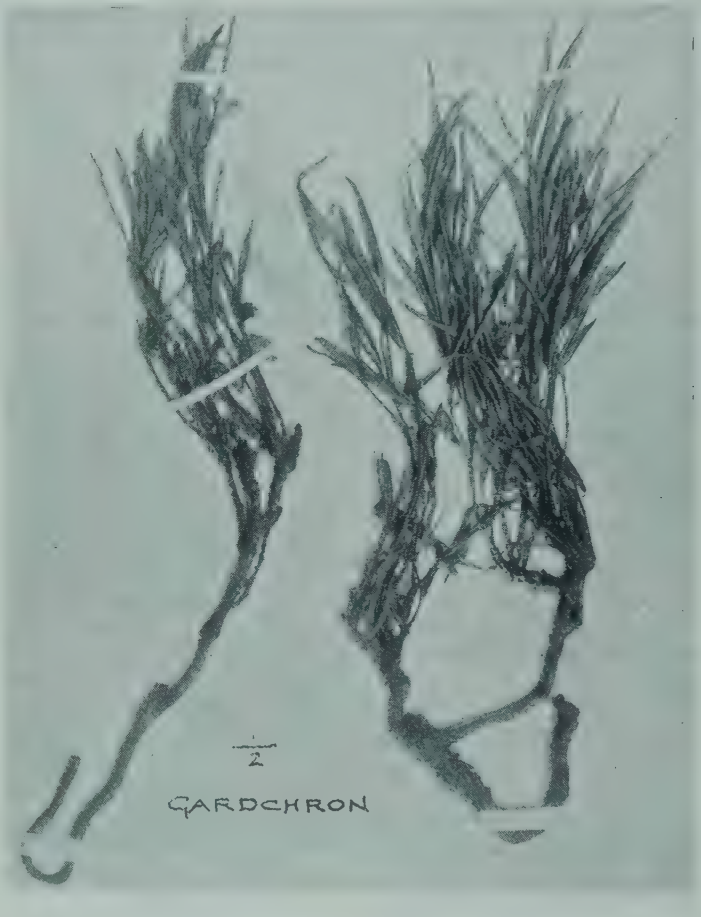

FIG. 88.—EUGENIA PUSILLA: BROWN.

VAR. ANGUSTIFOLIA, Dümmer, sp. nov., a typa foliis angustioribus recedit.

Eastern Region.—Bathurst Div., at Rietfontein and vicinity, between the Kasuga River and Port Alfred, Burchell, 3948.

Habit of the species: Leaves shortly petiolate, elliptic, lanceolate, averaging 2 cm. in length, ½ cm. broad, shiny above, with a recurved margin.

10. E. WOODII, Dümmer, species nova, E. zuluensi, Dümmer, peraffinis nisi foliis late ellipticis vel obovatis, superne costa impressa (haud elevata), gemmis calycibusque sericeis.

A shrub with opposite branchlets, the second and third years' terete, ashy-grey and eventually brownish; the ultimate slender, flattened and slightly angular, brownish and slightly serice towards their apices; buds appressedly pubescent. Leaves opposite (rarely in threes), spreading as long or longer than the internodes, subcoriaceous and entirely glabrous, elliptic to obovate, broadly and bluntly cuspidate (rarely rounded and emarginate), tapering from the middle to the base into a stout, short, grooved petiole; the blade 3.5 to 5 cm. long, 2 to 3.2 cm. broad, glaucescent green and lustrous above, the midrib sunken and correspondingly raised on the reverse side, which is a dull green and more prominently reticulated; margin slightly wavy and reflexed. Cymes or racemes solitary, axillary, or appearing on the older wood, two to six-flowered (rarely one-flowered), peduncles 5 to 10 mm. long, and with the receptacle covered with white appressed hairs. Flowers white, subsessile or shortly pedicellate, 5 to 7 mm. in diameter, invariably in pairs, subtended by two minute, lanceolate, acute bracteoles. Receptacle obconic, with whitish appressed hairs. Sepals unequal in size, half as long as the receptacle, thickish, broadly ovate and concave, rounded, ciliolate. Petals spreading, oblong, or broadly ovate, with a rounded apex, almost eglandular, ciliolate. Stamens usually 10, half as long or equalling the petals. Style stout, subulate, erect or slightly uncinate, 3 to 4 mm. long. Fruit not seen.

Natal and Zululand. Without precise locality, Gerrard, 1643. Natal. Between bushes near Durban, 15 m., Wood, 132.

This species approximates most closely to E. zuluensis, Dümmer, but is easily distinguished by the larger, broadly elliptic or obovate leaves, which have a sunken and not elevated midrib; the vegetative buds and receptacles of the flowers are, moreover, covered with whitish appressed hairs, which constitute an additional distinctive character. In its general facies the species is not unlike the Mascarene E. cotinifolia, Jacq., and was first detected by Gerrard, and subsequently on the sand dunes near Durban, in October, 1883, by Director Medley-Wood, in whose honour I have named the species.

11. E. PUSILLA, N. E. Brown, in *Kew Bulletin*, 1912.

A plant scarcely exceeding 16 cm. in height, with a profusion of annual, leafy, flowering shoots, which arise from a perennating twisted root-stock; shoots ascending, slender, terete, and glabrous below, flattened and inconspicuously serice above, brownish (fig. 88). Leaves opposite, subcoriaceous, light shiny green,

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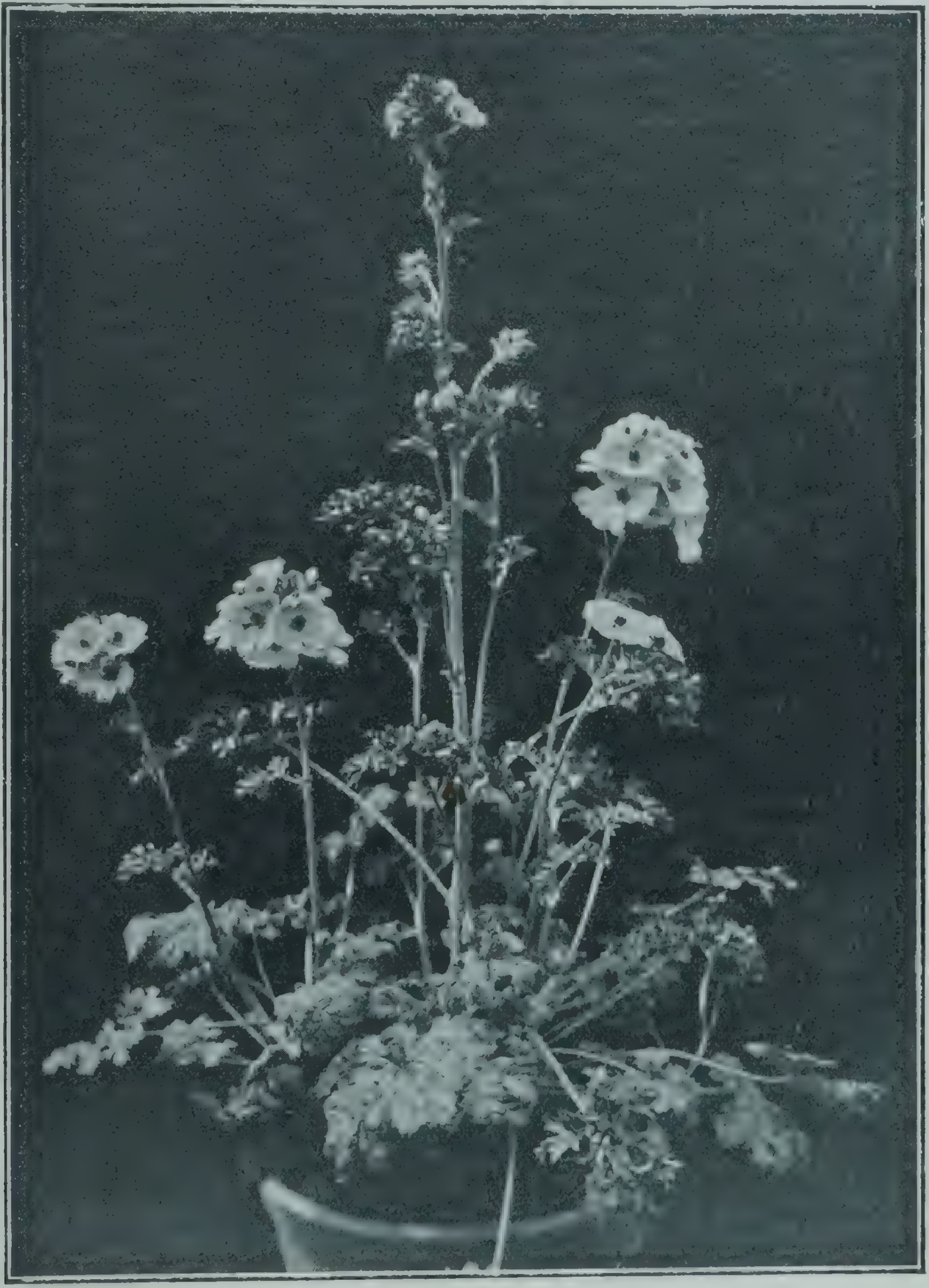
§ We-hlati usually signifies "forest form"; isiduli, "mountain form."

|| The locality of Drège's specimens (No. 5366a) is uncertain.

subsessile, ascending, twice or three times as long as the internodes, narrowly lanceolate to lanceolate, tapering at both ends with an obtuse apex, 2 to 3 cm. long, 2 to 3 cm. broad, glabrous at maturity and conspicuously gland-dotted on both surfaces, with the midrib sunken on the upper surface, and correspondingly raised on the lower, the margins strongly revolute. Flowers axillary, solitary, white, borne on slender, flattened, glabrous and warted pedicels, 5 to 10 mm. long; bracteoles two, opposite; filiform and recurved, at the base of the receptacle, and nearly equalling it in length. Receptacle abbreviate, appressedly puberulous. Calyx about 5 mm. in diameter; sepals spreading, broadly ovate and concave, acute, tuberculate and glabrescent, with ciliolate margins. Petals white, exceeding the sepals.



[Photograph by *J. A. James*.

Fig. 89.—MALVASTRUM CAMPANULATUM: FLOWERS PURPLISH-ROSE.

Kalahari Region.—Transvaal, Ermelo District, Amsterdam, Athole, M. O. Forbes ex. Col. Herbarium, Transvaal Department of Agriculture and at Kew, 6748.

Var. latior, Dümmer, var. nova, a typa foliis latioribus recedit.

Eastern Region.—Natal; without precise locality, Gerrard, 1645.

The photograph reproduced in fig. 88 conveys a good impression of the general facies of this species, which was discovered by Mr. M. O. Forbes, in December of the preceding year, on the farm "Athole," in the Transvaal, where it is known in the vernacular as Lomo: it is suspected of being concerned in the poisoning of sheep. The variety, which has not been rediscovered since the time of Gerrard, in Natal, differs only in the relatively broader leaves, viz., 4 to 5 mm. broad, and slightly larger flowers. A fungus is parasitic on the latter, which Mr. G. Massee identifies as Pestalozzia decolorata, Speg.

12. E. albanensis, Sonder, l.c. 522.

A plant resembling E. pusilla in habit; shoots ascending, simple or rarely branched, subwoody and slender, 10 to 18 cm. high, flattened and sparingly covered with appressed hairs above, terete, glabrous and chestnut-brown towards the base. Leaves opposite (rarely alternate or ternate), subsessile, imbricate, or occasionally equalling the internodes, coriaceous and glabrous, narrowly elliptic to elliptic (rarely obovate), broadly cuspidate with a blunt cusp; blade 2.5 to 3.3 cm. long, 1.3 to 1.7 cm. broad, olive or bluish lustrous green and smooth above, with a sunken midrib and obsolete lateral veins, dull and pale green on the lower side, with the costa and veins more prominent; margin slightly thickened and recurved (glands inconspicuous on older leaves). Peduncles solitary, axillary, flattened, 10 to 20 mm. long, one to three-flowered. Flowers white, often staminate, 10 to 15 mm. in diameter, the obconic puberulous receptacle subtended by two lanceolate acute bracteoles 2 to 4 mm. long. Sepals coriaceous, four to five, ovate, with involute margins. Petals spreading, oblong, or broadly ovate, nervate and eglandular, ciliolate above. Stamens 25 to 30, equalling the petals or exceeding them. Style often reduced to a slight protuberance. Fruit unknown.

Wood, l.c., 156.

Central Region.—Somerset Div., Somerset, Mrs. Bowker. Eastern Region.—Natal Div., Natal, Sanderson. Gerrard, 48. On the Umbilo River, Field's Hill, Sanderson, 923. Inanda, Wood, 1020, partly.

Medley-Wood remarks that this plant is common on hillsides and sandy flats in the coast and midland districts of Natal. It is figured in his *Illustrations of Natal Plants*, III, t. 205.

13. E. Gueinzii, Sonder in Harv. and Sond. *Fl. Cap* II, 523.

A glabrous plant, developing short, annual, flowering shoots from a woody, perennial base; shoots unbranched, about 20 cm. high, ascending, flattened above, terete below, dull brown and striate. Leaves opposite or ternate, coriaceous, subsessile, patently spreading, elliptic or broadly ovate, obtuse or rounded at the apex, rounded or subcordate and nearly clasping the base, 3.5 to 6 cm. long, 2.5 to 4 cm. broad, as long as the internodes or longer than them, bluish-green and lustrous on the upper surface, paler and dull green on the lower, and dotted with conspicuous glands, the midrib and veins slightly elevated on both sides; margin undulated and slightly recurved, but not thickened. Flowers white, solitary, geminate or ternate, 1 cm. in diameter, pedunculate, not perfectly axillary, but arising from just above the axil, the peduncles ascending, slender, compressed, 8 to 15 mm. long, bracteoles two, deltoid, minute. Receptacle obconic. Sepals four, concave, unequal in size, ovate, rounded, with ciliolate margins. Petals spreading, broadly ovate, like the sepals, dotted with large, dark glands. Stamens about 20 to 30, with terete filaments. Style scarcely exceeding the stamens, or occasionally aborted. Fruit unknown.

Wood in *Trans.* Phil. Soc., S. Africa, XVIII, ii, (1908), 157.

Natal. Port Natal, Gueinzius. Gerrard, 205. Inanda, Wood, 1020, partly.

A dwarf species with the peculiar habit, shared by several of its congeners, of developing annual flowering shoots from a woody rootstock, characterised by the shortly petiolate, broad, patently-spreading leaves, which are invariably rounded or subcordate at the base. Medley-Wood's No. 1020 is evidently a mixture, the Kew portion being E. albanensis, Sonder, the remaining, the species above, which is at the British Museum. *R. A. Dümmer.*

MALVASTRUM CAMPANULATUM, NICHOLSON.

This beautiful plant (see fig. 89) is but seldom seen in British gardens. A fine plant has thriven well for some years past under a south wall in Canon Ellacombe's garden at Bitton. It is also grown at Glasnevin, but I have not seen it elsewhere. The plant illustrated belonged to the late Mr. W. E. Gumbleton, and I purchased it last autumn when his plants were offered for sale. I believe it came to him from Glasnevin. M. campanulatum appears to be difficult to increase, for neither here nor at Bitton have I seen good seed formed, and every growth that appears above ground rapidly develops into a flower-stem and is useless for cuttings. Lindley states in the *Botanical Register* that it increases very little by the root, but produces seeds in dry seasons. He described it under the name of Malva purpurata, and in t. 1362 it is shown somewhat larger than the form I know, and also rather deeper in colour, the lilac being redder than in my plant. It is also figured in the *Botanical Magazine* in t. 3814, but the illustration, although quite true as to size, is too blue in colour.

A charming plant for a choice spot, it begins to flower in June and continues throwing up fresh flower-stems until stopped by autumn frosts. The flower-stems soon fall over and trail on the ground, forming a mass some 2 feet or more across. It was raised in the R.H.S. garden from seeds collected by Mr. McRae in the Cumbre, a pass in the Chilian Andes, in November, 1825. There is another figure of it in vol. ix, p. 173, of *Paxton's Magazine of Botany;* but here also the tint is too blue. *E. A. Bowles.*

The Week's Work.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Pot Fruit Trees.—The chief consideration in connection with this method of cultivating fruit is to grow the right varieties; the grower should aim at securing a few good varieties of each kind rather than too many sorts. Nectarines seem to do more satisfactorily than Peaches, and the yellow varieties are especially suitable for pot culture. Rivers' Early Orange, Darwin, Pineapple, and Humboldt are all excellent yellow sorts. Cardinal and Dryden, too, will be found suitable for the purpose; their fruits, especially those of the former variety, ripen much earlier than those of the yellow kinds. Of Peaches Duke of York, Royal George, Crimson Galande, Bellegarde, and Marchioness of Downshire are all reliable varieties. Plums will give great satisfaction if the best varieties are chosen, Brandy Gage, Early Transparent Gage, Jefferson, Kirke's Green Gage, and Coe's Golden Drop are all suitable for pot culture. Of Apples Lady Sudeley, James Grieve, Emperor Alexander, Cox's Orange Pippin, Ribston Pippin, Peasgood's Nonesuch, and Gascoyne's Scarlet Seedling are some of the most useful varieties to grow in pots. Pears, Williams' Bon Chrétien, Souvenir de Congrès, Triomphe de Vienne, Marguérite Marillat, and Doyenné du Comice may all be relied upon to give good results. If it is intended to purchase the trees from a nursery they should be procured at once. A good plan is to obtain a few maiden plants each year, as this enables the grower to maintain a good stock of trees without much expense. Most fruit trees growing in pots need to be repotted annually. Trees which have been grown in pots for several years may be potted in the same receptacles, reducing the ball of old soil to make room for a good quantity of fresh compost. The removal of the old soil is best done with a pointed stick, and requires care and patience. Younger trees may be afforded slightly larger pots, and their roots need not be disturbed quite so much as in the case of larger specimens, although they should be carefully "teased" out. Before commencing the potting procure a sufficient quantity of soil to repot the whole of the trees and place it under cover. For convenience of working, the soil should be on the dry rather than the wet side. For Peaches, Nectarines, and Plums the compost may consist chiefly of good fibrous loam, manure from an old spent Mushroom-bed, old lime-rubble, wood ashes, and crushed bones. A little artificial manure may be included if the loam is of poor quality. For Apples and Pears less lime rubble should be used. Pot firmly, and when the work is finished place the trees in a position where they will be sheltered from bright sunshine. Water must be applied to the roots with extra care for some time after the potting is finished.

Strawberries in Pots.—The plants should not be too much crowded together, or they will not be well ripened by the end of the autumn. Let the pots stand quite clear of each other, so that the sunshine and air can circulate freely about them. Remove all runners and side growths, and turn the pots occasionally to prevent the roots from growing through the drainage holes. During continuous spells of wet weather, the pots should be placed on their sides to prevent the soil from becoming too wet. The earliest-potted plants will now be sufficiently well rooted to need stimulants. This may be given in the form of weak liquid-manure and soot-water, the strength of which may be increased as growth proceeds. An occasional syringing with a mixture of soft soap and sulphur will keep the plants free from red spider and mildew.

Tomatos.—When the autumn-fruiting plants have set three or four trusses of fruits the leading growths should be stopped, and some of the stronger leaves removed. A rich top-dressing will be of great assistance in swelling up the fruits, and the plants should be given plenty of stimulants. Plants intended for winter-fruiting are large enough for placing in their fruiting pots or for planting out. The latter is much the better method for growing the latest batch of these plants. They set their fruits for a much longer period than when grown in pots, and in consequence give a far larger supply of Tomatos. The plants should not be allowed much soil at first, or they will grow too strong. It is better to leave space for occasional top-dressings as the crop develops. Strict attention must be given to the setting of the fruits. Fumigate the plants occasionally with a nicotine compound to keep them free from the white fly.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Lachenalia. — A quantity of these useful spring-flowering bulbs should be potted at once, using, for ordinary decorative purposes, 4½-inch pots. Where the plants are required for furnishing vases in the dwelling-house small pans may be used, according to the size of the vases to be filled. For hanging baskets, these plants are particularly suitable. There are many varieties under cultivation; tricolor, aurea, Delight, Cawston Gem, and Milsonii are the most useful; L. Milsonii is perhaps the most attractive of all. After potting, the plants should be placed in a cold frame and watered. They should not be covered with ashes, as is the practice with most bulbs. The lights may be placed over them during very wet weather. A cool treatment suits them best until the turn of the year; then, if they are wanted early, they may be moved to the intermediate house; but it is best, if possible, to leave them where they are. If the pots are well filled with roots, a little liquid manure should be given every time they require water—this, of course, does not occur often during the winter months. If this treatment is pursued, and the bulbs are of a fair size, they will produce strong flower-spikes, which will last for a considerable time.

Roses.—The cultivation of Roses under glass becomes more popular year by year. There are not many large establishments without at least one house which is devoted to the production of these flowers from Christmas onwards, and in many instances even earlier than this. Twenty years ago, Tea Roses were perhaps the most popular for pot culture, but the craze for long stems has, in many instances, caused them to be supplanted by the Hybrid Perpetuals and Hybrid Teas, which, being of stronger growth, furnish the class of flower which is desired. Certainly, such varieties as Captain Hayward, Mrs. John Laing, Frau Karl Druschki, Mrs. R. G. S. Crawford, Joseph Lowe, Mme. Abel Chatenay, Lady Hillingdon, Liberty, and Kaiserin Augusta Victoria all respond well to this system of cultivation, and, with proper care and attention after blooming, will continue to give good crops of blooms for many years. A friend of mine—a noted grower of pot Roses—informed me this spring that his best crop of flowers is produced when the plants are from six to nine years old; an age at which a great many cultivators are thinking of discarding their plants. In the present month, all pot Roses should be taken in hand and prepared for next season. It may not be absolutely necessary to repot them every year, but it is an advantage; and if the time can be spared it should certainly be done. A fairly binding compost of good rich loam, well-matured horse droppings, lime rubble, wood ashes, and a little bonemeal suits Roses well. It may be used for all kinds, whether Teas, Hybrid Teas, Hybrid Perpetuals, or climbing varieties. For producing cut blooms for ordinary purposes, such varieties as those enumerated above will do well in 9 or 10-inch pots; there is no great advantage in having larger ones, except in the case of very big plants. When repotting, a fair amount of the old soil should be carefully removed, to allow the plants to go back into the same size pot as before. The potting should be done firmly, and a fair amount of room should be allowed for water. During the later part of the season Roses require a good deal of moisture at the roots. The dwarf Polyantha Roses are much used for decorative work, but they should be kept in as small pots as possible; those having diameters of 6 or 8½ inches are the best receptacles. The size of the pot in which the climbers are to be grown must naturally be governed partly by the size of the plant, and partly by that of the vases in which they will be stood when in bloom. There is no advantage in having the pots too large, as Roses are plants which can be given a good deal of manure during their growing season. At the time of potting, if the work has not been done already, the climbers should be pruned, leaving only those shoots which are required for blooming. These should be re-staked and tied. After potting, it is well to plunge the pots up to the rims in ashes, allowing plenty of room between each plant to admit the light and air. The plunging induces increased root action, and the plants soon recover from the disturbance at the roots. They require very little water when once the soil has been thoroughly soaked; in fact, as the autumn advances, it is wise to cover the pots with straw or some such material to ward off the rains. As advised some time ago, every effort must be made to keep down mildew, as, if it is avoided now, there is little likelihood of its appearance in the spring. Plants of the variety Maréchal Niel, which have been cut back after flowering, should now be making good growth, and every inducement to development must be given, until the space allotted to them is covered. When this is accomplished, more air must be admitted in the house so as to thoroughly ripen the wood. This is quite essential if a good crop of bloom is wanted in the spring.

Housing Plants.—The cold, wet weather of the past month has been very detrimental to many plants which are usually left out-of-doors till the middle or end of September. If wet weather continues, such plants as Carnations, Zonal Pelargoniums, and Salvias will be better for being placed immediately under cover.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Masdevallia.—September is the most suitable month for repotting or resurfacing the majority of Masdevallias, as the roots are more active during September and October than at any other season. In addition the weather conditions are cool and moist, favouring a quick re-establishment of the plants. New leaves are developing and young roots will soon be produced; the latter will quickly grow into the new compost and establish themselves firmly before the winter arrives. Healthy specimens that have sufficient room in their receptacles for another season's growth will, provided the compost is in a good condition, not require repotting. This will be an advantage if well-flowered specimens are required, as the plants seldom flower well the first season after they are potted. Where the soil has become sour it should be picked carefully from between the roots down to the drainage materials and substituted with fresh, taking care not to disturb the roots more than is unavoidable. Large plants which have lost a number of their leaves, and have in consequence become bare in their centres, may be divided, and the dead portions having been cut away, they may either be potted for increase of stock or made up into specimens again. Masdevallias of the stronger growing kinds are vigorous-rooting plants, and require plenty of rooting space; they are best grown in pots or deep pans. M. Veitchiana, M. ignea, M. Lindenii, M. coriacea, M. macrura, M. elephanticeps, M. torta, M. Gargantua, M. Mooreana, and the numerous varieties of the Harryana type are plants of this class. Others that have not such a vigorous habit, such as M. Courtauldiana, M. chelsonii, and M. stella, should not be allowed too much rooting space. All those I have mentioned may be grown on the stage, and near to the roof-glass. The dwarf-growing kinds, such as M. Arminii, M. Shuttleworthii, M. Estradæ, M. picturata, M. muscosa, M. melanopus, M. Wageneriana, and M. O'Brieniana, should be placed in shallow pans, and suspended close to the roof. M. platyglossa, M. leontoglossa, and those of the Chimæra section that develop their inflorescences in a downward direction should be grown in teak-wood baskets. A suitable compost for Masdevallias consists of half-decayed Oak leaves rubbed through a ½-inch sieve, Osmunda fibre, A1 fibre cut up rather roughly, and Sphagnum-moss in equal proportions, with a quantity of crushed crocks and coarse silver sand, incorporated well with the other materials. In repotting, fill the pots to within half their depth with clean crocks to ensure efficient drainage; place a thin layer of Sphagnum-moss over the crocks. Keep the base of the plants level with the top of the pot, and carefully work the compost among the roots, pressing it moderately firm but not so hard as to prevent the water from passing through freely. Fill the pot to within half an inch of the rim, and finish with a layer of peat and Sphagnum-moss cut into short portions. During the first few weeks after potting afford water very sparingly, sprinkling it around the edges of the pot. As the plants become re-established the amount of moisture should be gradually increased. During the late autumn and winter the plants should not be watered until the soil has become quite dry, for if the plants are in a saturated condition at those seasons the leaves will become spotted and unsightly. Newly-potted plants should be shaded from the bright sunshine and grown in a moderately moist atmosphere, damping the house two or three times daily according to the weather. If a special house is not available for these plants, they may be placed in the warmest and shadiest part of the Odontoglossum house. The white-flowered M. tovarensis, the yellow-flowered M. Davisii, and those of the Chimæra section are best repotted in February, and may be kept rather warmer during the winter months than the others.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Peaches and Nectarines.—The fruits of the earliest varieties of Peaches growing on south walls, such as Alexander and Amsden June, having been gathered, the trees should, if necessary, be syringed with an insecticide. This will clear them of red spider and other insect pests. Additional free syringings with clear water each afternoon when the later varieties are sprayed, will be of much benefit. The fruits of both Peaches and Nectarines are of good average size this season and of splendid colour; Nectarines, especially, are clean of skin and finer than usual, especially those that have had the leaves partially removed or turned aside to expose the fruit to the sunlight. Late varieties are carrying good crops, and the fruits will be exceptionally useful this season, owing to a scarcity of good dessert Apples. Such varieties as Walburton Admirable should be afforded every attention to obtain the best results. All breastwood should be removed to let in the sunlight and expose the fruits as much as possible. Leading shoots with fruits that are swelling may be shortened if they are not required for extension; this will increase the size of the fruits and let in more light to the remaining growths. Both Nectarines and Peaches should be gathered early in the day, a little time before they are ripe. They should be handled with the greatest care and placed on an airy shelf in the fruit room until they are ready for consumption. When a Peach becomes dead ripe, it is past its best condition, and this applies also to Nectarines. Guard against woodlice, earwigs, and other insect pests, as they soon spoil many of the best fruits.

Figs.—Many of these trees have cast nearly all their fruits and are, in consequence, making too many gross shoots. To counteract this the spade should be inserted deeply in the soil at some little distance from the stem, to sever some of the stronger-growing roots, and fresh soil of a calcareous nature applied. Lime rubble or brick rubbish mixed freely with the soil is very beneficial to Fig trees. The harder this is rammed into the trench the better will be the results, provided the soil is in a good condition at the time of carrying out the work. Mulches of animal manure should be cleared away. Suckers and weak, useless shoots should be removed to prevent overcrowding. Young Fig trees must not be planted in rich soil nor be given stimulants to excess, as this would cause them to form gross and unfruitful wood. The grower should aim at securing short-jointed shoots that will ripen well, and thus be capable of withstanding severe winters.

Strawberries.—Strawberries may still be planted, but unless the runners are extra strong and the soil dry and in a good condition generally, the plants must not be expected to produce much fruit next season. By planting early the roots have a much better chance of becoming well established, and the crowns ripen before winter arrives. If delay in planting is unavoidable, the runners should be planted in nursery beds where they will be fully exposed to sunlight and air. Allow about 6 inches between the plants and 9 inches between the rows. Permanent beds may be made from these plants the following spring.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Potatos.—The main crop of Potatos is somewhat late in maturing, compared with that of last season, and I hear reports of disease in various districts. As soon as the haulm has ripened, it should be cut off and removed at once to the garden fire to prevent disease, should it be present, from spreading to the tubers. Do not hesitate to lift the tubers as soon as they are fully matured, choosing fine weather, if possible, for the work. If tubers are required for exhibition purposes at a later date, they should be selected now. They should not be exposed to the air a minute longer than is absolutely necessary, but stored at once in fine soil in a cool, dark place until required. They should then be washed, and will be found equal to newly dug tubers. Where large quantities have to be stored, the best method is to pit or clamp them, and in such a season as the present, it is a good plan to scatter a little freshly-slaked lime between them as the work proceeds. The small tubers, and those required for seed, should be stored in a cool but frost-proof shed and laid as thinly as is convenient. The value of a change of seed, and especially Irish or Scotch grown, is most apparent this season; reports show that where new seed was planted the disease is much less prevalent. This was also the case where the tubers were sprouted before planting; it is well worth the little extra trouble to sprout the sets before they are planted.

Cauliflowers.—The sowing of Cauliflowers during September, and wintering the plants in cold frames are not nearly so much practised now as formerly, owing to the numbers of new varieties that may be raised in heat during the early spring and quickly forced. But the results from autumn-sown plants are infinitely better than from those raised in the spring. For this reason I make two sowings, one about September 1 and another towards the middle of that month in a cold frame. Both sowings should be made thinly in shallow drills and in poor soil. As soon as the seedlings are large enough, they should be transplanted in cold frames; they should not be set deeply, but should be planted in sufficient soil of not too rich a nature. The chief aim is to procure sturdy plants; therefore, whenever possible, the fullest amount of air should be given, even in the winter. We grow the varieties Walcheren and Duancourt. The last-named is of exceptional merit. The weather has suited Cauliflowers, and we have cut curds, which are first-rate in every respect. Examine the plants frequently, and bend the foliage over the flowers. Those not required for immediate consumption should be pulled up by the roots and placed in a cool shed before they get too old; they will keep fresh for a week or two.

Capsicums and Chilies.—Plants that have been grown in cold frames should, ere long, be removed to a warm house. This will be especially necessary in cold districts, so that the fruit may continue to swell and ripen freely. They should receive plenty of stimulants, and if there is any trace of aphis on them the plants should be lightly fumigated with a nicotine compound. Keep the plants as near to the roof glass as possible, and admit air freely on warm days.

Mushrooms.—Continue to collect and prepare the materials for fresh beds, which should be made as soon as sufficient manure and leaves are procured. These beds will furnish a supply of Mushrooms during the late autumn and winter months. The Mushroom house should be requisitioned for this crop, as artificial heat may be necessary, though the greatest caution should be exercised in turning on the hot-water valves, for the less fire heat that is used at any season the better. The materials, after the longest of the straw has been removed, and the rank gases allowed to escape by turning the bed as often as necessary, should be placed very firmly together by treading or ramming, and the beds formed not less than 2 feet in thickness. Insert a thermometer, and when the heat begins to decline spawning may be done. Break the cakes of spawn into pieces about as large as a hen's egg, and insert them 3 or 4 inches deep and about 9 inches apart over the bed. A day or two afterwards soil should be spread over the beds, using fine loam to the depth of about 2 inches. The soil should be well beaten down. Cover the surface with clean straw to prevent evaporation of moisture; if this is done water will not be required until the beds come into bearing. As soon as signs of Mushrooms appear, remove the mulching of straw. In gathering the Mushrooms, do not cut them with a knife, but twist them out of the ground and cut the ends of the stalks afterwards. Endeavour to maintain an even temperature of from 55° to 60°. Trap or search for slugs, woodlice, and other pests at night-time. Beds may also be constructed in the open at this season, and even in the winter plentiful crops may be cut from beds out-of-doors, provided a suitable covering be afforded them. Good results may be obtained by the free use of freshly-fallen leaves, preferably of Oak or Beech. The directions for spawning are much the same as for indoor beds. Make the beds ridge-shaped, with the base slightly above the level of the soil; 5 to 6 feet will be found a convenient width. Make the materials very firm as the work proceeds, gradually narrowing the heap towards the top. Good spawn is essential for early cropping and productiveness. Sutton's Twentieth Century spawn is to be highly recommended.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Standard Fuchsias.—Standard flowering plants are very popular for both indoor or outdoor decoration, and few subjects are so well adapted for this style of training as Fuchsias. These plants are employed largely for furnishing beds and borders. They are very effective in large beds as dot plants, with suitable dwarf plants underneath, and a groundwork of Violas of the lighter shades. Those who intend to employ Fuchsias for this purpose next season should lose no time in inserting the cuttings. Strong, healthy shoots should be dibbled in 60 pots, filled with a light, sandy soil. The cuttings should be placed in a propagating house, and rooted in a little bottom heat. Roots will develop quickly, and a few days after the cuttings have been taken from the propagating frame, they may be potted singly in a suitable compost. Place the plants in a light position near to the roof-glass. Select the stronger plants for training as standards, and do not stop the leading shoots until they have grown to a sufficient height. They should then be pinched, and the resulting shoots pinched again as soon as they are sufficiently advanced. Keep the plants growing in a warm, light house all through the winter, without a check. The temperature of the house should be maintained at 60°. Plants once trained may be retained for years, lifted from the beds each autumn and repotted. During the winter they should be stored in a cool and moderately dry house. A fruit-house with the trees at rest is a very suitable place in which to winter them.

Hardy Fuchsias.—The wet season has suited these plants, and they are now a mass of bloom. The flowers are not damaged by heavy rains. Greater use might be made of hardy Fuchsias, as they grow well in almost any soil, and under all sorts of conditions. Young specimens planted in good soil make rapid progress, and when once established, are best left undisturbed. A quantity of well-rotted manure and leaf-mould should be forked in the soil amongst the roots during the winter or early spring. The variety M. Corneillson is very attractive, the scarlet and white flowers being produced in great profusion. Other good varieties are Riccartonii, coccinea, sanguinea microphylla, and Thompsonii. These plants are suitable for the mixed border, and the front of shrubberies; they may also be planted in clumps in woodland walks. The plants may be increased by division, by root cuttings, and by cuttings. Division is not the quickest method of securing large plants.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, SEPTEMBER 9—
Nat. Chrys. Soc. Floral Com. meet. United Hort. Benefit and Prov. Soc. Com. meet.

TUESDAY, SEPTEMBER 10—Royal Hort. Soc. Coms. meet. (Lecture by Miss Troyte-Bullock on "Cape Pelargoniums.")

WEDNESDAY, SEPTEMBER 11—
Royal Caledonian Hort Soc. Autumn Sh. (2 days).

THURSDAY, SEPTEMBER 12—
Nat. Rose Soc. Sh. at R.H.S. Hall, Westminster.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—58·2.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, September 4* (6 P.M.): Max. 68°; Min. 56°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, September 5* (10 A.M.): Bar. 29·9°; Temp. 59°; *Weather*—Fine.
PROVINCES.—*Wednesday, September 4:* Max. 61° Lincoln; Min. 52° Scotland N.

SALES FOR THE ENSUING WEEK.

MONDAY—
Twenty-seventh Annual Sale of Pot Plants, at the Nurseries, Chingford. By order of Messrs. H. B. May & Sons, by Protheroe & Morris, at 11.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY AND WEDNESDAY—
Bay Trees and Palms, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 3.

MONDAY, WEDNESDAY AND THURSDAY—
Dutch Bulbs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

TUESDAY—
Trade Sale of Winter-blooming Heaths, at the Burnt Ash Road Nurseries, Lee, Kent. By order of Messrs. B. Maller & Sons, by Protheroe & Morris, at 11.

WEDNESDAY—
Trade Sale of Dutch, French and other Bulbs at 1; Palms and Plants at 4; at 67 and 68, Cheapside, E.C., by Protheroe & Morris.

WEDNESDAY AND THURSDAY—
Sale of Winter-flowering and other Plants, at the Nurseries, South Woodford, by order of Mr. John Fraser, by Protheroe & Morris, at 11.

THURSDAY—
Thirty-first Annual Trade Sale of Winter-blooming Heaths and Ferns, at Longlands Nursery, Sidcup. By order of Messrs. H. Evans & Sons, by Protheroe & Morris, at 11.

FRIDAY—
Imported and Established Orchids in variety, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

The Book of the Links.[*]

History is silent as to the circumstances which led a distinguished politician of a bygone day to utter the ill-natured epigram, "Life would be very tolerable if it were not for its amusements." Nevertheless, it is not difficult to imagine the kind of conditions which might provoke a man of caustic wit to give vent to the outburst. An indifferent caddie, several lost balls, an August such as that of 1912, and a course of golf conversation in the club smoking room—none of these misfortunes might justify the cynicism. But if after escape from this sea of trouble he sought to while away an hour before the train by dipping into the volumes on the game of golf which lie on the tables of every well-equipped club-house, then might this golfing Job at last lose patience and condemn even life's amusements. For there is a curious dreariness of repetition in the literature of games in general and of golf in particular. To the enthusiast, indeed, this repetition is an essential charm of games; for is not a game itself a constant repetition, and do we not in playing games resume our childhood and revel in repetition, like children who clamour for an oft-told tale to be repeated yet once more? Wherefore, though to write a book on golf for the enthusiast would appear to be easy, to produce one which will appeal not only to golfers, enthusiastic and normal, but also to those who never touch a club, would seem at first sight impossible. This all but impossible task Mr. Martin H. F. Sutton has accomplished with brilliant success in his substantial and well-illustrated volume entitled *The Book of the Links*. It was a happy inspiration which led Mr. Sutton to conceive the idea of inviting a number of prominent experts in the various aspects of golf and golf links to join with him in this symposium on golf. The result is no less happy than the inspiration, and we predict with confidence that *The Book of the Links* will provide a wide circle of readers with both pleasure and instruction. The enthusiast will delight in such chapters as that contributed by Mr. Bernard Darwin on what may be called the august trivialities of the game. The normal golfer, the man in charge of the links, and those who take delight in the perfection of green swards, will find most pleasure in the articles which deal with the horticultural aspect of golf links. The authors of these latter chapters are to be congratulated no less than the editor on the excellence of their several contributions. Among these authors are A. D. Hall, F.R.S., who writes on the manuring of golf greens and courses; H. S. Colt, who contributes two chapters on the construction of new courses and on golf architecture; W. Kirkpatrick, who supplies a valuable essay on green keeping; an anonymous writer, the style of whose article on "The Vegetation of Golf Links" enables us to make a shrewd guess of the identity concealed by the signature "Golfing Botanist;" and M. H. F. Sutton, whose chapters on grasses and grass seeds and on the formation and maintenance of putting greens, &c., are among the most valuable of all. As we have said, each of these articles is excellent, and we could have wished to be able to notice them all. Lack of space, however, prevents us from doing more than making a passing mention of the striking bird's-eye view presented by "Golfing Botanist" in his description of the vegetation of golf links. Nor can we give the attention they deserve to the excellent chapters written by Mr. Colt on what may be described as the landscape gardening of links. Nevertheless, we are constrained to express our delight in learning that the stupid and ugly formality which used to be the ideal aimed at by so many golf architects is becoming a thing of the past. The primness of the pot bunker is giving place to the picturesqueness of the grass hazard, and the links of the future, thanks largely to Mr. Colt's influence, will look less like remains of Roman encampments and more like untouched landscape. Of the articles which demand fuller notice, that by Mr. Hall is altogether remarkable. None but a master, both of his subject and of expression, could have compressed within the narrow limits of the space allotted to him a luminous essay on the philosophy of manuring, together with a precise and thoroughly practical description of the uses of artificial manure on grass land.

Mr. Sutton's account of grasses and grass seeds is well and simply written, and contains a large amount of valuable information. Both the layman—whose knowledge of grasses is equal with that of Mr. Colt's fellow committee man, who thought that grasses are of two kinds, Rye grass and other grass—and also the experienced gardener will derive profit from a careful study of this article. The brief descriptions of the species employed in mixtures show how remarkably the various grasses differ from one another, and demonstrate that it is only by taking advantage of these differences that the putting greens and fairways of golf courses may be clothed with suitable herbage. One grass differs from another in habit and habitat, in rate of growth and time of flowering, in depth of root and extent of spreading, in resistance to drought and in toleration of shade and moisture, and in a hundred other ways. Moreover, each species of grass has a certain waywardness, and refuses, except in certain conditions and on certain soils, to behave in a perfect and normal manner. Even the perennial Rye grass refuses on certain soils to justify its name, and dies down every year or two. In other soils it grows so coarsely as to draw down upon it the scorn of golfers, and where it takes on this habit, though it may serve as a covering grass to give protection to the finer and more slow growing grasses, it must be allowed no place on the putting green. Facts, many and precious to green keepers and lawn makers, are to be found in these pages, and in taking leave of them we congratulate Mr. Martin Sutton on the admirable manner in which the third generation of that name has sustained the reputation of the first as an authority on the difficult subject of grasses. Mr. Kirkpatrick's essay, to which reference has been made, shows that the writer has profited by his long experience as green keeper at Rye. The essay is written with a simplicity and directness which will appeal to all practical men. It may even produce a beneficial effect on that bugbear of green keepers, the over-sure secretary or member of green committee who is prepared out of the inexhaustible fund of his inspired omniscience and in his leisure moments to advise the green keeper how to do his work. No better antidote could be found for this sort of poisonous self-confidence than Mr. Kirkpatrick's essay, and were it not that we are sure that he is far too tactful to adopt the suggestion, we would recommend him to prefix his essay with Oliver Cromwell's famous rebuke to the over-confident—"I beseech you . . . to think that you may sometimes be mistaken."

The scheme of a symposium adopted by Mr. Sutton is adapted admirably for the purpose of *The Book of the Links*. What is generally a defect of this method—a certain amount of repetition and overlapping—is in the present instance by no means a defect but rather an advantage, for it is well to hear the opinion of several authorities on the vexed and difficult problems connected with the establishment of proper grasses on the fairways, tees, and putting greens of links.

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[*] *The Book of the Links.* A Symposium on Golf, edited by Martin H. F. Sutton, F.L.S. (W. H. Smith & Son, Fetter Lane.) 10s. 6d. net.

SUPPLEMENTARY ILLUSTRATION.—Amongst the numerous kinds of aquatic plants in the Water-Lily house at Kew Gardens the most conspicuous is Typhonodorum Lindleyanum, which belongs to the natural order Aroideæ. The plants which are shown in the Supplementary Illustration are growing in a large bed of rich loam and cow manure beneath the water, and are only 2½ years old, having been raised from seed produced by a plant obtained from the Botanical Gardens, Dahlem, in 1905. The plant on the left-hand side flowered when two years old, by which time it was 10 feet high to the tips of the centre leaves, which at first are almost erect. From a distance it greatly resembles Musa Cavendishii. The large, stout, stem-like structure which supports the leaves is formed of the sheathing leaf bases, exactly the same as in the Banana. The stem proper is only 6 inches or a foot high, and conical in shape. The leaf blades are from 3 to 4 feet long, and nearly 2 feet broad. They are broadly ovate, acute, with a sagittate base. The upper surface of the leaf is of a rich, dark-green colour, and there are prominent veins on the underside, which is dull green. The margins are wavy. The petiole is stout, terete in the upper part, the long sheath being carried up to within a few inches of the leaf base. The false stem formed by the sheathing leaf stalks is about 10 inches in diameter, the upper part green, striped with dull violet, and the lower part is covered with the brown remains of the older leaves. The peduncle is a foot or 15 inches long, stout, terete and green. The spathe is 18 to 24 inches long, erect, lanceolate, arching at the tip, and of primrose-yellow colour. The lower part is saccate; the upper part reflexed. The spadix is slightly shorter than the spathe, erect, the upper sterile portion being bright orange-yellow, and some 8 or 9 inches long. The basal portion of the spadix consists, for some 2 or 3 inches, of female flowers, and then follows an inch or so of neuter flowers, and above this are the male blossoms. After fertilisation the peduncle becomes pendulous, and the upper part of the spathe falls away, but the lower saccate portion surrounding the female flowers persists, closes tightly around the developing seeds, and becomes filled with mucilage. The seeds are closely packed together, broadly ovate in outline, and 1 to 2 inches long when mature. They possess the unusual character of germinating on the plant, a large amount of the endosperm being used up in the formation of a roundish mass of tissue long before germination takes place. This tissue disappears at quite an early stage in the development of the young plant. The genus is monotypic, the solitary species growing in swamps and other wet places in Madagascar. Under cultivation the plant grows luxuriantly, when planted a few inches deep in water, and kept at a temperature of 70° F. When bearing three or four of its large primrose-yellow spathes it is a very interesting plant. The species is well figured in the *Botanical Magazine*, tab. 8307, but in the accompanying description it is incorrectly described as a shrub!

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society will take place on Tuesday, the 10th inst. At 3 o'clock a lecture on Cape Pelargoniums will be delivered by Miss TROYTE BULLOCK.

AMERICAN EMBARGO ON POTATOS.—Mr. WILSON, U.S.A. Secretary for Agriculture, has announced his intention to prohibit, from September 16, the importation of Potatos from Newfoundland, St. Pierre and Miquelon, England, Scotland and Ireland, Germany and Australia, on account of the wart disease.

NATIONAL VEGETABLE SOCIETY'S SHOW.—The annual exhibition of the National Vegetable Society will be held in the Clarendon Hall, Watford, on Wednesday, October 2. Prizes of the value of nearly £200 are offered in the various classes. Entries close on the 23rd inst. Copies of the schedule and full particulars concerning the show may be obtained from the hon. secretary, Mr. E. G. QUICK, Kelmscott, Lockett Road, Wealdstone, Middlesex.

AUTUMN ROSE SHOW.—The National Rose Society's autumn exhibition will be held in the Royal Horticultural Hall, Vincent Square, Westminster, on Thursday, September 12. There is promise of a magnificent display of autumn-flowering Roses, which are by far the best and most satisfactory Roses to grow, and those that have made the greatest advances in recent years. Full particulars may be obtained from the hon. secretary, Mr. EDWARD MAWLEY, Rosebank, Berkhamsted, Hertfordshire.

FLOWERS IN SEASON.—A number of hardy Heaths have been sent us by Dr. MACWATT, Morelands, Duns, including Erica cinerea and its variety alba, E. ciliaris, E. vagaris and Calluna vulgaris in many varieties. In a note which accompanied the flowers, Dr. MACWATT refers to the value of hardy Heaths for the border, "seeing they are so easily grown in any good garden soil, and may be had in flower practically throughout the year." The box also contained a fruit of Podophyllum Emodii and flowers of the double Primrose. A new dwarf decorative Dahlia named "Marianne" has been sent us by Messrs. DOBBIE & Co., who state that it is not only a new variety but it represents a new and in every respect a desirable type. The plants are from 18 to 20 inches in diameter and about 2 feet tall to the top of the flowers. The blossoms are rather loosely formed, of the decorative type, about 4 inches in diameter, and of a distinct buff-orange colour. In any stage, when quite young or full grown, they are charming as cut flowers. They are produced on wiry stems of good length, and are carried quite upright. With a range of bright colours in this new type, we venture to predict a greatly-increased interest in Dahlias.

THE FOOD OF THE BULLFINCH.—That the increasing numbers of Bullfinches are a serious nuisance to fruit growers, few will be inclined to doubt; nevertheless, in these days of law and order, no individual may be condemned unless the evidence is overwhelmingly conclusive. Hence Mr. WALTER E. COLLINGE has undertaken to collect the necessary evidence, with the result that out of the bird's own mouth—or stomach—it is judged and found guilty. The précis of the evidence is published by Mr. COLLINGE in the *Journal of Economic Biology* (June, 1912). It is based on an examination of the contents of the stomachs of 484 birds, and demonstrates that during 5 months of the year the Bullfinch feeds largely on fruit-buds and young fruits. Nor does there appear to be much to be said in favour of the defendant. It is true that the Bullfinch devours the seeds of certain weeds, but even this Mr. COLLINGE will not allow to count as a mitigatory fact, for the bird helps materially to spread the weeds. Finally, and worst in the catalogue of the Bullfinch's misdemeanours is the notorious fact that this bad bird glories in his destructive naughtiness. He not only devours the buds of Plums, Currants, Gooseberries, &c., but wantonly tears off more fruit-buds than he can eat. The indictment appears to be complete, and we fear that, notwithstanding his charming appearance, measures must be taken to reduce the numbers of this aggressive bird.

MR. FORREST'S CHINESE PLANTS.—Notes from the Royal Botanic Garden, Edinburgh, for July, 1912, contain the numerical catalogue of all the plants collected by Mr. G. FORREST during his first exploration of Yunnan and Eastern Tibet in the years 1904, 1905, and 1906. The catalogue is the result of the labour of Professor DIELS, of Marburg, who has undertaken the task of naming Mr. FORREST's plants and of describing new species. The catalogue contains 1120 numbers.

THE UBIQUITOUS APHIS.—Mr. F. V. THEOBALD has issued a pamphlet naming 69 species of the family Aphididæ found in or near Hastings, and he hopes that the publication of the list will stimulate the collecting of these insects in the district, in which case he expects that many more species will be added. With the list a leaflet has been issued describing a new Strawberry aphis, named by him *Myzus fragariæ*, discovered at Hounslow in Middlesex, and Rudgwick in Sussex.

CLEARING LAND IN WESTERN WASHINGTON.—The attention of the Bureau of Plant Industry, U.S.A., is directed in *Bulletin* No. 239 to the problem presented by the "logged-off" lands of Western Washington. These lands represent sometime forests, left derelict after the operation of the lumberman. The latter strips off the timber from the forest land, and leaves the stumps standing, with the result that the land can only be brought under cultivation at the expense of considerable time and money. Thus it is that in a State which is increasing in population at a rapid rate there is a large area of land so thickly studded with "stumps, snags, and trees unfit for lumber" that it remains out of cultivation. Recognising the lack of economy in a system which, on the one hand, causes utilisable land to lie idle, and which on the other requires the importation of vast quantities of farm produce, the Bureau of Plant Industry has made a careful examination of the problem of clearing the "logged-off" lands and of bringing them into cultivation. It finds that the expense of clearing is so considerable, averaging about £40 per acre, that it cannot be undertaken by the poor settler, and the opinion is expressed at the conclusion of the *Bulletin* that the work of reclaiming this land ought to be done on a large scale, at a small profit, for the public good. Readers in this country will find the *Bulletin* of considerable value, owing to the fact that it goes with thoroughness into the question of methods of clearing land of tree-stumps. Among the methods which were tested are the char-pitting method, slow burning with the aid of a blowing machine, blasting by powder, and hauling the stumps by means of a new type of donkey engine. Where the soil is favourable the char-pitting or charcoaling method appears to be the most economical; but it can only be practised in places where the soil contains a considerable proportion of clay; this, of course, because sandy soils, when used as covering for the fire round the stump break up and run, and so put the fire out. In this method the bark is removed some time before the fire is lit, kindling is put around the stump, and covered with earth to a depth of 2 or 3 inches. The small opening left in order to allow of the lighting of the kindling is covered in about half an hour after the fire has been left. The burning stumps require attention for the first two or three days, the addition of more clay being necessary for covering in the stump. The success of the method depends also on the amount of water in the wood of the stump. The Firs are readily destroyed, but Cedars, of which the roots are wetter, are less amenable to the treatment.

NURSERY NOTES.

BEGONIAS AT BATH.

FROM the railway station at Bath to the foot of Twerton Hill is a short ride on the tramcar. Leaving the car and passing through a short street one comes to the bottom of Twerton Hill. To the top, where Messrs. Blackmore & Langdon's nurseries are situated, it is a continuous ascent. In many of the cottage gardens which line the roadway are to be seen Begonias—excellent varieties thoroughly well grown. It is only about 10 years since Mr. Blackmore and Mr. Langdon entered into partnership, but what has been done in this short time is remarkable. Messrs. Blackmore & Langdon have made a strong position for themselves by concentrating their efforts on the cultivation of one flower. At all the great exhibitions each year, from the Temple onwards, their collections of Begonias are a feature.

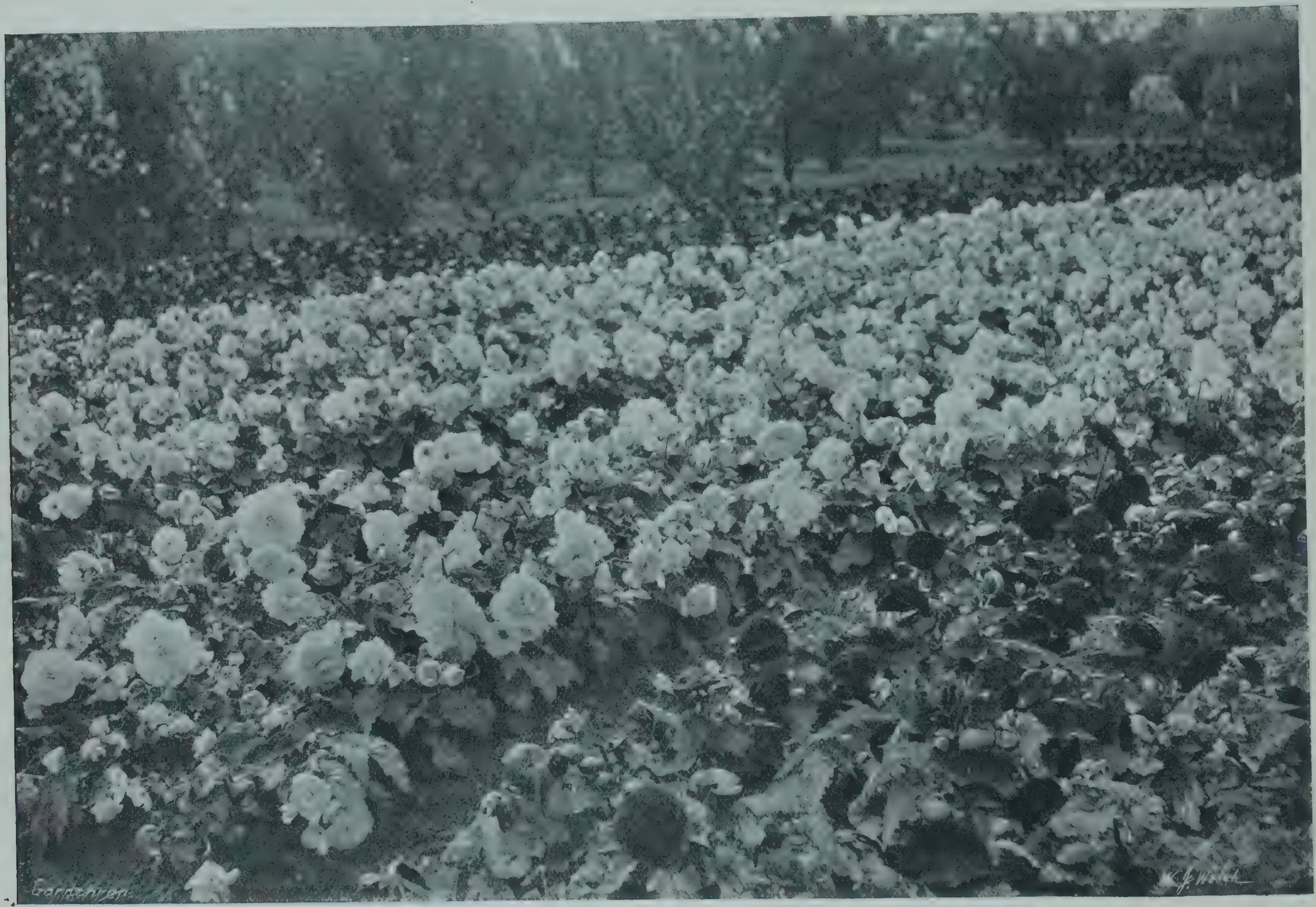


FIG. 90.—BEGONIAS AT TWERTON HILL NURSERY, BATH.

What has been the secret of such a rapid and certain success? It is not only Mr. Langdon's 30 years' practical experience, but it is that experience backed by Mr. Blackmore's keen commercial instinct; for to-day the latter quality is as essential as the former to success in nursery work.

Beside working incessantly to perfect the types already in commerce, Messrs. Blackmore & Langdon work for new types, believing that novelties contribute largely to keep up the interest in any flower. In the ordinary single and double forms every effort has been made to obtain varieties which persistently give good flowers on erect stiff stems. Thousands of crosses have been made and records carefully kept. It generally takes five years to work up a sufficiently large stock from a seedling before the variety can be offered for sale. Three acres are planted each season in the open with 100,000 seedlings. Two beds of scarlet double seedlings are remarkably effective, quite a number of the plants giving flowers equal to William Marshall. For many months each summer these beds are one mass of brilliant colour, and the many visitors in September and even in October express their wonder and delight at the brilliant show which the flowers present.

The named varieties are for the most part grown under glass, and one secret of their fine condition is that at no time of their growth are they forced in any way. Mr. Langdon believes in slow growth, because the sturdier the plants, the finer is the display of flowers. He is also a strong believer in the practice of picking off all flower-buds as they appear until the plants are well established. Twelve of the finest doubles in flower at the time of our visit last autumn were Duchess of Cornwall, dark crimson, of fine form, A.M., R.H.S.; Kennerley Rumford, rich apricot; Mrs. W. Weston, Indian yellow; Rose Queen, rich bright rose, slightly serrated petals, A.M., R.H.S.; Empress Marie, Camellia shaped, white, A.M., R.H.S.; Pink Pearl, lovely salmon-pink, A.M., R.H.S.; Winsome Partner, reddish-salmon; Millicent, flesh-pink, A.M., R.H.S.; Mrs. J. Booth, pale salmon blush, rose-like form, grand habit and foliage; Purity, pure white, with frilled petals, A.M., R.H.S.; William Marshall, a beautiful scarlet flower; and Yellow Hammer, pure clear yellow on long stiff stems.

Messrs. Blackmore & Langdon do not offer single varieties to name. They make selections and grade them from the finest exhibition sorts to the different classes for beddings. Crested and frilled singles are treated in the same way.

Special attention is given to double-flowered plants for bedding, and about two dozen sorts are grown in large quantities in long beds. The type is dwarf and stocky, and the flowers, which are of good form and medium in size, are produced in great profusion. The colours embrace crimson, salmon, pink, scarlet, white and yellow—three of the very best being Argus (bright scarlet), Hilda (deep salmon), and Marquis of Stafford (deep crimson). These formed perfect pictures in their respective beds, the height of the plants to the top of the flowers being about 15 inches. A class of Begonias which was most charming was that for hanging baskets. Nothing is more effective in suitable situations than this type of Begonia—graceful in form and attractive in colouring. One of the varieties, named Fleur de Chrysantheme, is a Continental introduction. The flowers are a lovely salmon-pink shade, and the foliage is a bright vivid green. Carminia is a carmine-red, Mrs. Bilkey is salmon-orange, and a novelty not yet sent out is Golden Shower.

Though Begonias are the leading feature of these splendidly managed nurseries, a number of other subjects are grown well—Cannas, Carnations, Delphiniums, Violas, and Violets being much in evidence. *Traveller.*

NOTES ON THE HISTORY OF THE JARGONELLE.

THE name "Jargonelle" has been stated by Ménage and Duchat, who have been freely copied in England, to be derived ultimately from græcum; and Merlet, unable or unwilling to raise damaging philological objections, identifies the well-known Pear with the Pyrus tarentinum of Cato Major, Columella and Celsus, the Numidianum græcum of Pliny and the Græcum of Macrobius. This view cannot be held in the light of modern knowledge. Professor Skeat follows Littr (who was no doubt helped by persona acquaintance with the grittiness of the French Jargonelle), and derives the word from jargon, a yellow diamond or small stone, "perhaps from Persian zargûn, gold-coloured." This, however, does not quite exhaust plausible conjecture. The French word jargon, which occurs in English with identical form and meaning, is of quite uncertain origin; all that we know about it being that it occurs in Old French. I suggest that it is this word, and not the descendant of the Persian zargûn, which forms part of the name; and that it was applied to a Pear introduced from a country where "jargon" was spoken, which country was probably Italy.

It has long been recognized that the Jargonelle of old French writers was not the Pear we know to-day. Hogg and other authorities agree that our variety is the French Grosse Cuisse Madame; but the adjective "grosse" seems to be a late addition, almost certainly applied within the last 150 years to an improved form of the Cuisse Madame, to which we have abundant references far back into history. We may, I think, safely assume that in tracing this Pear we are also researching into the origin of the modern Jargonelle.

Jacques Dalechamps (1513-1588) imagines the Pirum onychinum of Pliny (*Hist. Nat.* XV, 16) to be the Cuisse Madame, and Hordouin, a century later, adopted his view. With regard to the speculations of Merlet, it is enough to say that the "Tarentine" sort is definitely stated by Celsus (III 24, IV 19) to be a keeping Pear. It is not, of course, impossible that Dalechamps may be right; but his statement is only an interesting guess. There is no doubt that the Italian sorts were introduced by ecclesiastics into Northern Europe, and there rapidly improved. We have a list, dated 812, of Charlemagne's Pear trees, but no definite names, the sorts being merely classified. In *The Care of Gardens*, a poem by the monk-horticulturist Walahfrid Strabo (d. 849), he tells us he picked in July "Volemian" Pears, each of which quite filled his hand. They may have been Cuisse Madame.

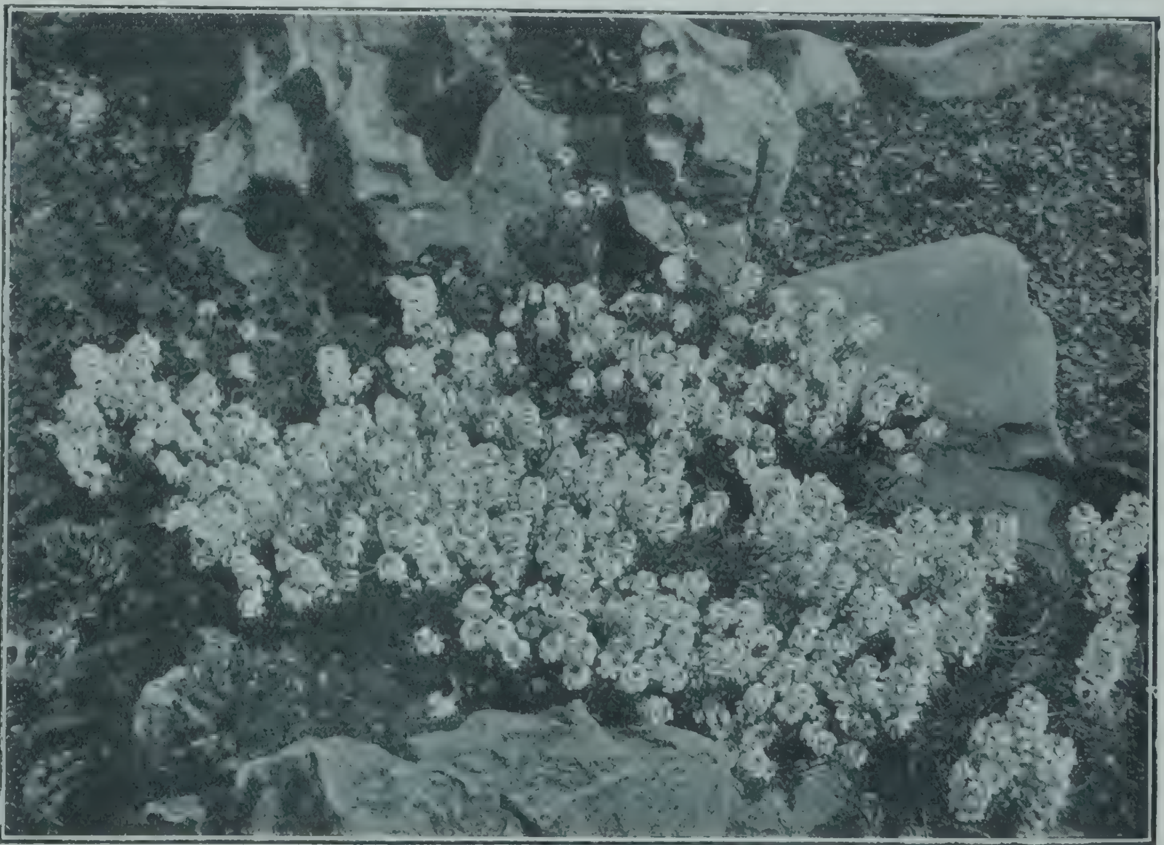
Reverting for a moment to Skeat's derivation of the name, it is interesting to note the mention of "caloel" Pears in a late 13th century account of the manors of the Earl of Lincoln. The name appears frequently elsewhere as cailloel or callaewell, evidently the French caillou; but this fact does not help Skeat's theory in the least, since Quintiorge (17th century) mentions the Pear as distinct from either Cuisse Madame or Jargonelle.

John Parkinson (1629) speaks of "Pear Gergonell." This is the first definitely English mention I have been able to find; the honour is ascribed by Hogg to Switzer, a century later. The fruit referred to was probably the Pear called by that name in France, not the Jargonelle we know; the same Pear, indeed, which is included by Quintiorge in a list of those not worth planting. Our form was, according to Richard Bradley (*A General Treatise of Husbandry and Gardening*, ii, 63), called in France "La Suprème, i.e., the Supreme, or Poire de Figue, or Fig-Pear, or Grosse Jargonelle, i.e., Great Jargonelle, or Giberish Pear. It is a large, long Pear of a reddish-yellow; its juice very sweet, and not subject to be stony; it must not be overripe for eating, for too much ripeness makes it mealy." From the correctness of the French and comparison with Bradley's other efforts in that language, I imagine the names to have been copied from some French work. It will be noticed that he thinks it necessary to translate the name Jargonelle, which he would scarcely have done had it been very familiar in his day. In this connection it is interesting to note that Miller does not mention the name; nor does Mortimer include it in the somewhat long list in his *Whole Art of Husbandry*, 1707. The adjective grosse would seem to indicate an improvement of an

way to England, and from its general similarity in shape and date of ripening have become confused with the Cuisse Madame, then known here as "Kiss Madam." In this case minor distinctions of colour and size possibly yielded to wider and more constant points of resemblance. *Sydney H. Kenwood, B.A.*

ÆTHIONEMA AMŒNUM.

The genus Æthionema consists of about 40 species of somewhat low-growing plants, native chiefly of the Orient, although one or two are found in Southern Europe. Many of them are of great beauty, very free-flowering, and well suited for dry, sunny positions in the rock garden. Perhaps the best-known member of the genus in cultivation is Æ. grandiflorum, one of the best perennial kinds. It forms a bush 1 foot or more in height, and during the summer months gives a profusion of rich, rose-coloured flowers in long racemes. Another well-known species is the beautiful little Lebanon Candytuft, Æ. cordifolium, one of the dwarfest of the family, with fleshy, glaucous leaves, and dense, flattened racemes of delicate pink flowers. The Armenian Æ. pulchellum is probably one of the freest-flowering species, growing about 8 inches high, with glaucous leaves and flowers, also of a pink shade. Æ. amœnum (see fig. 91) is a new species, also from Armenia. It is similar in habit to Æ. pulchellum, but has rather longer foliage, and much larger flowers of pale-pink. Commencing in April, its racemes of flowers are produced throughout May and June, making it a very attractive plant for a sunny ledge. Except in the case of the annual kinds, seeds are not produced very freely, but all the perennial species may be increased by means of cuttings inserted in the summer as soon as the flowering season is over and the plants commence to form fresh shoots. The cuttings should be inserted in pots in sandy soil, and kept in a close frame till they are rooted. Thorough drainage is essential for all the members of this family, otherwise they frequently die off in the winter. Æ. Kotschyi is another new species. The plant is only an inch or two high, but very free-flowering, and is well worth growing. *W. I.*



[*Photograph by Wyndham Fitzherbert.*

Fig. 91.—Æthionema amœnum on the rock-garden at Kew: flowers pale-pink.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 66-71.)

(Continued from p. 173.)

4, MIDLAND COUNTIES.

Hertfordshire.—The late frosts destroyed the prospects of good crops of stone fruits both on the walls and in the open, except in a very few cases where there was special shelter or protection by large trees. Our wall trees were protected with a double or treble thickness of netting, yet the frost did harm. Pears were the least affected. The drought of May and early June ruined the Strawberry crop; there was an abundance of bloom, and we protected the plants from frost, yet the fruits failed to swell. Our soil is of a very heavy nature, overlying a thick bed of tenacious clay. The garden is on the flat, and exposed to the south and south-west. *E. F. Hazelton, North Mymms Gardens, Hatfield.*

5, SOUTHERN COUNTIES.

Sussex.—A splendid show of bloom on all fruit trees was completely spoilt by the excessive rainfall of March (4.41 inches) and the heat of April, when only 0.03 inch of rain fell. We have only half crops of Apples, Apricots, Peaches and Plums. Small fruits were plentiful and good, with the exception of Strawberries, which ripened very early and were soon over. Our best results were obtained from runners one year planted. We had little or no frost during the blooming season. Our soil is a strong loam over clay. *Thos. Tyson, Wykehurst Park Gardens, Haywards Heath.*

——Our soil varies from lightish loam over sand to somewhat heavy loam over a mixed clay and sand subsoil. Apples have been badly injured by the worst attack of aphis ever known. The setting of fruit was prevented to a great extent by the spring drought, which severely damaged late varieties, and a very large proportion of the fruit has since been spoilt by attacks of aphis. Further, there is extensive dropping of the fruit of some varieties, and others showed hardly any blossom. The yield of late Apples is the worst I have ever had. Pears are generally the best crop ever grown here, although some varieties were badly damaged by the midge maggot. Some varieties of Plums were devoid, or almost devoid, of blossom. I have good crops of Czar, Victoria, and two or three dessert sorts, and very light ones of all other varieties. Gooseberries and Red and Black Currants were very full crops and the fruit was very fine. Strawberries had not recovered from the effect of the drought of 1911. Raspberries fruited well. There is a full crop of nuts. *William E. Bear, Hailsham.*

—— The Apple crop is an erratic one, but Pears are the best crops we have ever had. The trees are grown in a field with no shelter. The soil is of a heavy, tenacious nature. *W. Goaring, Agricultural and Horticultural College, Uckfield.*

—— Hardy fruits all round are very good this season, Strawberries being the worst crop. The drought of last season and of April this year is responsible for the failure of the Strawberry crop: Royal Sovereign and Givon's Late Prolific gave the best results. Apples are a fine crop, but not regular, some varieties being destitute of fruit, whilst others required an extra amount of thinning. Fortunately the better varieties are cropping well, if we except Cox's Orange Pippin, which is scarce in places. Pears are a fine crop of splendid fruits. Cherries were excellent, though not regular, but of very fine quality. Gooseberries and Currants were immense crops and of fine quality. Raspberries also were very good. Peaches and Nectarines are only average crops, but promise well. Much labour was entailed in keeping the trees clean in the early stages. Cobnuts and Filberts are very plentiful; Walnuts are not so numerous. The soil is a heavy clay. *W. A. Cook, Leonardslee Gardens, Horsham.*

—— Generally speaking the fruit crops are very satisfactory, the only exception being Strawberries, which, in my opinion, failed through the effects of the continued drought of last season, though in this district it was not so bad, as the soil is in most cases of a heavy, retentive nature. There is no doubt but that this season has proved the value of deep and thorough cultivation for Strawberries. Pears, Plums, Nuts, and the majority of small fruits are very satisfactory, and these crops have more than compensated for the loss of the Strawberry crop. *W. J. Langridge, Ote Hall Gardens, Burgess Hill.*

Wiltshire.—Pears are extra good, the result of dressing the ground under the trees in winter for the Pear midge, which was increasing rapidly. The early blossoms of Strawberries were destroyed by frost and drought in April and May, consequently we had a very poor crop. Currants, Raspberries and Gooseberries are extra good. Our soil is shallow, rather heavy, and overlies a cold, yellow clay. *Henry Gandy, Longleat Gardens, Warminster.*

—— Nearly all fruit crops in these gardens are poor. The garden slopes due north, and we suffered very much from frosts on April 7 and 8, and more so on April 23 and 24, when 9° and 10° were registered. The soil is a medium to heavy loam on a subsoil of chalk. Potatos in the district are very badly attacked with disease, and in many instances the foliage is already entirely destroyed. *A. J. Morris, Compton Bassett Gardens, Calne.*

7, ENGLAND, N.W.

Cumberland.—In spring the Apple trees promised to furnish a good crop as blossom was abundant, but from various causes, such as spring frosts and dry weather, the fruits failed to set. This applies to Apples on heavy, light and lime soils. In several districts I noticed that the unopened flower-heads of Bramley's Seedling Apples were completely frozen, whilst other varieties took no harm. The noted Kendal Damsons, which are grown on the limestone in Lyth, promise to be abundant. Gooseberries are very abundant and of good quality. Black Currants were severely damaged by attacks of aphis. Strawberries were unsatisfactory owing to the wet weather. *W. B. Little, Carlisle.*

Lancashire.—The general prospects of the fruit crops were good in the spring, but, owing to late frosts and severe attacks of insect pests, the crops generally are small. The dry weather in April checked the development of all fruits considerably. The soil in Lancashire is of a very varied character, and on the east side it is mainly of a cold, clayey nature. *R. F. Howarth, County Offices, Preston.*

Westmoreland.—Pears and Plums flowered abundantly, and some varieties of Pears are heavily fruited, whilst Victoria Plums are a heavy crop. Apples are very disappointing after last year's brilliant summer. Black Currants and Raspberries were plentiful and clean, but Strawberries were very poor, due to continuous rains for six weeks. *W. A. Miller, Underley Gardens, Kirkby Lonsdale.*

—— The Apple crop at one time looked most promising, the trees having an abundance of bloom, but cold winds and low temperatures experienced at the end of April and early in May, as well as the Codlin moth, were the principal causes of the failure. Black Currants are very thin and poor, being the worst crop we have had for years; the bushes were badly infested with insects during the time of flowering. Strawberries were a good crop of fine fruits. Raspberries also were a full crop, as well as Red Currants and Gooseberries. Plums on walls, especially the variety Victoria, and Gages are heavily cropped, but standards and bush trees in the open are a failure. Morello Cherries were a full crop. Loganberries are a good and useful crop. Our soil is a heavy loam resting on clay. *F. Clarke, Lowther Castle Gardens.*

—— We had good prospects for abundant crops of all fruits when the trees were in bloom. The trees also were free from blight. There was not much frost in spring, save in March when Apricots were in bloom, consequently this crop is almost a failure. In May we had heavy showers of rain and hail which thinned the fruits very much. The Apple crop varies; King of the Pippins, Lane's Prince Albert, and Keswick Codlin have full crops, other sorts have about half a crop, and many sorts have none. Small fruit is not of the best quality with the exception of Raspberries, the variety Superlative being very fine. Black Currants were a light crop. Our soil is on the limestone gravel. *J. Moorhouse, Dalton Hall, Burton.*

8, ENGLAND, S.W.

Cornwall.—The hardy fruit crops are very disappointing. Apples, with a few exceptions, are a failure. Plums and Morello Cherries are thin. Peaches are poor, the variety Dymond being the best. Pears are the only crop that is at all satisfactory; most varieties are very good, and the fruits promise to be of good size. Bush fruits are more satisfactory, with the exception of Red Currants. Strawberries were a poor crop owing to the drought of last summer; the plants are small, and the continued rains early in the season caused many of the berries to rot. *W. Andrews, Tregothnan, Truro.*

—— Apples in this district are an average crop, and probably would have been better but for the fact that when the trees were in blossom we experienced strong winds varying from south-east to south, accompanied with sea fog, which is very detrimental to the foliage and fruit (of Apples especially), and causes many fruits to become deformed. The Codlin moth (Carpocaspa pomonella) is very prevalent this season, and has caused much damage. It should be the duty of every grower to see that all small fruits are picked up and burnt, as thereby thousands of the larvæ are destroyed. The Government should do something to assist in the destruction of the moth early in the season, and see that it is properly carried out in every orchard throughout the country. The majority of Pears dropped when of a good size; Pears trees are more healthy than Apples. Respecting small fruit, Gooseberries were a splendid crop and of good size. Raspberries were an average crop; the young canes grew well and healthily, but the berries were not of good flavour. Currants of all kinds were fair crops of good fruit. Strawberries were an average crop, the flavour being good, and size and colour excellent. The plants are doing well. The soil in this district varies; some places have rich loam with a fair amount of drainage, while others have decomposed granite. The soil generally is of good quality. *G. H. Maddern, Trewidden, Buryas Bridge.*

—— The fruit crops in this district are variable, especially the Apple crop. In these gardens we have a fair crop of these fruits, whilst in others they are very thin. Many of the trees were badly attacked by aphis early in April and May, and on these the fruit is small and deformed, but since the change in the weather the trees are making a more healthy growth. The following varieties are carrying good crops: Lord Grosvenor, Grantonian, Bismarck, Bramley's Seedling, Small's Admirable, Sandringham, Stone's (syn. Loddington), White Transparent, Early Victoria, Lady Sudeley, Jas. Grieve, and Worcester Pearmain. Peaches are about average, also Pears. Williams' Bon Chrétien Pears are more numerous than usual. Plums, with the exception of Victoria, are light crops. Strawberries were rather below the average, many of the yearling plants being barren, owing I think to the heat and drought of the previous year. Gooseberries and Currants were good crops. Raspberries were extra good, both in quantity and quality. The soil here is light, resting on a slatey subsoil. *W. Brown, Prideaux Place Gardens, Padstow, Cornwall.*

Devonshire.—With the exception of Strawberries (which suffered from drought during April and early May) the fruit crops in this district are good. Plums are very satisfactory. The Apple orchards were a record as regards blossom; the fruits are clean and are swelling freely. The soil is mostly of a sandy nature yet a good loam, resting on the old red sandstone so prevalent in Devonshire. *James Mayne, Bicton Gardens, Budleigh Salterton.*

Gloucestershire.—The Apple crop in these gardens is under the average; numbers of trees are bare of fruit. Pears are better than for several years past, whilst Gooseberries were abundant and good. Raspberries also were very satisfactory, but Red Currants were deficient. Strawberries suffered from wet weather, and many berries rotted on the ground, especially those of the variety Royal Sovereign. The rainfall for June was 5.11 inches, which fell on 24 days. The soil of the kitchen garden is a friable loam over the old red sandstone. Cider fruits are planted in clay land. Soils near the Severn generally produce good crops of these fruits, which make excellent cider. *John Banting, Tortworth Gardens, Falfield.*

—— In some districts good crops of Apples are recorded, but in others they are light. Blenheim Pippin, a favourite orchard Apple in Gloucestershire, is yielding well on trees that cropped lightly last year. Bad attacks of insect pests, particularly the Apple blossom weevil, spoiled the prospects in many orchards. Cider Apples appear to be an average crop. Pears are very good. Perry Pears which bore lightly last year will be an abundant crop. Plums, particularly the variety Victoria, were damaged by frost in some districts, but other varieties and other localities escaped injury and an average crop of stone fruit is expected. Gooseberries and Currants were very plentiful; Black Currants being good in both gardens and plantations, and the bushes free from "big bud." American Gooseberry-mildew does not appear to be spreading much; only one or two fresh cases are reported this season. Strawberries were disappointing, bad weather being chiefly responsible for light crops and poor flavour. Prices, however, have been good. *G. H. Hollingworth, Gloucester.*

—— The fruit crops in this district are fairly satisfactory. Pears are above the average, whilst Apples are a fair crop. Cherries were above the average, and of good quality. Apricots are very scarce. Plums are carrying good crops of fruit, and the trees are very free from blight. Small fruits were much above the average, Raspberries being especially abundant. Strawberries were very good in these gardens, whilst in the neighbourhood the Strawberry crop was a failure. *F. Walton, Stanley Park Gardens, Stroud.*

—— Some Apple trees are bearing good crops, but the majority of the trees are bare. Lane's Prince Albert, Stirling Castle, and Worcester Pearmain are the three best-fruited varieties. Pears are an abundant crop, and it has been necessary in many instances to thin them freely. Peaches and Nectarines are, up to the present, bearing good crops. Bush fruits are also good, but the Strawberry crop was the worst I have experienced for years past. Givon's Late Prolific is still our best late sort. Apricots are bad, although I never saw the trees more promising; but the late spring frosts crippled the blooms. Plums are abundant, particularly on wall trees. *Arthur Chapman, Westonbirt, Tetbury.*

(To be continued.)

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Rainfall at Davenham Gardens, Malvern.—The rainfall for August in these gardens is the heaviest on record. Rain fell on 27 days to the total depth of 8.73 inches. The heaviest fall in 24 hours ending at 9 a.m. occurred on the 6th ult., when 1.04 inch was recorded. On the 25th and 26th the amounts were 0.97 inch and 0.84 inch respectively. *C. A. Bayford, Davenham Gardens.*

The late Alexander Dean. — In the obituary notice of this eminent florist it is said that he was "especially severe on the man of science," &c. Personally, I never found him so. I remember discussing with him the advantages of self-fertilisation over continued crossing. He told me that the latter ended in failure to produce seed, and that he lost a whole stock of Primulas in consequence. I put the same question to Mr. H. B. Smith, of Ealing, as to Cyclamens. He corroborated Dean, and added that he always kept a stock of the most "weedy" Cyclamens, as they were so abundantly self-fertile. From these, by crossing them, he kept up a constant supply of the best kind. *George Henslow.*

Viola "Edina."—The query is raised in the note on Viola trials (see p. 177) as to whether the variety Edina is earlier in blooming than Archibald Grant. It is earlier by two or three weeks. Archibald Grant is one of the latest blooming Violas, and that quality has always been, in our consideration, an objection to an otherwise fine flower. *Dobbie & Co., Edinburgh.*

The Bearing of Apples (see p. 156).—The varieties of Apples vary in respect to their cropping amazingly. Some, such as Warner's King, seldom fail to crop, whilst others, even when thinned regularly year by year, are intermittent croppers, and others, whether thinned or not, consistently produce a crop. It is clear, therefore, that no dependence can be put upon figures which are confined to one variety. Wealthy, which fails altogether here, is a variety which from the data should be discarded. There are, too, the local proclivities of varieties. I do not mean local in the sense of districts, because a variety may be a success or a failure in gardens a mile apart, so that absolute dependence cannot be placed upon Apple trials, just as one cannot say because a Strawberry succeeds in one garden it will be equally successful throughout a county or a parish. There is yet another determining factor, the cultivator. Just as a nurse has by her good or bad management an influence which lasts the life of her charges, so the grower, by the treatment of fruit trees, influences their future, and this personal equation will always remain. Though I have no dislike to a large Apple, I imagine the preference for large fruits has in many cases been carried to extremes. Than the small Cockpit there is, in our collection, no more delicious Apple for stewing. The tree hardly ever fails to bear a large crop, and it is singularly free from Apple afflictions; yet how many if planting a garden would think of including this variety? Northern Greening is almost as fine in quality, though possessed of similar disabilities. Still, though I question the wisdom of discarding old and tried sorts, I have to confess to introducing novelties which on trial may prove unworthy, and the place for this work is the home garden. While on this subject the question of colour crops up. I have never seen deeper-coloured fruits of Apricots than are ripening this year, and such Apples as King of the Pippins are showing colour quite as intense as last season, when the high colour was attributed to the great amount of sunshine. Apricots for a few years, like the Apples in question, are growing in grass, or, in other words, the borders are in grass with Narcissus; can it therefore be that the grass is the sole predisposing cause of deep colouring, or is it the excessive amount of rain? The value of water, and especially manure water, as an agent of colouring may be proved from the behaviour of black Grapes; a light crop if deprived of a sufficiency of water at the roots will fail to colour, while a heavy crop, if freely watered, will colour deeply. Here, too, the question of locality comes in, because a heavy soil will require much less water than a light soil and give perhaps better results; nevertheless, the fact remains that water with sufficient manure is essential for the production of colour. *R. P. Brotherston, Tyninghame Gardens, Prestonkirk.*

Reversion in Black Currants (see pp. 122, 138, 159).—I was interested in Mr. E. A. Bunyard's letter on this subject, but I fear I cannot follow his conclusions in all points. Nevertheless this is a subject of such importance to growers that any facts, or even suggestions bearing upon it, must be welcome. I quite agree with his points (1) I have found it amongst one-year cuttings and bushes of all ages, but only a very minute proportion. (2) It is not confined to one variety, though by far more frequent in Boskoop Giant than any other. (3) I cannot speak so confidently about, though in the trees I have personally examined there is no big bud present, either before or after this "reversion." (4) The plantation in question (about ¾ acre) had, in 1911, the second year from planting, some 12 or 15 reverted bushes, which were allowed to stand. This year quite 50 per cent. followed the behaviour of these 12 or 15 trees. The trees were not pruned last winter, and were only shortened when planted in 1909, so hard pruning is quite out of the question, and I think I may say that the shoots have not been injured. The trees under my observation bore a grand crop of fruit, for young bushes, last year, and gave every promise of cropping well again this season, but after an absence from home, I found on my return that the so-called reverted bushes had dropped every particle of fruit, and nothing but the stalks of the bunches remained. This occurred whilst the fruits were green. I thought at first that the long drought was the cause, but upon examination found that the bushes which had not "reverted" were carrying good crops, which came to perfection in due course. This is my first experience with trees planted out for market. But during 40 years of growing young stock I can never remember seeing trees go off in this way before, nor can my foreman, who is a good observer, and has been with us 62 years. I hear from market growers that no treatment they have tried has been successful in restoring their reverted trees to a normal condition. One grower has lost half his trees from this cause, but most of them say that their loss is 5 to 10 per cent. So far, all the cases reported have been of recent date, and the majority of bushes of the Boskoop Giant variety. As your paper is read by many of the leading market growers we should all be greatly interested if they would relate their experience of this subject through your columns. *A. H. Pearson, Lowdham.*

Bowkeria Gerardiana. — Your correspondent, Wyndham Fitzherbert, page 140, may rest assured that this plant is correctly said to have been cultivated at Messrs. Bull's nursery at Chelsea, 20 years ago. In the catalogue of Mr. William Bull for the year 1892 it is, under the name of Bowkeria triphylla, announced as a new plant with the following description:—"A handsome ornamental flowering plant, with lanceolate corrugated leaves, arranged in threes on reddish stems. The flowers are white, nearly an inch long, inflated and bi-labiate, suggesting Scrophularia, to which the genus is allied; these are borne in subterminal cymes, usually nine flowers on each cyme. The plant is a native of Natal, where it flowers in December, so that it will doubtless prove a very useful winter-flowering plant for the greenhouse. Price, half-a-guinea." The description, which is fairly accurate, was drawn up from dried specimens forwarded with the seeds about two years before the plants were distributed. Being of very easy propagation by means of cuttings, Mr. Bull had an extensive stock of it, but the demand was so small that it was gradually dropped. I question if a dozen plants were sold during the 10 years or so that it was kept in stock. They were given ordinary greenhouse treatment, and, as bushy plants in 5-inch pots, they used to flower freely in the summer. Another plant that your correspondent may be surprised to learn was at one time stocked by hundreds in the same nursery is the Chilian Nut (Guevina Avellana), which would be very difficult to obtain nowadays. *W. T.*

Weather and Market Gardeners.—Owing to the heavy rains the market gardens in this district are flooded and no work is possible. For four days we have not gathered any fruit for market, and the employees are absent. Corn is still uncut, and the fields are covered with water. Potato furrows are filled with water, and the outlook is hopeless. *Stephen Castle, Walpole St. Andrew's, Wisbech, August 27.*

High Colour in Hardy Fruits. — Last autumn there was a very interesting controversy in these columns on the colour of hardy fruits in wet and dry seasons. Various theories were advanced by correspondents, but no decisive view was expressed. Surely after the record heat of last summer and the abnormal rainfall this season some definite conclusion may be arrived at. After having compared the fine fruit, both in this neighbourhood and that of North Devon with that of recent years, I consider that the coloration of fruit this year is equal to that of last. It would prove of great interest if gardeners and fruit growers would contribute to this journal their views, and so settle a problem which has hitherto remained obscure. Amongst the fruits here which particularly attract attention for brilliant colouring are Worcester Pearmain, Red Astrachan, Red Quarrenden, Beauty of Bath, Scarlet Nonpareil, Fearn's Seedling, Mère de Ménage, Bismarck and Lady Sudeley. Peaches and Nectarines have splendid colour, though they have not good flavour, owing no doubt to the continuous rains and the soddened cold condition of the soil. Grapes, under glass, have both good colour and flavour. Judging also from various reports of the leading shows, there is no apparent deficiency in the colour or quality of the fruit exhibited. This supports the theory that high colour is as pronounced in a wet as in a dry season. *S. Gilthorpe, Nynehead Court Gardens, Wellington, Somerset.*

Senecio Smithii.—I saw this plant at the end of July in the garden at Park House, Banffshire. It was in full flower on the bank of a brook, and formed a most striking and picturesque subject for such a position, growing about 3 feet high in the rough grass and weeds by the brook-side. Unlike the small figure of the whole plant in the *Bot. Mag.*, tab. 7531, it carries its corymbs of large, wite-rayed flowers on stout stems well above the foliage. The plant is a native of Tierra del Fuego and seems to like the cool, moist climate of Banffshire, but it would probably do well as a water-side plant further south. *Alfred O. Walker, F.L.S., Ulcombe Place, near Maidstone.*

SCOTLAND.

PERTHSHIRE FRUIT-GROWERS AND THE INSURANCE ACT.

By an order of the Scottish Insurance Commissioners, issued in June, fruit pickers were exempted from the operation of the Act, but persons who were insured persons, or were possessed of the exemption certificate to Irish migratory labourers were not so exempt, and the employers are liable for the contributions in the ordinary way. Objections to this order were lodged by Messrs. Keay & Hodge, Blairgowrie, on their own behalf and that of other fruit growers, and they asked that all fruit pickers should be exempted from the operation of the Act. An enquiry was held by Miss M. M. Paterson, one of the Commissioners, at Perth on August 29. A strong case was presented on behalf of the objectors, and Miss Paterson adjourned the enquiry, stating that the question would be fully gone into by the Commissioners, who, with the Joint Committee, might determine to continue it in some other district. *Correspondent.*

GARDENING APPOINTMENTS.

Mr. J. Howes, for 12 years Gardener to Walter Cobb, Esq., Dulcote, Tunbridge Wells, as Gardener to William Thompson, Esq., Walton Grange, Stone, Staffordshire.

Mr. H. F. Warren, for the past 13 years Gardener to the late F. M. Burton, Esq., Highfield, Gainsborough, Lincolnshire, as Gardener to William Rose, Esq., at the same place.

Mr. L. F. Vesey, for the past 12 months Gardener to Mr. C. J. Billson, Silchester House, Silchester, near Reading, as Gardener to Mr. Billson, at the Priory, Martyr Worthy, near Winchester.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

August 27.—A. W. Hill, Esq., M.A., in the Chair.

Sweet Peas from Mr. Dipnall.—Mr. Odell reported as follows:—"The specimens submitted to the Committee were damaged by the 'Streak' disease, due to Thielavia basicola. Many of the leaves and parts of the stem had also patches of Botrytis cinerea growing on them. The roots were poorly developed, and showed signs of some check earlier in the season, probably caused by overwatering in the early summer. As a method of preventing the attack, deep and early-autumn cultivation of the soil intended for next season's crop of Sweet Peas is recommended; also a very moderate use of organic manure, thin seeding, and frequent use of the Dutch hoe in place of watering during early droughts."

Epidendrum laterale.—Mr. O'Brien showed for Mr. Neal, Penarth, a plant of Epidendrum laterale (Central America), and remarked that the inflorescence is produced on a rudimentary pseudo-bulb, as in E. Stamfordianum (probably the only similar case), a peculiarity that seems to show that the normal mode of flowering is from the base of the mature pseudo-bulb. A Botanical Certificate was awarded to this plant on the proposition of Mr. O'Brien.

Mummy Pea.—Mr. A. Sutton showed a series of photographs illustrating several crosses with the so-called Mummy Pea, Pisum umbellatum.

Lily fasciated.—Mr. Bowles presented a remarkable photograph of Lilium candidum showing a fasciated double form, a condition figured in Dr. Masters' *Teratology*.

Armeria: abnormal.—Mr. Van der Wyre sent specimens of Thrift with abnormal pollen and petals.

Variation.—Rev. Geo. Henslow wrote with reference to non-scented Musk, a condition due to the cold and wet weather. Mr. Henslow also drew attention to the tendency to variegation in Aspidistra when removed from a partly-shaded position to the full light of a conservatory.

Pear with axial growth.—Mr. Ockenden sent a Pear with elongated axis, showing the formation of three fruits, as a result of the elongation. Messrs. Bunyard sent a drawing of a Pear fruit showing a similar elongation, resulting, however, in a tuft of leaves beyond the fruit.

ROYAL HORTICULTURAL OF IRELAND.

August 27.—The attendance at the autumn show of the above Society was much greater than usual, and the exhibits were so numerous that the capacity of the tents was taxed to the utmost. The chief features of the exhibition were the displays of Roses, Gladioli and the collection of vegetables shown by Mr. Nathaniel Hone in the "Mackey" Challenge Cup class.

Amateurs' Classes.

The 1st prize in the class for 12 stove and greenhouse flowering plants was won by the Right Hon. T. W. Russell, M.P.

Alderman Bewley showed the best six Zonal Pelargoniums; 2nd, Mr. S. Soden.

The best Fuchsias were shown by Mr. F. V. Westby; 2nd, Mr. S. Soden.

In the class for four specimens of Coleus the 1st prize was awarded to Mr. Goodbody; 2nd, Mr. Westby.

The Rev. H. Kingsmill Moore won the 1st prize for six British Ferns; the 2nd prize was awarded to the Right Hon. T. W. Russell, M.P.

The challenge cup presented by Lord Ardilaun, and 1st prize in the class for 24 Cactus Dahlias was won by Mr. Meehan; 2nd, Mr. R. H. Stubber.

Mr. R. J. C. Maunsell won the 1st prize in the class for 12 Cactus Dahlias.

Mrs. Meehan was the most successful exhibitor in the class for six vases of Cactus Dahlias; the best 24 Show varieties were shown by Mr. R. H. Stubber, who also won the 1st prize in the class for six vases of Pompon Dahlias, and for 24 blooms of double-flowered tuberous-rooted Begonias. Lady Clonbrock showed the best 12 blooms of double-flowered, tuberous-rooted Begonias.

The 1st prize for 12 vases of China Asters was won by Mr. E. Kelly; 2nd, The Rt. Hon. T. W. Russell, M.P.

There was a strong competition in the class for a collection of hardy cut flowers (excluding Sweet Williams and Antirrhinums), to be shown in vases on a space not exceeding 16 feet by 4 feet. The 1st prize was won by Captain Lewis Riall; 2nd, Mr. C. M. Doyne; 3rd, Mr. Keith.

Mrs. Beaumont Nesbitt won the 1st prize in a strongly-contested class for 12 vases of annuals; 2nd, Dr. O'Donnel Browne; 3rd, Colonel Claude Cane.

The best 12 trusses of single Zonal Pelargoniums were shown by Judge Bird; 2nd, Alderman Bewley, who won the 1st prize in the class for 12 double or semi-double trusses of Zonal Pelargoniums; 2nd, Mr. E. C. Hardman.

The Watson Challenge Cup, offered for the best 12 vases of Carnations or Picotees, which was won outright by the late Andrew Armstrong, Esq., J.P., and re-presented by him, was won this year by Mr. R. T. Harris; 2nd, Mrs. H. Hutchinson; 3rd, Mrs. M'Intosh. There was also strong competition in the class for 12 vases of Carnations or Picotees, containing three blooms of one variety only. The 1st prize was won by Mr. E. C. Hardman; 2nd, Mrs. B. Nesbitt; 3rd, Mr. R. H. Stubber.

Roses.

Mr. Hugh Dickson, Belfast, won the Society's Silver-gilt Medal offered in the class for 72 blooms of Roses; 2nd, Messrs. Alex. Dickson & Sons, Ltd., Newtownards. The Silver-gilt Medal offered as 1st prize in the class for 12 Roses introduced since January 1, 1909, was won by Messrs. Alex. Dickson & Sons; the Silver Medal was awarded to Mr. Hugh Dickson.

In the class for 24 Roses, not more than three of any one variety, Mr. T. J. Crozier was awarded the 1st prize and Dr. O'Donel Browne 2nd, and these two exhibitors were similarly placed in the class for 12 Hybrid Tea Roses. In the class for 12 Tea and Noisette Roses, Mr. E. D'Olier and Mr. Crozier were placed 1st and 2nd respectively. The best six vases of Rambler Roses were shown by Mrs. Butler; 2nd, Colonel Sir W. H. Poë, C.B.

The championship prize for a collection of 18 bunches of Sweet Peas—a Gold Medal—was won by Lord O'Neill, Shanes Castle. The challenge cup presented by Sir J. G. Nutting, Bart., for nine bunches of Sweet Peas, was won by Miss Field; 2nd, Miss Rowley; 3rd, Mrs. McVeagh. The Rev. A. Davis showed the best 12 bunches of Sweet Peas; 2nd, Mr. R. E. Odlum. The best six bunches of Sweet Peas were shown by Mr. S. Browne; 2nd, the Rev. J. Griffin. In the classes for single bunches of Sweet Peas, of different colours, Lord O'Neill won most of the 1st prizes. Miss J. Rowley, Miss Osborne, Miss Markey and Alderman Bewley also won 1st prizes in these classes.

Fruit and Vegetables.

In these classes the competition generally was exceedingly keen, and the judges awarded many extra prizes. Alderman Bewley was awarded a Silver Medal for a splendid collection of fruit. The Earl of Meath won the 1st prize in the classes for two bunches of white Grapes and for two of any black variety except Black Hamburgh; Alderman Bewley was awarded the 2nd prizes in these classes. The 1st prize for Black Hamburgh Grapes was won by Lord Decies; 2nd, Mr. Langley. In the class for six Peaches, Lord Decies was placed 1st; Viscount De Vesci was 2nd; and the Earl of Meath, who won the 1st prize for six Nectarines, 3rd. Lord Decies won the 2nd prize for Nectarines. The best green Melon was shown by the Earl of Meath, and the best scarlet-fleshed variety by Lady Talbot. The 1st prize for six dishes of Apples grown in the open was won by Lady Annaly; 2nd, Mr. Tedcastle. Mr. A. Claude Ellis showed the best dishes of (a) Ecklinville Seedling, (b) Early Victoria, and (c) any variety of cooking Apple not mentioned in the schedule. The best dishes of Beauty of Bath and Lord Grosvenor Apples were shown by Lady Annaly. Mrs. Markey showed the best fruits of Lady Sudeley; whilst Mr. W. T. Steward excelled with Irish Peach Apple. The 1st prize for five dishes of dessert Pears was won by Alderman Bewley; 2nd, Mr. R. Tedcastle. The Marquis of Ormonde won the 1st prizes for (a) black or purple Plums and (b) red Currants. Lord Rathdonnell won the 1st prize in the class for a dish of red Plums.

The silver challenge cup offered for the best collection of vegetables was won by Mr. Nathaniel Hone; 2nd, Mr. S. Brown. The 1st prize for six distinct kinds of vegetables was won by Dr. O'Donel Browne; 2nd, Miss Field.

Non-competitive Exhibits.

Messrs. Robert Jameson & Sons, Royal Nurseries, Sandymount, exhibited a group of floral designs, for which the Society's Gold Medal was awarded. Messrs. S. H. Jones, Kilkenny, made a splendid display of Gladioli, attractively arranged with sprays of Gypsophila (Gold Medal). A Silver Medal was awarded to Messrs. Hogg & Robinson, for a collection of Gladioli. Messrs. Charles Ramsey & Son, Ballsbridge, received a Silver Medal for a collection of flowering and foliage greenhouse plants. Messrs. W. Drummond & Sons arranged a stand of hardy flowers, shrubs, &c. (Gold Medal.) Messrs. Pennick & Co., Delgenny, were awarded a Bronze Medal for a collection of hardy flowers. Messrs. Bakers, Wolverhampton, were awarded a Bronze Medal for a collection of early-flowering Chrysanthemums and Dahlias.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

August 22.—*Committee present:* Rev. J. Crombleholme (in the Chair); Messrs. J. C. Cowan, J. Evans, W. Hatcher, W. Holmes, J. Lupton, D. McLeod, Z. A. Ward, A. Warburton, and H. Arthur (secretary).

Silver Medals were awarded to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), for a group composed of Cattleyas of the Iris section; Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), for a group of Cypripediums; Eric F. Davidson, Esq., Twyford, Berkshire (gr. Mr. Cooper), who showed Cattleyas; Messrs. Charlesworth & Co., Haywards Heath, for a group of Cattleyas; and Messrs. A. J. Keeling & Sons, Bradford, who showed a mixed group of Cypripediums.

A *Bronze Medal* was awarded to Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton).

Other exhibitors were J. McCartney, Esq., Bolton (gr. Mr. Holmes); Messrs. Sander & Sons, St. Albans; and Messrs. Hassall & Co., Southgate.

AWARDS.

First-class Certificate.

Cattleya Astoniæ (C. Harrisoniæ × C. gigas), shown by Z. A. Ward, Esq.

Awards of Merit.

Cypripedium Leyburnense magnificum and *C. Frau Ida Brandt*, exhibited by the Rev. J. Crombleholme.

Cattleya Iris var. "rubra," Odontoglossum Empress Eugenie (unrecorded parentage), *Odontioda Thwaitesii "Davidson's" variety*, and *O. Schröderi "Davidson's" variety*, all shown by Eric F. Davidson, Esq.

Cypripedium Hassallii (C. bingleyense × C. Charlesworthii), exhibited by Messrs. Hassall & Co.

BRITISH GARDENERS' ASSOCIATION.

A meeting of this society will be held in the Goold Hall, St. Andrew's Square, on the evening of the first day of the Royal Caledonian Show, the 11th inst. Addresses will be given by Mr. James Harris, Liberton; Mr. W. B. Little, Carlisle; the Secretary, Mr. Cyril Harding, and others.

FINCHLEY CHRYSANTHEMUM.

August 29.—At a special general meeting of the Finchley Chrysanthemum Society, held on the above date, a timepiece was presented to Mr. J. Kirkwood (who is moving to Hampshire to take charge of the gardens at Wallington, Lymington) as an appreciation of his services to the society. Mr. Kirkwood was a member of the committee for many years, and one of the society's most successful exhibitors.

Obituary.

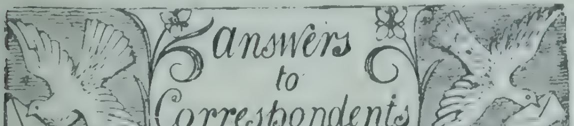
Professor John Craig.—We learn with profound regret of the death of Professor John Craig, one of the best-known horticulturists of the United States. Professor Craig, who at the time of his death occupied the Chair of Horticulture in the New York State College at Ithaca (Cornell University), was both a keen practical horticulturist and a cultivated man of charming personality. Born in 1864 at Lakefield, Quebec, Mr. Craig was educated at the Iowa State College, in which he subsequently held the post of professor of horticulture. From Iowa he proceeded to Ottawa, acting for some time as horticulturist in the Central Experiment Station, which post he relinquished in order to take up the professorship at Ithaca. Professor Craig possessed a wide and thorough knowledge of horticulture, and was active in promoting the interests of that science. He was editor of the *National Nurseryman*, secretary of the American Pomological Society, and his services were in great demand as a judge at exhibitions. He was the author of *Practical Horticulture* and other scientific works. John Craig will be remembered by his friends in Europe no less for his scientific attainments than for his genuine kindness and courtesy, which made a visit to him at Cornell an event not readily to be forgotten.

Francis A. Baller.—*The American Florist* records the death of Mr. Francis A. Baller, wholesale florist, of Bloomington, Illinois, U.S.A., from heart failure at his home July 10. Mr. Baller was a native of England and was formerly engaged in the Botanical Gardens, Birmingham. After settling in America he was engaged at different times at Rochester, N.Y., Niagara Falls and finally Bloomington. He started in business for himself in 1871. He was a proficient botanist and was known throughout the country as an authority on American horticulture.

Thomas White.—Mr. Thomas White, for many years superintendent of Riverside Cemetery, died at his home in Fairhaven, Massachusetts, U.S.A., after a long illness. Our American contemporary *Horticulture* states that he was a member of the New Bedford Horticultural Society and contributed articles to several of the horticultural magazines, including *Horticulture*. Mr. White was a native of England.

William McIntcsh.—*Horticulture* also announces the death of William McIntosh, florist 6, Percy Street, Charleston, U.S.A. He was a native of Scotland and 79 years of age. He retired from business some years ago. He is survived by two sons and two daughters.

John W. Richmond.—Mr. John W. Richmond florist and landscape gardener, died at New York on July 22. He was a native of England, and emigrated to America 20 years ago.



Answers to Correspondents

Address: *H. E.* Messrs. Van Tubergen, Bulb Growers, Haarlem, Holland.

Begonias: *A. J. F., Berks.* The plant you send is affected with the Begonia mite. Dip the foliage in Tobacco water, or, if this is impracticable, syringe the leaves with a nicotine extract, taking care to wet both surfaces.

Celery Unhealthy: *F. E. C.* The Celery leaves sent are quite free from any insect or fungous disease. The injury is due to some external influences.

Decay in Tree Trunks: *P. J.* In an article by Mr. W. J. Bean in the *Gardeners' Chronicle* for April 21, 1906, p. 244, on pruning trees and shrubs, he states that all, or as much as possible, of the decayed wood should be removed; then the surface should be washed with a strong solution of carbolic acid, and, after this has become quite dry, the surface should be smeared with coal tar. This antiseptic treatment is intended to destroy parasitic fungi and arrest the

"stopping" is formed of a piece of Oak made to fit; but large holes should be filled with cement. In either case a final coating of tar should be given. Except when the hole is very large, a new layer of bark will grow over the cavity when treated in the way described.

Eucalyptus: *J. S. H.* The pendulous, strap-shaped leaves represent the adult foliage, and when Eucalyptus trees reach this stage, they are generally hardier than usual. Such species as E. coccifera, E. coriacea, and E. Gunnii often develop three distinct forms of leaves on the same tree.

Gloxinias: *P. J.* There are a few thrips present on the leaves of Gloxinia sent, which may possibly have done the damage. A nicotine wash, such as Nicotine "Woburn Wash," will kill these pests.

Grapes Diseased: *W. W.* The berries are affected by "Grape rot" or Anthracnose (Glœosporium ampelophagum), which attacks the shoots, leaves and fruit, and may generally be detected first on the leaves in the form of greyish spots bordered by a dark line. Flowers of sulphur may be dusted on to the leaves and shoots at intervals of 10 days while the disease appears to be spreading. On the second application, a small quantity of quicklime should be mixed with the sulphur, and the quantity of lime should also be increased on every successive occasion until the proportions of lime and sulphur are nearly equal, but always with just a little more sulphur than lime. The branches should be washed thoroughly with a solution of sulphate of iron in winter, and rich stable manures should be employed very sparingly. Leaves, shoots and fruit which show signs of disease should be removed from the tree and burnt.

Grapes Unhealthy: *S. S.* The discoloration of the berries is not due to disease.

Lily of the Valley: *E. B.* The Lily of the Valley roots are suffering from a rot caused by bacteria. Various saprophytic fungi are present as secondary agents in causing the decay. It is not possible to say if the bacteria were present in the plants before storage or not. All affected stock should be destroyed by burning.

Melons Failing: *Hillfield* and *H. W.* In both cases the stems of the Melon plants contain a fungus, the spawn (mycelium) of which is very abundant in the large "vessels" of the stem and root. No other stage of the fungus is present, consequently identification is impossible. Send a whole diseased plant in a tin or wooden box, when we will make a further investigation and suggest remedies.

Names of Fruits: Correspondents sending Peaches and Nectarines for naming should enclose leaves of each variety, and state whether the flowers are large or small, and if the trees are grown under glass or in the open.—*J. Tobin.* Red Astrachan.—*W. T. S.* 1, Grosse Calabasse; 2, Williams' Bon Chrétien; 3, Marie Louise; 4, Catillac; 5, Malster; 6, Potts's Seedling.—*Bude.* The fruits were too ripe when packed, and arrived in a condition of pulp.—*M. M. K.* The Plums arrived in a very bad condition. So far as we were able to judge, they are not superior to varieties already in commerce.—*H. H.* Doyenné de Merode (syn. Doyenné de Boussoch). —*J. G. W., Goring.* 1, Dean's Codlin; 2, Cox's Pomona; 3, Duchess of Oldenburgh; 4, Stirling Castle; 5, Peasgood's Nonesuch; 6, Fearn's Pippin.

Names of Plants: *J. A.* You should number your specimens (white-flowered climber) Trachelospermum (Rhynchospermum) jasminoides, (Orchid) Lælia anceps, (Honeysuckle) Lonicera affinis var. hypoglauca, (Herbaceous plant) Brickellia cardiophylla.—*A. B. C.* 1, Sedum spurium; 2, S. spectabile; 3, Escallonia rubra; 4, Aspidium angulare; 5, Polypodium vulgare.—*J. S., Norfolk.* Agrostemma flos-Jovis.—*A. E.* 1 and 2, tuberous-rooted Begonias of no special merit; 3, Origanum Tournefortii.—*H. A. C.* Rubus spectabilis.—*N. F. P.* Polygonum dumetorum.—*R. V. & Son.* Antholyza paniculata. The Moræa is probably M. iridioides, which varies much in size and also in its distribution. —*F. F.* 1, Sophronitis violacea; 2, Hartwegia purpurea; 3, Cœlia macrostachya; 4, Pleurothallis conanthera. *E. W. S.* Olearia Haastii.

Peaches and Nectarines Dropping: *C. G.* There are no traces of any fungus present in the unexposed tissues of the Peaches, Nectarines or Grapes. In the case of the Peaches and Nectarines, after the skin cracks or is punctured various "moulds" enter and cause rotting. With regard to the Grapes some cultural error is probably responsible for the discoloration.

Water Lilies Failing: *W. W.* Either of the following may have been the cause of the Water Lilies failing to grow. (a) The plants may have been weakly, with but few roots when planted; (b) they may have been put into running water, which is very prejudicial to the successful establishment of the plants; (c) the unfavourable summer. Your best plan is to take them up carefully about the end of September, if by that time no growth has been made, and store them for the winter in tubs sufficiently large to receive them. They should be wintered in a cool greenhouse. It is advisable to plant Water Lilies not later than the end of May. When the conditions are not altogether favourable at the time of receiving them from the nursery it is best to keep them in tubs of water in a greenhouse or similar structure until they are fairly established in the baskets into which they have been planted. With fine weather in September the plants may yet make a certain amount of growth.

White Flowers for Easter: *E. M. M.* The following is a list of white-flowered plants that may be had in bloom at Easter:—Eucharis grandiflora, Pancratium fragrans, P. expansum, Gardenias, Schubertia grandiflora, Stephanotis floribunda, Orchids: Cattleya intermedia alba, C. Trianæ alba, Cœlogyne cristata alba, Cymbidium eburneum, Dendrobium Kingianum album, Lælia albida, L. purpurata alba, Miltonia candida, Odontoglossum citrosmum album, O. gloriosum album, O. Roezlii album, Thunia alba, Plumbago alba, Lapageria alba, Jasminum nitidum, Pleroma candida, Nerine white vars., Hæmanthus candidus, Clethra alnifolia, Rhynchospermum (Trachelospermum) jasminoides, Azaleas, including Daviesii, Deutsch Perle alba plena, Mlle. Marie Planchon, Niobe, Perle de Ledebery, Perle gendbrugge, Raphael, and Sakuntula, Camellia japonica alba plena, C. Sasanqua alba, Rhododendrons (greenhouse varieties), Cunningham's white, albescens, exoniense, Lady Alice Fitzwilliam, and nivale, Spiræa astilboides, S. compacta multiflora, S. floribunda, Lilium lancifolium album L. longiflorum Harrisii (Easter Lily), L. speciosum album, L. candidum, Lily-of-the-Valley, Richardia (Calla) africana, Tuberoses, white-flowered Carnations (including white Enchantress and Gloire de Nancy), and Pinks (Mrs. Sinkins, Her Majesty, and Modesty). Shrubs include Deutzia gracilis, Lilacs Madame Casimir and Madame Lemoine, Philadelphus hybridus Lemoinei, Prunus sinensis alba plena. Of bulbs you may select white-flowered Hyacinths, and Tulips alba maxima, Boule de Neige, Albion (White Hawk), Snowball, La Candeur, and Royal White; Narcissus albopleno-oderata and others; Iris hispanica (Spanish Iris), British Queen, and Blanche Fleur; Iris Anglica (English Iris), Mont Blanc; Gladiolus Colvillii alba (The Bride), and Freesia refracta alba. No time should be lost in obtaining and potting the bulbs. East Lothian white Stocks and dwarf white Chrysanthemum-flowered Asters—Comet (dwarf), Bridesmaid, and Empress Frederick, Comet Empress, Early Branching White Dwarf Queen, and Eclipse—may also be selected. The seeds of the Stocks and Asters should be sown early in September in shallow boxes filled with a light, rich mixture passed through a fine sieve. Place the boxes in a cold frame and water with a fine rose can. Transplant the seedlings at 2 inches apart and pot them in small pots before they become crowded in the boxes. Later on shift them into 4½-inch or 6-inch pots, and place them in a light position near to the glass to ensure sturdy growth.

Communications Received.—G. N. S.—T. S.—J. S. H.—E. L.—J. M.—H. E.—H. W.—W. W.—Fidem—W. J. F.—W. H. C.—R. V. & Son—A. J. F. G. C.—J. E. K.—E. C. L.—H. S. F.—G. E. L.—S. C.—M. & Co.—F. B.—E. H. J.—J. O'B.—W. G. M.—J. N.—R. J. A.—J. B.—A. A. F.—J. A.—L. M.—L. H. B.—W. G. K.—S. M. C. Chelmsford—W. C.—R. P. B.—J. G.—Fungi—Nutley—

MARKETS.

COVENT GARDEN, September 4.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Alstroemeria	3 0- 4 0
Arums (Richardias)	2 0 —
Asters, white	1 6- 2 6
— coloured, per doz. bunches	2 0- 5 0
— single, mixed	2 0- 3 0
Bouvardia, per dz. bunches	6 0- 7 0
Carnations, p. doz. blooms, best American var.	1 6- 2 0
— smaller, per doz. blooms	0 8-0 10
— Carola (crimson), extra large	2 0- 3 0
— Malmaisons, p. doz. blooms:	
— — pink	8 0-15 0
Centaurea (Sweet Sultan) mauve and white, per doz. bunches	2 0- 3 0
— yellow	1 0 —
Chrysanthemums, per dozen:	
— white	1 0- 3 0
— pink	1 0- 2 6
— yellow	1 0- 2 6
— bronze	1 0- 2 0
— white, per doz. bunches	4 0- 6 0
— coloured	4 0- 6 0
— maximum, per doz. bunches	0 9- 1 0
Coreopsis, per doz. bunches	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches	0 6 -0 9
Gardenias, per box of 15 and 18 blooms	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	2 0- 2 6
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
Lapagerias, white, per dozen	1 6- 2 0
Lilium auratum, per bunch	2 6- 3 0
— longiflorum, per doz., long	2 0- 2 6
— — short	2 0- 2 6
— lanciforium alba, long	2 0 —
— — short	1 6- 2 0

	s.d. s.d.
Lilium speciosum rubrum, p. dz.,	
— long	1 6- 2 0
— short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches	4 0- 5 0
Montbretia, pr. dz. bunches	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	12 0-15 0
— Cattleya Harrisonæ, pr. doz.	6 0 —
— Odontoglossum crispum	3 0- 4 0
Pancratiums, p. dz. spikes	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 0
— C. Mermet	0 9- 1 0
— Frau Karl Druschki	0 9- 1 0
— General Jacqueminot	0 9 —
— Liberty	1 6- 2 0
— Madame A. Chatenay	1 0- 2 6
— Niphetos	1 0- 1 6
— Richmond	1 0- 2 6
— Sunburst	1 6- 2 0
— Sunrise	0 6- 0 9
— President Carnot	1 6- 2 0
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegen	1 0- 1 6
— Kaiserine	0 9- 1 6
Scabiosa caucasica, per doz. bnchs.	2 0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve,	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	2 0- 2 6
Stock, p. d. bnchs:	
— white	4 0- 5 0
Tuberose, p. doz. blooms, long	0 6- 0 8
— — short	0 5- 0 6
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches	1 6- 3 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Carnation foliage, doz. bunches	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	8 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross bunches	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, p. dz.	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Asters, per dozen	4 0- 5 0
— various colours, per dozen	6 0-12 0
Campanula, blue and white	8 0-10 0
Chrysanthemums, 48's	6 0-12 0

	s.d. s.d.
Croton, per dozen	18 0-30 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, doz.	6 0 —
— choicer sorts per doz.	8 0-12 0
— in 32's, per dz.	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0-18 0

	s.d. s.d.
Lilium lancifolium alba. in pots, per dozen	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Mignonette, 48's, per dozen	6 0- 8 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— English ½ bshl.	2 6- 4 0
— Cooking, bshl.	3 0- 6 0
— Tasmanian per case	13 6-16 6
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured	5 6- 6 6
— Jamaica Giants, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Blackberries, peck	2 0- 2 6
Figs (Guernsey), per dozen	1 6- 2 0
— English	1 6- 2 0
— (French), boxes	1 6- 2 0
Damsons, ½ bushel	2 0- 2 6
Grape Fruit, case:	
— 96's	24 0-26 0
— 80's	
— 64's	
— 54's	
Grapes (English), per lb.:	
— Hamburgh	0 9- 2 0
— Canon Hall	1 6- 5 0
— Muscats	10- 3 0
— Gros Colmar	1 2- 1 6
— Black Alicante	0 8- 1 6
— Madresfield Court	1 6- 2 0
— Gros Maroc	1 0- 2 0
Greengages (English), ½ bushel	5 0- 6 0
Lemons, per case:	
— Messina	8 6-16 6
— ordinary	6 0- 7 0
— Naples	18 0-28 0

	s.d. s.d.
Limes, per case	2 6 —
Melons (Guernsey)	0 6- 1 6
— (English)	0 9- 2 0
— Canteloupe	2 0- 4 6
Nectarines, p. dz.:	
— selected	8 0-15 0
— best	3 0- 8 0
— seconds	
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 2- 2½
— Filberts, per lb.	0 2- 0 3
— Walnuts (French), p. lb.	0 4- 0 6
Oranges:	
— Italian per case	13 0-20 0
— Cape, per case	18 0-24 0
— Naartjees, per box	3 6- 4 0
Peaches	
— English, dozen;	
— selected	8 0-15 0
— best	2 0- 6 0
— seconds	
Pears:	
— French, pr. box	3 0 —
— — per case	4 0- 6 0
— English, ½ bushel	2 6- 5 0
Pineapples, St. Michael	2 6- 5 0
Plums, French, ½ sieve	3 0- 6 0
— English, ½ sieve	3 0- 6 0
— (Californian), crate	8 6-12 0

Vegetables : Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen	2 6 —
Aubergines, per dozen	2 0 —
Beans:	
— French, ½ bshl.	3 0 —
— Scarlet Runners, per bushl.	1 6 —
— — per bag	4 0 —
Beetroot, per bushel	1 6 —
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	3 0 —
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun.	2 0- 3 0
— per bag	3 6 —
Cauliflowers, per dozen	2 0 —
— tally	6 0 —
Celery, per dozen	1 6 —
— dirty	1 0 —
Cucumbers, per flat	3 6 —
Endive, per dozen	1 6 —
Greens, p. bushel	1 0 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles	15 0-18 0
Leeks, per doz.	2 0 —
Lettuce (English), Cos, per box	1 6 —
Cabbage, per box	1 0 —
Marrows, per tally	2 6-4 0

	s.d. s.d.
Mint, per dozen bunches	2 0 —
Mushrooms, cultivated, per lb.	0 6- 0 9
— field, per lb.	0 3 —
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bushel	2 6 —
— (Spring), per doz bunches	3 0 —
— (Spanish). case	5 0- 7 0
Parsley, ½ sieve	2 0- 3 0
— per doz. bun.	2 0 —
Parsnips, pr. bshl.	1 0 —
— per bag	2 6 —
Peas (English), per bushel	3 6- 5 0
— bags	9 0 —
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen	1 0 —
Sage, per dozen	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel	2 6 —
Tomatos, per doz. lbs.:	
— (Guernsey),	1 9 —
— (English)	2 0- 2 6
— seconds	0 9- 1 0
— (French), crates	2 6 —
Turnips (English), per dz. bunches	2 6- 3 0
— per bag	3 6 —
Watercress, p. dz. bunches	0 6 —

REMARKS.—Large quantities of dessert and culinary English Apples continue to reach the market. There are also ample supplies of English Pears. French consignments consist of the varieties Beurré Hardy, Williams's Bon Chrêtien and Louise Bonne of Jersey, and the supply appears to be unlimited. Beurré Hardy Pears from California have arrived this week in excellent condition. Home-grown Plums are not so plentiful as hitherto, but fairly large quantities of Californian Plums will be obtainable for the next few weeks. Large quantities of Damsons, which sell at reasonable rates, are now available. Grapes of all varieties are in excess of the demand, and, as a consequence, prices show a downward tendency. Figs and Melons arrive in limited quantities and their prices are high. Peaches are fairly good, but lack colour, and are difficult to sell. The demand for Nectarines is greater than the supply. Cobnuts and Filberts are exceedingly plentiful. Tomatos from English, Dutch, and French growers arrive in large quantities daily, and prices are very low. There are abundant supplies of all vegetables except Potatos. *E. H. R., Covent Garden, September 4, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per cwt. s.d. s.d.
Bedfords	4 0- 4 6	Blacklands	3 9- 4 3
Kents	4 3- 5 0	Lincolns	4 0- 4 6

REMARKS.—Trade is not quite so good and prices are lower. Larger consignments have been received, although many parts of the Fen district are still flooded. *Edward J. Newborn, Covent Garden and St. Pancras, September 4, 1912.*

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending September 4.

The third wet, cold, and sunless week in succession.—The days, as was the case in the previous four weeks, were all more or less below the average in temperature. The nights were again variable as regards temperature, but on the coldest night the exposed thermometer fell to freezing-point. The ground still remains cold, and is now 2° colder than is seasonable, both at 1 and 2 feet deep. Rain fell on all but one day, and to the total depth of three-quarters of an inch. In the last three weeks there have been only two days without rain, and the total measurement has amounted to over three inches, which is equivalent to 13½ gallons on each square yard of surface in my garden. During the same period 10 gallons of rain-water has come through the bare soil percolation gauge, and also through that on which short grass is growing. The sun shone on an average for four hours a day, which is 1½ hour a day short of the mean duration for the same period of the year. Light airs have as a rule prevailed during the week. The average amount of moisture in the air at 3 o'clock in the afternoon fell short of a seasonable quantity for that hour by three per cent. *E. M., Berkhamsted, September 4, 1912.*

SITUATIONS VACANT.

Four Lines 3s. (Head-line counted as Two), 6d. for each succeeding line.

PRIVATE.

WANTED, GARDENER (HEAD WORKING), at Hants. County Asylum, for large Garden and Grounds; must be thoroughly experienced in Vegetables, Flowers, Fruit, and general garden work; age not to exceed 35; wages to commence at 30s. per week, subject to deductions under the Asylums Officers' Superannuation Act, 1909.—Applications, stating age, experience, and all particulars, to be sent to the SUPERINTENDENT, Hants. County Asylum, Fareham.

WANTED, GARDENER; thorough knowledge Vegetables, Flowers, Tomatos; unmarried; boy kept; state age, wages required.—WELLER, Rumseys, Amersham, Bucks.

WANTED, GARDENER (SINGLE-HANDED); young married man; hard-working; with good knowledge of Roses, Herbaceous Plants and Vegetables; must undertake knives, boots, and windows, and be generally useful; good references; no cottage; Woking district.—Apply, stating age and wages, to E. S., 2, Clement's Inn, Strand, London.

WANTED, experienced GARDENER (KITCHEN); single; take Sunday duty; wages 18s. per week, 2s. 6d. lodgings.—Apply, J. FRANCIS, Stokesay Court Gardens, Onibury, Salop.

WANTED, GARDENER (SECOND) with good experience; age 21; no Bothy.—Apply, W. MASSAM, Greengrocer and Fruiterer, Great Crosby, Liverpool.

WANTED, Married MAN for Kitchen Garden and Pleasure Grounds; age about 30; used to Mowing Machine; wages £1 per week with cottage.—Apply, HUGHES, The Gardens, Annesley Park, Notts.

WANTED, smart MAN for Kitchen Garden; not under 24; wages 18s. per week and Bothy.—STRONG, High Grove, Pinner.

FOREMAN (OUTSIDE).—Wanted, at once; aged 25 to 30; married or single; with first-class knowledge of Outside work, especially Herbaceous Borders, Shrubberies, Roses, and Hardy Fruits; exceptional personal character essential.—L. C., Sutton & Sons, Reading.

WANTED, for the Plant and Fruit Houses, FOREMAN; about 26; Protestant; with good experience in Fruit and Plant Growing; must be hard-working and methodical; three men and boys to assist; duty every third week; 20s. per week, Bothy, vegetables, some milk.—Apply, with copies of testimonials, to W. BRADBROOK, Emo Park Gardens, Portarlington, Queen's Co.

WANTED, a FOREMAN; chiefly Inside; must have good experience in Plants, Azaleas, Carnations, Roses, Fruit and Table Decorations; not under 26; excellent references essential.—Apply, by letter, to HEAD GARDENER, Nonsuch Park, Cheam, Surrey.

THE
Gardeners' Chronicle

No. 1,342.—SATURDAY, Sept. 14, 1912.

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THE MARKET FRUIT GARDEN.

ALTHOUGH the misfortunes of fruit-growers in connection with the phenomenally bad weather pale into insignificance in comparison with the veritable calamity suffered by Corn growers, still the season has been one of the worst ever experienced. In the winter we had mild weather when frost would have been seasonable, in the spring frost when mild weather was desirable, and drought when plenty of rain was needed, while in the summer there was an alternation of drought and flood which was highly injurious in one way or another. Further, great gales in August brought fruit down in showers. In short, fruit crops at one time or another suffered from almost every adverse weather condition that could occur. It is not necessary to repeat the old story as to many varieties of fruit trees failing to blossom or to set the blossom which they did produce, the great damage done by spring frosts, and the tremendous and sustained attack of the aphis. But the weather conditions of the last of the summer months and the results claim attention.

A Wet and Cold August.

Some writers have compared the weather of last month with that of the disastrous summer of 1879. I have not any record of the rainfall of August in that year, but the wreck of the Corn harvest then was due to the prolongation of wet weather through September and October, great quantities of Corn having been exposed in the fields until November. I cannot call to mind, however, any previous August both as wet and as cold as the past month, or one in which as much fruit was blown off the trees by gales. At my own place rain was measured on 23 days amounting to 5.48 inches, or more than double the average for the month. This was a very small total in comparison with the measurements in some parts of the country. Nearly half as much again, or 7.34 inches of rain, fell at Norwich in 29 hours, and a friend just over the Norfolk border, in Suffolk, registered 5 inches. Thousands of acres of land were inundated in the eastern counties, the midlands, and other parts of England or Wales, doing an incalculable amount of damage to Corn and belated Hay crops. One Suffolk grower states that the Victoria Plums left at the time ungathered were spoilt, while Monarchs were greatly injured. Even with my less amount of rain much splitting was caused in Plums. It was not safe to leave any to become nearly ripe, as those in that condition split or rotted at the stalk-ends. Nearly every Greengage on some large trees was split, while the condition of Cox's Golden Drop, a fair crop, was nearly as bad. Still, by picking Plums as soon as they were fairly coloured, and before they became soft, whenever rain held off for a few hours, the bulk of the fruit was got into the markets in good condition. Growers in some districts were less fortunate, and had much fruit rendered unmarketable.

Results with Apples and Pears.

The chief cause of loss in the Apple crop during August was that which was due to gales. The fruit was ready enough to drop without any strong wind, and it fell in showers when gales occurred. Pears also were blown off the trees to a great extent, while some varieties became badly spotted with scab as the result of the continuous wet weather.

The Weather and the Markets.

It was stated last month that the demand for fruit was greatly reduced by the coldness of the weather in the latter part of July, and these conditions were continued during the whole of the marketing season for Plums. Accordingly, prices, although well up to average, were not nearly so high as they would have been in a normal season, taking the lightness of the crop into account. Large quantities of Victorias of fair size were sold at 3s., and some smaller fruit at 2s. 6d. per half-sieve, while the prices of Pond's Seedling and Monarch ranged from 3s. to 5s., mostly going at 4s., with all rail and market expenses to come off. As for Apples, the markets throughout the month were glutted with windfalls, and a salesman of long experience states that the trade for this fruit was worse than he had ever known it. Great quantities of good cookers were sold at 3s. a bushel, fair ones at 2s. 6d., and small fruit at 1s., while dessert varieties, such as Worcester Pearmain, made only 1s. 6d. to 2s. 6d. per half-sieve. Even at such low prices it was often impossible to clear the markets. Pears, partly in consequence of their extraordinary abundance, and partly on account of a small demand, sold at prices lower than any I remember. Good fruits of Williams's Bon Chrétien and Clapp's Favourite, which in an ordinary season would have made 1s. per dozen, realised only 2s. 6d. to 3s. 6d. per half-sieve, while inferior lots were sold as cheaply as Apples. Cobnuts, a tremendous crop, soon fell from 3d. to 2½d. and 2d. per lb., or about half their usual prices.

Good Result of the Wet Period.

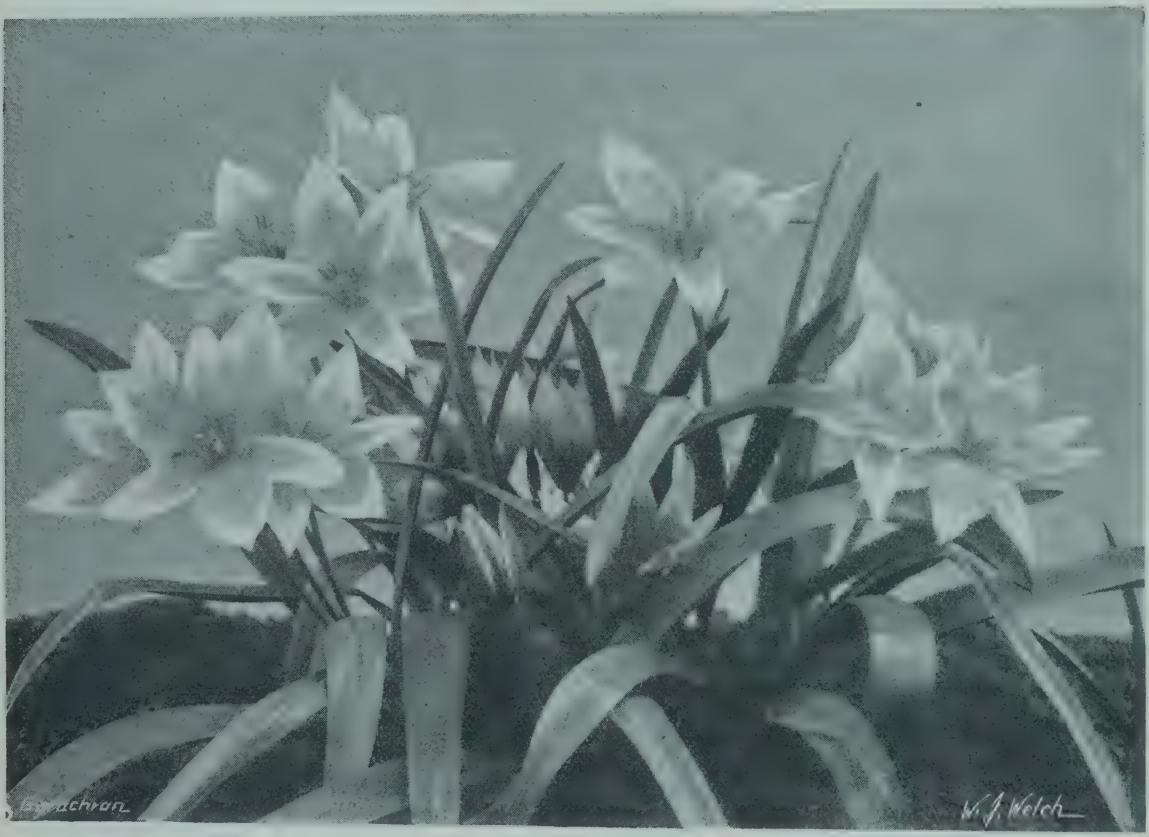
Perhaps the only benefit of the wet weather of the latter part of July and the whole of August, so far as the fruit-grower is concerned, is the fine growth made by young Apple trees, which at one time seemed to be nearly ruined by the great and prolonged infestation of aphides. The shoots above the damaged portions of the trees have grown long and strong, and where those parts were not twisted it may be safe to leave them at the winter pruning. But it seems to me that the best results will be those following the experiment of cutting the aphis-injured shoots back early in July below the injured parts. The new wood, I believe, will withstand the frosts of winter, as it is very vigorous, though a dry and sunny autumn would greatly increase its chances in this respect.

The Weediness of Fruit Plantations.

Such a mass of rampant weeds as is to be seen in most fruit plantations has rarely been witnessed before. It has been simply impossible to clear the land of them. During the whole of August the land has been too wet for effective hoeing, and the work done has only checked weeds, without killing them, as they were reset commonly on the day after they were chopped out of the soil. The chief good done has been the prevention of seedings, and even this has not been effected in the case of some weeds. If September, which has begun badly, should prove a rainy month, there will be no chance of cleaning the land before the digging time comes, and that operation is never satisfactory when the land is in a very foul condition.

Tobacco-growing on Fruit Farms.

It is too soon to congratulate fruit-growers upon the announcement that, just before the Finance Bill passed through the report stage in the House of Commons, Mr. Charles Bathurst succeeded in inducing the Government to accept a clause authorising the Commissioners of Customs and Excise to issue licences to persons in the United Kingdom to grow Tobacco for insecticides and sheep-dips without payment of duty. In the first place, it is not by any means certain that the Commissioners will do what they are authorised to do. They are extremely cautious gentlemen, and they may come to the conclusion that they cannot issue the licences without the danger of loss of revenue; or, if they issue them, the conditions may be so onerous as to be in effect prohibitive to the growing of Tobacco. On inquiry, I have been informed that the Government chemists are not satisfied that my suggestion of having the crop sprayed, in the presence of a police officer, with lime-sulphur, just before cutting it, would prevent its steeping and cleansing afterwards for the adulteration of imported Tobacco. Really, this objection seems far-fetched. Considering what a vast benefit to the fruit industry it would be to allow growers to produce the best of all insecticides, now sold at a price almost prohibitory, the very slight risk of the abuse of the privilege might be taken. An extremely heavy penalty on the sale of Tobacco from farms without a special licence, and then under stringent conditions, would render any loss to the Revenue so extremely improbable that it might be regarded as negligible. As stated on a former occasion, there would not be any need of going to the expense of extracting the nicotine. The Tobacco crop might be harvested and stacked as Beans are, and, when required for use, it could be cut into small pieces, stalks included, with a chaff-cutter or otherwise, and boiled in a large copper to make Tobacco-wash.



[*Photograph by W. Irving.*

Fig. 92.—Tulipa dasystemon: flowers deep yellow with lighter coloured tips.

Rabbits in Orchards.

The mischief done by rabbits in orchards is not limited to the injury they do to the bark of trees not protected by wire netting. They gnaw and spoil windfall Apples. Some very fine fruit dropped this season, even of varieties which should not need to be gathered for weeks to come, and nearly every fruit was gnawed if left for a single night on the ground, although rabbits are kept down very closely on my farm.

"Reversion" in Black Currants.

Like Mr. Pearson and others, I have been troubled with reversion in Boskoop Giant Black Currants, though not to the extent of even five per cent. My original stock was raised by me from cuttings, and after the first season all the cuttings were taken from healthy maidens. It must be suspected that the enormous extent of "reversion" in Mr. Pearson's bushes is due to raising plants from cuttings obtained partly from bushes already affected. I have some thousands of maiden and two-year-old bushes in a nursery patch, and a walk through them has not shown me a single case. Every affected bush in the established plantations is trodden down when detected, for replacement by a good one; the small fruits are not gathered, as they would injure the sample. "Reversion" is not infectious, but affected bushes never recover, and therefore should not be allowed to cumber the ground. In plantations younger than the one which contains some purchased bushes, there are extremely few cases. The defect is easy to detect, as the bushes are much more bushy than the normal ones, and have smaller and more pointed leaves. The suggestion that injury to the bushes causes the trouble seems to me unwarranted. The case appears to be simply one of reversion to the wild state.

Colouring of Apples.

Contrary to the experience of Mr. Gilthorpe (p. 201), I find there is less colour in Apples generally this season than for many years past. As a rule, Apples in my soil and climate are conspicuous for good colour; but this season early varieties dropped to an extraordinary extent, and had to be picked before the proper time. Except in a small grass orchard, the colouring of nearly every variety is deficient, in consequence of lack of sunshine. Rain, as well as sunshine, may be necessary for the highest colouring; but the sunshine is essential, as indicated by the fact that the colour on each fruit is fully developed only on the portions most exposed to the sun's rays. A completely-shaded Apple is almost entirely devoid of red or brownish-red colouring. *A Southern Grower.*

VEGETABLES.

CULINARY PEAS.

Peas have done splendidly this season; in fact, I never remember them being better. Among some of the best varieties is one named Harvestman, a grand Pea, said to be a cross between Express and Duke of Albany. The pods are distinct in shape, more regular in growth, not so tall, and altogether much superior to Duke of Albany. It is one of the best Maincrop varieties in cultivation, and a more profitable Pea it would hardly be possible to imagine. The flavour is splendid.

Commonwealth is a fine Pea of dwarf habit. rarely exceeding 2 feet in height, but its prolific bearing habit, together with its fine cooking qualities, place it in the front rank. It is a fine Pea for a small garden.

Another novelty is Carter's International, a cross between the famous Early Morn and Duke of Albany. The variety does remarkably well in this district. It is very distinct, both in shape and habit. The pods are a rich, deep green, and contain from 9 to 11 Peas of large size and rich Marrow flavour.

Dreadnought is another rare, good Pea, and as an addition to the Maincrop varieties, it is good for amateur exhibitors and market growers. The pods are a deep-green colour, and they have a rather blunt top. The variety is not affected by drought or mildew, and it should become popular amongst all classes of growers.

Carter's Latest Giant is a late Marrowfat variety, a cross between Gladstone and Exhibition. The pods are large, and contain generally 10 or 11 large Peas of the best flavour. The plants crop well in October in a suitable season. This variety is succeeded by Michaelmas, a moderately dwarf Pea (3 feet), which produces well-filled pods up to October. I have gathered both old and new pods at Michaelmas. Late Peas should be given plenty of room both in the rows and between the plants, so that the sun and air may reach all parts of the plants. As a specific for mildew, I have found nothing so good as spraying with sulphur mixed with milk. In dry seasons a good heavy mulch should be placed over the roots to keep the ground cool and prevent cracking of the soil. *W. A. Cook, Leonardslee Gardens, Horsham.*

TULIPA DASYSTEMON.

This little-known Tulip (see fig. 92) belongs to the Orithyia section of the genus, which includes species that are nearly all of small stature and possess comparatively small flowers. T. dasystemon is a charming plant, growing only about 6 inches high. The flowers have yellow segments edged with white. When fully open in sunny weather a group produces a brilliant effect, and it is one of those small bulbous plants that are most appropriate for the rock-garden planted between other low-growing plants. The bulbs may be left undisturbed in the ground; a group planted amongst Alyssum spinosum in the rock-garden at Kew flowered quite as freely the second year as the first. It makes a splendid subject for the Alpine-house, being easily grown in pans, and flowering about the end of March or beginning of April. T. dasystemon is a native of Eastern Turkestan, where it was discovered by Dr. A. Regel in 1879, at elevations of from 8,000 to 10,000 feet. We are indebted to Messrs. Van Tubergen for the introduction of this species to cultivation. *W. I.*

NURSERY NOTES.

NOTES FROM COOMBE WOOD.

The large valley which constitutes the greater part of Messrs. Jas. Veitch & Sons' nursery at Coombe Wood admits of arrangement that would not be possible on level ground, and viewed from above the blocks of green in different shades, relieved by masses of colour, either of foliage, fruit or flower, present a charming appearance. Owing to the conformation of the ground suitable spots can be found for plants of very diverse requirements, including sheltered nooks for the more tender subjects. The bottom of the valley being well supplied with water, forms a congenial home for numerous moisture-loving plants.

With the advent of September the number of shrubs in flower compared with those in bloom three months earlier is decidedly fewer; still there is sufficient to make a goodly show. The hardy Fuchsias are so beautiful that their comparative neglect in many gardens is difficult to account for while, as might be expected, the different forms of Buddleia variabilis are laden with their semi-pendulous racemes of beautiful flowers. Sambucus canadensis, with its massive heads of blossoms, stands out as the finest of all the Elders when viewed from a floral standpoint, and the little Daphne-like Rhododendron intricatum is still sprinkled over with its pretty Lilac-coloured flowers. Though only distributed last year, Potentilla Veitchii has already gained many admirers owing to its pretty snow-white flowers, which are produced from spring till autumn. Hibiscus syriacus, represented by several of the finest varieties, is also very beautiful, while many of the Cistuses and varieties of Ceanothus are also in bloom. Others that contribute to the floral display are Abelia chinensis (syn. A. rupestris), Indigofera floribunda, Tamarix peritandra (syn. T. Pallasii rosea and T. hispida æstivalis), Escallonia langleyensis (an autumnal crop), Spiræas of sorts, Diervilla (Weigela) Eva Rathke, Veronicas, Lespedeza Sieboldii (syn. Desmodium penduliflorum), and Eucryphia pinnatifolia.

Brightly-coloured berries are strongly in evidence just now, the brightest of all being that form of Cratægus Pyracantha known as Lælandii. Numerous examples are absolutely laden with berries, which are so much appreciated by birds that it is necessary to protect the bushes with nets. Beside the generally cultivated species, especial mention must be made of Cotoneaster rugosa Henryi, a loose-growing shrub, with leaves and branches of a drooping habit. The berries, which are freely borne in clusters, are scarlet. In C. applanata the long, partially weeping branches are wreathed throughout the greater part of their length with bunches of scarlet fruit, while the fruits of C. pannosa, though borne freely, are much duller in colour. An evergreen species, which from its procumbent habit is well fitted for clothing steep banks or for planting on the larger arrangements of rockwork, is C. humifusa, whose vigorous branches lie flat on the ground. They are clothed with small, dark-green leaves. The scarlet berries are freely borne, but mainly on the undersides of the shoots, so that they are scarcely visible unless the branch is lifted clear of the ground. Numerous examples of the Sea Buckthorn are laden with their bright orange-coloured berries. At Coombe Wood the specimens of the two sexes are planted together to ensure the flowers being fertilised.

Viburnum rhytidophyllum is at all seasons remarkable for its handsome rugose leaves; in the spring the large flattened corymbs of flowers form a notable feature, but its most attractive stage is in early autumn, when the berries change from green to bright red. They remain in this stage for a considerable time, ultimately becoming of a deep purple hue. Several of the Barberries are also very pretty; also the white-fruited Symphoricarpus occidentalis which is, from an ornamental standpoint decidedly superior to S. racemosus, the common Snowberry.

An immense number of climbing plants are grown at Coombe Wood. The many Chinese vines with which Messrs. Veitch's name has been so closely identified in recent years are to be seen in great quantities and in all sizes. The huge leathery leaves of Vitis Coignetiæ and V. Thunbergii have already assumed their brilliant autumn tints. Perhaps the finest of all these vines is Vitis armata Veitchii, and a particularly striking member of the smaller-leaved forms is V. Henryana, with leaves of a velvety green and a silvery midrib. Beside the many Chinese kinds, the cut and purple-leaved varieties of the common Grape are also largely grown. Other rapid-growing climbers with handsome foliage are Actinidia chinensis, Aristolochia moupensis, A. Sipho, Celastrus hypoglaucus, Cocculus heterophyllus and Polygonum multiflorum. A notable feature of the beds filled with young plants of Clematis was the freedom with which some of them are flowering, especially the pretty and distinct Clematis montana rubens. Besides the different subjects above named, Ivies, Honeysuckles, Jasmines and others are represented by large numbers of the very finest kinds. Polygonum baldschuanicum is justly valued for its free-flowering qualities.

Conifers thrive remarkably well at Coombe Wood, and they are so varied in colour that amongst evergreen trees their beauty is unequalled. Viewed in a mass some of them are of a decidedly sombre green tint, whilst others have brighter tones. Silvery grey or bluish tones are represented by Abies pungens glauca, Cedrus atlantica glauca, Cupressus Lawsoniana, Allumii, C. L. Triumph of Boskoop, and Juniperus virginiana glauca. Golden tints are more numerous, there being beside the several forms of Golden Yew, Cedrus atlantica aurea, Cupressus Lawsoniana lutea, C. L. Stewartii, C. (Retinospora) obtusa aurea, C. obtusa Crippsii, C. pisifera filifera aurea, and C. plumosa aurea.

Of other Conifers the numerous fine examples of Sciadopitys verticillata merit at least a passing notice, and the new Chinese species, Pinus Armandii, belonging to the Cembra section.

Of trees and shrubs of recent introduction, I noticed Berberis Gagnepainii, B. verruculosa, and B. Wilsoniæ, three charming Barberries; Catalpa Fargesii, with purplish flowers, Davidia involucrata, with white bracts; Decaisnea Fargesii, a tree with pinnate leaves and blue fruits; Ilex Pernyi, a pretty, small-growing Holly; Juglans cathayensis, a very distinct Walnut; Ligustrum Henryi, a neat, much-branched evergreen; Lonicera nitida, a compact little shrub; Magnolia Delavayi, a grand evergreen Magnolia; Populus lasiocarpa, with huge leaves; Rubuses of sorts; Sarcococca ruscifolia, and S. humile, both evergreen shrubs that will thrive under trees; Schizophragma hydrangioides, S. integrifolia, Viburnum Henryi, and V. utile.

There is a fine collection of hardy Heaths at Coombe Wood, as, indeed, there is of American plants in general. Just now the numerous forms of the Ling or Heather (Erica vulgaris) are at their best. By some the white Heather is looked upon as a rarity, but here there are several varieties with white blossoms. A particularly good white form is Searlei, and a suitable companion to it is the purple Alportii. The double-flowered variety must on no account be omitted in any selection of the best varieties. Dabœcia (Menziesia) polifolia is, as it has been for a long time, in full flower. Beside the ordinary form there are also the white and the parti-coloured varieties, while a striking kind not so well known as the others is atropurpurea, with blossoms much more richly coloured than those of the type.

The bottom of the valley is an ideal spot for hardy Bamboos and being sheltered from the east winds forms a congenial home for a representative collection of Camellias, all in robust health. Of herbaceous plants several of the newer introductions from China are grown in large quantities, including Primulas, Meconopsis, Astilbes, Rodgersias, Senecios, and the pretty Rheum Alexandræ, with large, pale-yellow leaf-like bracts in the spring.

Unlike most nurseries, Coombe Wood possesses some specimens that may be regarded as of historic interest, that is to say, either the first, or one of the first of their kind introduced into this country. These specimens, which are for the most part scattered about on the slopes of the valley, include a tree 25 feet high of Acer palmatum, the produce of seed sent home by the late Mr. John Gould Veitch about 50 years ago; Pinus parviflora, from the same collector; Laricopsis (Pseudolarix) Kæmpferi, one of the oldest trees in the country; a 15 feet specimen of Eucryphia pinnatifolia, from seed sent home by Richard Pearce; the original plant of that pretty hybrid, Escallonia langleyensis, and the following introduced by Charles Maries—Acer distylum; A. carpinifolium, 15 feet high; Quercus acuta, a very large specimen; Stuartia pseudo-Camellia, just out of flower; and Cornus brachypoda, a tree 25 feet in height. Beside these there is the tree of Davidia involucrata, brought home by Mr. E. H. Wilson in his cabin, and a 10 feet high specimen of Magnolia Delavayi. *W. Truelove.*

THE ALPINE GARDEN.

CAMPANULA STENOCODON.

This very rare Campanula is practically unknown in gardens; in fact, I doubt whether, apart from the batch of specimens which I have at Stevenage, it is in cultivation anywhere else in the country. As, however, it is an easy grower and exceedingly pretty, I have little doubt that it will soon become a well-known and well-loved garden plant. Campanula stenocodon belongs to the "rotundifolia" section. In general habit it has the appearance of the common Harebell, refined, more slender, and with much narrower stem leaves. The outstanding characteristic of C. stenocodon from the garden point of view is the shape and colour of the flowers, which are long, narrow and tubular, instead of bell-shaped, more tubular even than in C. Tommasiniana (Waldsteiniana). In colour they are a rich and very beautiful lilac-purple.

I collected the plant two years ago in the Miniera Valley of the Maritime Alps, near Tenda. It was creeping about in a rather diffuse manner on a stone slide, and the task of collecting the frail and threadlike underground stems from the coarse rubble and large stones, and getting them alive to England, seemed a hopeless one. Rather to my surprise, and greatly to my joy, they survived, and have since done exceedingly well. One piece was planted out on the rock-garden in a rich, turfy loam, where it has spread and flowered profusely. The others were potted in a gritty compost, and have done equally well. In fact, so catholic do the tastes of C. stenocodon appear to be that I should not be surprised if it consented to endure moraine treatment, but until it is a little more common I shall continue to let it enjoy the loam it seems to love so well.

I find that C. stenocodon in a much more attractive and valuable plant in cultivation than it is in the wild state. Its habit of growth is more compact, and it is freer flowering, yet it retains its very characteristic tubular blossoms, and also its curious wiry charm, which is akin to the charm of C. excisa. *Clarence Elliott, Stevenage.*

PROPAGATION OF STRAWBERRIES.

Apparently few growers of Strawberries fully realise the importance, and the immense advantages of an occasional change of stock for propagating purposes. Proper attention is seldom given to this matter, yet change of stock is necessary to produce annually large crops of fine fruit, both by forcing and outside cultivation. The value of a change of Potato sets is generally acknowledged, and my experience convinces me that it is just as necessary to periodically change the stocks of Strawberry plants. The present is the best time of year for introducing fresh plants, preferably those that have been grown in 3 or 4-inch pots. The practice in these gardens is as soon as the new plants are received to prepare nursery lines and plant them in rows made 2 feet apart, allowing a distance of 1 foot between the plants in the rows, planting very firmly, and affording a mulching of short manure. In the spring, when the plants show flower, the beds are inspected and only those plants which show good strong spikes of bold flowers are retained; all sterile or doubtful plants are destroyed. The earliest runners are layered for forcing purposes, and the next best are selected for forming fresh beds. It is only by this continued process of selection, aided by change of stock, that crops can be kept up to standard. There is a tendency amongst all cultivated plants to revert to the original type, hence "rogueing" and selecting must be constantly practised. It often happens that certain Strawberry plants become barren or sterile and show few or no flowers, yet produce the earliest and best-looking runners. But to propagate from such plants is wrong, and the inexperienced or careless propagator does not observe this fact until it is too late for remedy. Strawberry plants kept on the same ground for any considerable length of time deteriorate very considerably both as regards the quantity and the quality of the fruit. The constitution of the plant is affected and shows a worn-out appearance and evident debility. It is advisable to plant one or more new varieties each season, so as to ultimately secure a selection of those best adapted for the particular soil and locality, for it is well known that all varieties will not succeed on every kind of soil or in every district. I have tried hard to grow in three counties, namely, Kent, Oxfordshire and Worcestershire, the well-known variety Sir Joseph Paxton, but have never yet resided where I was able to grow it to my satisfaction. As regards new varieties, it is advisable not to arrive at too hasty a conclusion as to their merits, for sometimes the constitution of a new variety is impaired for a year or two by forced propagation. *W. Crump, Madresfield Court Gardens, Malvern.*

NOVEL METHOD OF FORCING MELONS.

The illustration reproduced in fig. 93 is copied from a Japanese horticultural journal, and shows a remarkably fine crop of Melons grown under unusual conditions. The frame is heated, but not by the usual system of hot-water pipes, the warmth being derived from a natural hot-water spring, situated beneath the frame. The first experiments in forcing crops in this way were made at Matsumoto, Shinshinu, a few years since. There are innumerable hot springs in Japan, and as the venture has proved so successful it is probable that these will be made large use of for forcing vegetables and such crops as Melons on commercial lines. There is a danger to vegetation when sulphur is present in the water, which is often the case with these hot springs. But we are informed that there are plenty of the geysers in Japan which contain no such minerals and are perfectly safe for the purpose.

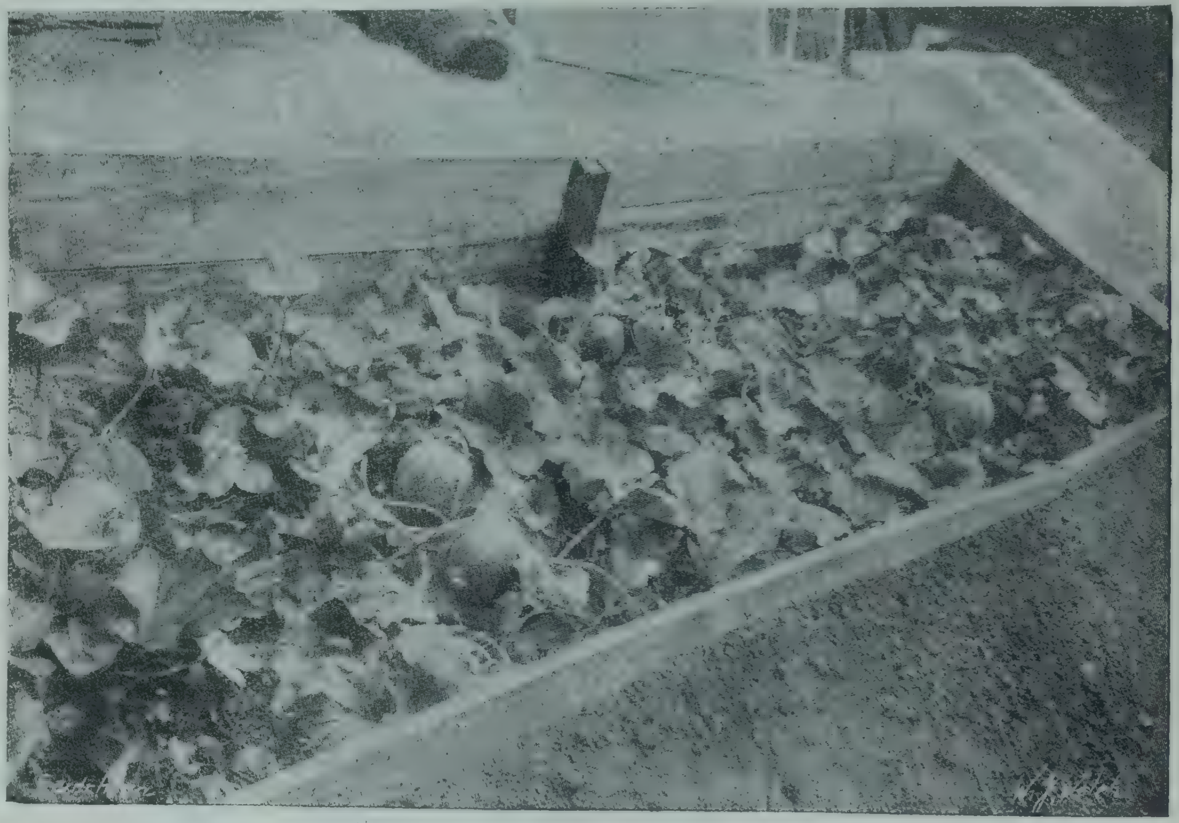


Fig. 93.—Melon frame heated by a natural hot-water spring.

ASHBURNHAM PLACE.

As I peer through the mists of well-nigh half a century a vision rises before me which is of peculiar interest. In those days I was living somewhere within the borders of the Ashburnham estate, which extended from Pevensey Bay inland almost to the Kentish boundary. I was asked one day to carry a letter to the park, and deliver it at the house of one of the officials. After a walk of some length I came upon the tall, oaken palings which enclosed the mansion with its ample grounds. When I reached the large gateway by which I was to gain admission, what was my consternation and dismay to find the enclosure filled with a herd of antlered beasts such as I had never seen before. To my youthful mind the flattened horns were formidable in the extreme, and as no lodge was near, no keeper in sight, and no human being within earshot, my alarm was great. To retreat was to court ridicule for my cowardice; to proceed was to invite disaster. So I climbed the fence and shouted. To my joy the splendid creatures lifted their heads, pricked up their ears, and then cantered off in the safe direction with a grace of movement which was a revelation and an encouragement to a timid country youth.

I have on many occasions since those early days had the pleasure of visiting this delightful spot. Once, on some great occasion, I was, in common with an army of boys and girls from the schools on the estate, the guest of the noble earl, and enjoyed a bounteous repast in the beautiful grounds. In my early manhood, when I was laying in stores of nature-lore and garden-craft in the sunny south, I was frequently at Ashburnham, and never during the long years which have elapsed since I first gazed upon the antlered herd has any great length of time expired without my passing through the park or making a visit to the gardens.

Although the house itself has a modern appearance, its foundation was laid in the hoary past. The name is Saxon, with the Celtic name for flowing water as its base. The first syllable, "Ash," does not refer, as some writers suppose, to the native tree. It is found everywhere in England under the most varied forms. Chamæleon-like, the syllable changes at its will. We have it in Ashford and Oxford, in Uxbridge and Easeburne, in Isis, Exe and Ouse, as well as in Wash. The second syllable is, therefore, simply the Saxon equivalent of the first, and the name signifies the house by the limpid stream. The burn or brook which supplies the beautiful lakes near the mansion flows southward till it enters the sea near Pevensey.

As the visitor stands on the bridge and gazes into the placid water, with its reflection of the stately trees which make the outlook from the house too circumscribed, his eyes alight upon the beautiful Water Lilies, blossoms of which are opened to the summer sun, and form a striking contrast to the emerald leaves. The Bog Bean (Menyanthes trifoliata) also flourishes here, while many kinds of fish would afford the knight of the gentle craft delight if he could cast hook and anchor there.

The nature lover would find much to interest him at Ashburnham. Hereabout grows the Tutsan (Hypericum), known by the older natives as Amber, the scented leaves of which every boy and girl in my youthful days placed between the leaves of his Bible or Prayer-book. I notice that the Twayblade (Listera ovata) has just run its course, while the Rose-bay (Epilobium angustifolium) is yet in splendid form. The ancient Oaks and large-boled Chestnuts rise in stately beauty from an azure carpet formed of the wild Hyacinth, while youth may tread a Primrose path among the forest trees. Many and curious are the fungi which flourish here, and the student would soon fill his vasculum with the parasitic growths to be found on the Hawkweed, Woodbetony, Thistle, and a host of other plants. Only once during all my years of gleaning have I come upon the Daisy cluster-cup, and that was at Ashburnham.

He who takes an interest in British industries would also find much to arouse his curiosity and give him pleasure here; for this was during long ages the Black Country of England. Some of the choicest specimens of ironwork in South Kensington, as well as much of the finest hammered work in many southern cathedrals and churches, were produced in this locality. Ashburnham forge continued to supply the market till 1809, and was, together with the sister forge at Penshurst, which is embraced by the Ashburnham estate, the last to give up the industry.

The antiquary, too, will find at Ashburnham many things to occupy his thoughts, the more so if his tastes lie rather in the study of letters and history than in that of old bones and stones. It is true that the church attached to the place is in many ways disappointing. But the sight of the Pelham buckle among the mouldings will be enough to suggest many memories. The mind travels to Crowhurst, Dallington, the Dicker and elsewhere, and in every direction finds traces of the buckle which became the badge of the Pelhams after Poitiers, as the chape or crampette was assigned to the De la Warrs. Formerly certain relics of Charles I were kept in the church, in order that those who suffered from the King's-evil might seek their efficacy. These are now, for greater safety, removed to the mansion. Ashburnham was, till recent years, the repository of many ancient manuscripts and costly tomes, but a large proportion of these have found homes elsewhere.

While we turn reluctantly from these fascinating themes, we have yet another pleasure in store; for the gardens will well repay our attention. Owing to the fact that there is no large family in residence, and but few guests to make demands on fruit, vegetable, and flower, we find here less of that devotion to the culture of special products than may often be found in gardens of similar rank.

The usual varieties of Black and White Grapes are freely grown. There is also a good deal of attention devoted to the Sultana variety, which is quite unknown in many of the largest gardens.

The Cranberry is grown extensively here, and at the time of my visit the beds were laden with the young green fruit. It is the cultivation of these unusual plants by the side of those in everyday use which proves the best test of the gardener's skill and knowledge.

It would be impossible for me to enumerate all the varied products of these extensive gardens and houses. I content myself, therefore, with the particularisation of the more important, rare or novel.

Figs come to a high state of perfection here, both in and out-of-doors. A tree of the variety Brunswick, in the open, last year produced fruits, the individuals of which scaled anything up to 8 ounces. True the summer was exceptional, but I saw some fruits which bid fair to reach almost as great a size again during the present season. The variety Brown Turkey also was fruiting freely. Apricots, Peaches and Nectarines usually thrive here, but Apricots, as is generally the case, are a failure this year. Peaches Princess of Wales and Royal George were specially to be noted. Exceptionally fine this season were the Pears. The varieties grown are very numerous, and almost without exception the trees were laden with fruits. Doyenné du Comice, Beurré Hardy, Beurré Giffard, Triomphe de Vienne, President Drouard, Catillac and many others were heavily fruited. Clapp's Favourite also is largely in evidence, with Jean de Witte.

Apples and Plums are comparative failures this year, the Victoria being the best of the latter. But the crops of sweet and Morello Cherries have been excellent, while Nuts are abundant. About 50 Pineapples were in fruit in one house, and these had already begun to ripen in early July, while a second house of later Pines gave good promise. Melons and Tomatos were in excellent condition.

Ashburnham Place may be reached from Battle Station, from which it is distant about four miles. *Hilderic Friend, Swadlincote.*

EXTRAVAGANT FASCIATION IN EUPHORBIA MAURITANICA. LINN.

Despite the prevalence of fasciation in the vegetable kingdom, the rarity of its occurrence in structures essentially xerophytic has not escaped the notice of observers, and in this respect the Cacti and Cactoid Euphorbiaceæ are cases in point. Both Masters and Penzig, in their respective works on *Vegetable Teratology*, allude to instances of fasciation in the European Euphorbias, but omit any mention of South African species exhibiting this phenomenon. These latter collectively represent a case of polymorphism and tendency to mimicry which perhaps is only paralleled by members of that peculiarly isolated South African Order Bruniaceæ, where analogues to the Compositæ, Rhamnaceæ, Thymelæaceæ, Santalaceæ and Diosmeæ obtain.* Euphorbia mauritanica, a much-branched shrub attaining a height of 5 feet, in conjunction with several species of Myrica (Waxberry) and grasses, constitutes almost the sole vegetation of the sand-dunes of Table Bay, where it plays an important part in ensuring the stability of these dunes. The species is easily recognised by its glaucous aspect, the peculiar mode of branching, and the erect, slender, terete twigs, which are furnished with leaf-scars but in fasciated specimens, of which the accompanying illustration (fig. 94) depicts an extreme type, this phase is entirely lost. Here the fasciation is of that type which finds its analogue in that peculiar form of Ash designated Fraxinus excelsior v. monstrosa, and is rather prevalent in another species also of the Tirucalli section, of which Mr. N. E. Brown has not as yet succeeded in fixing its status. The figure has been prepared from a specimen in the Kew Herbarium, gathered by Mr. E. G. Alston at Garies in Namaqualand in 1892. *R. Dümmer.*

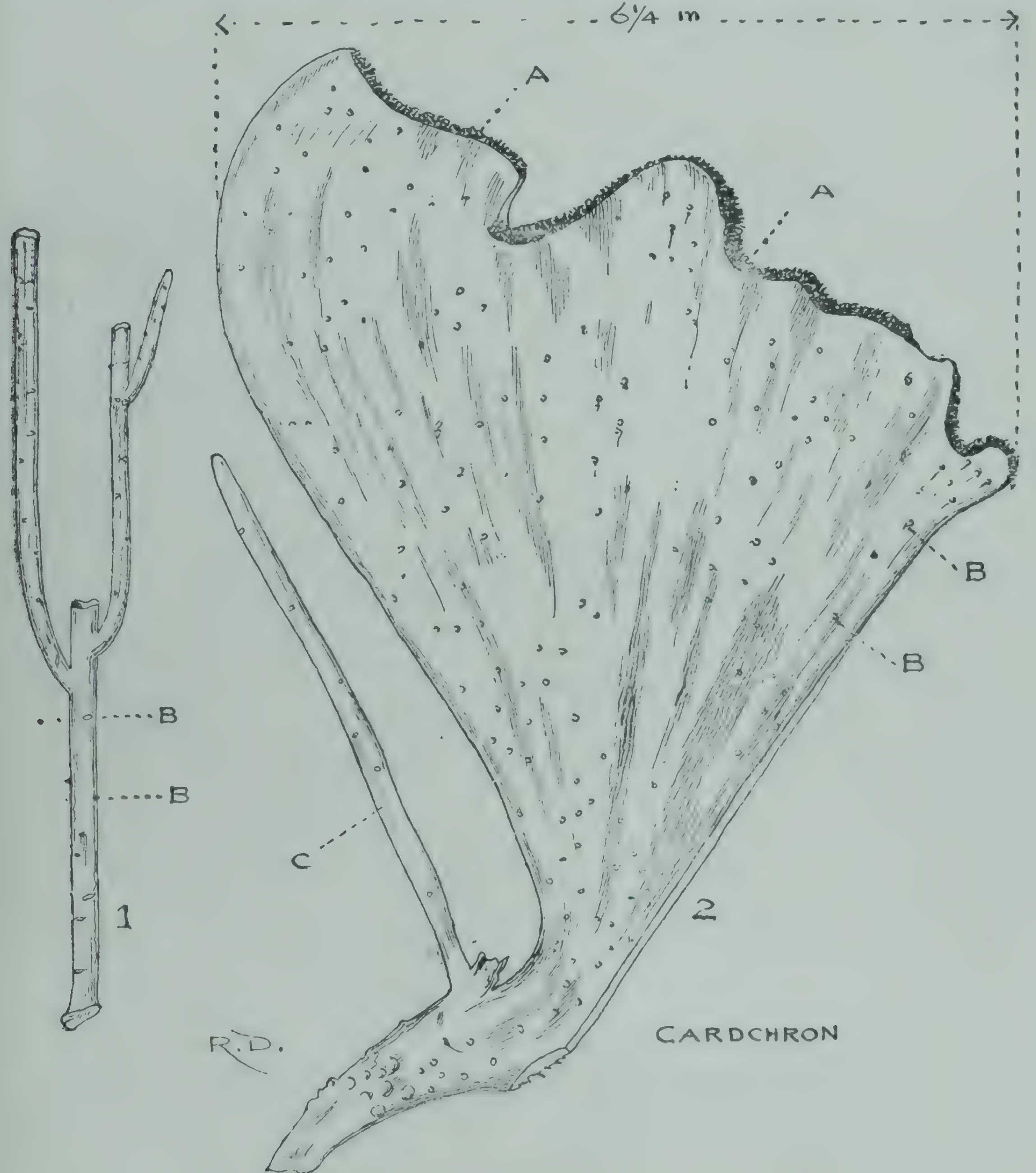


Fig. 94.—Fasciation in Euphorbia mauritanica.
1. Normal shoot. 2. Fasciated shoot. A. Leaves and floral rudiments. B. Leaf scars. C. Normal branch.

SCOTLAND.

THE LILY SEASON.

In one of the many interesting and instructive letters I had the privilege of receiving from the late Dr. Wallace, of Colchester, he wrote:—"Lilies for the most part have been very vigorous in their growth this year, owing chiefly to the heavy rains." The season through which we are at present passing is one of an exactly similar kind, and most of the Oriental and American Lilies, including L. Szovitzianum (nearly 9 feet in my garden), have attained to their utmost possible height. The largest Lilium giganteum of which I have heard for several years is a remarkable specimen of this Indian Lily 12 feet high, which reached this extraordinary stature this season in the "Wild Garden" of the Viscountess Dalrymple, at Lochinch Castle.

L. sulphureum, also called Wallichianum superbum, I tried, first of all, in the garden, in a position somewhat similar to that of the Lochinch specimen of L. giganteum, when, having shown no sign of activity, even after the glorious sunlight of April (the only "summer" influence we have experienced this year), I have placed it in a pot in loam and leaf-mould, and transferred it to a warm window in the Manse, where L. longiflorum Wilsonii had been, just previously, grandly successful. In that new and sunny situation the Burmese Lily began to grow without delay, and is now (September 2) 5 feet high. I do not suppose that it will have many flowers; but it is consoling to reflect that they will be all the larger and lovelier on that account. L. Humboldtii var. magnificum, which I grew in the garden, has been exceedingly effective this year. If I wished to give this grand Lily an expressive name I would probably call it Pardalinum gloriosum; for its colour is superb. There is no American Lily with which I am acquainted that approaches it in this direction.

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* *Journal of Botany*, 1912. No. 596, Suppl.

It is also, like L. Szovitzianum, a plant of great potentialities in the direction of growth; growing stronger and flowering more luxuriantly every year. Another Lily of infinitely beautiful colour, to whose first appearance I look forward with great interest, is L. speciosum Melpomene var. magnificum; the striking colour is carmine, intensified with dark ruby, and margined with white. Planted in a sheltered position, in ordinary garden loam, slightly enriched, it has grown very vigorously, and promises to flower well. It will form an effective contrast to L. speciosum Kraetzeri, which is snowy-white, of an exquisite feathery character, with a radiation from the centre of luminous green rays. I sometimes think that L. speciosum and its varieties—which are by no means arduous of cultivation, requiring only a fibrous soil, implying good drainage and a moderately sunny situation—are among the loveliest of all Lilies, and the most refinedly fragrant of all flowers. Under precisely the same conditions, two of the finest varieties of L. auratum, viz., platyphyllum, and the most beautiful of its derivatives, virginale, are almost invariably an entire success.

So far as my observation has hitherto extended, the Lilies that have been most successful in Scotland this season have been Hansonii, candidum, monodelphum var. Szovitzianum, chalcedonicum, tigrinum splendens, pardalinum var. Burbankii, Humboldtii, giganteum (at Lochinch Castle), Henryi, auratum, and speciosum. *David R. Williamson, Manse of Kirkmaiden, Wigtonshire.*

FABIANA IMBRICATA.

This extremely handsome shrub was introduced into this country from Chili in 1838; but, though easy of increase, it is even at the present day quite a rare plant in many districts. It thrives better, as a rule, in seaside localities than in inland positions, and along the southern and western coasts grand examples are often met with. In many parts of the country, however, it needs the protection of a greenhouse, but where this is not necessary it forms a first-rate wall plant. F. imbricata (fig. 95) is a fairly quick-growing shrub, of somewhat upright habit, clothed with very small, crowded leaves, and bearing a good deal of resemblance to a Heath, from which, however, it differs widely from a botanical point of view, since, instead of being in any way related to the Erica family, it belongs to the Order Solanaceæ, or Potato tribe. The flowers are pure white, tubular, and borne in great profusion. They remain in good condition for a fairly long time. Though it cannot be considered absolutely hardy, it is practically so in the south-west, where it often assumes very large dimensions, specimens 8 feet in height and almost as much in diameter being sometimes found. Such plants are objects of great beauty in early June, when every spray is thickly covered with countless white flowers. Wall protection is absolutely unnecessary in southern Cornwall, or in the more sheltered spots in south Devon, and the loveliness of the Fabiana when in bloom is best appreciated when the shrub is seen standing in the open backed at some little distance by evergreens, which, by their darkness, enhance the purity of the blossoms. Culture such as is usually accorded to the Heaths is best adapted to its requirements, and it flourishes in a peaty compost. A peaty soil, though, is not indispensable, and examples are often to be seen growing well and flowering magnificently in a compost of leaf-mould and loam, and in pure loam. The plant is easily raised from cuttings inserted in August. Prepare the number of 6-inch cutting pots required, fill them a quarter full of drainage, and place a layer of moss or fibrous peat above the drainage. Then fill up with a fine compost of yellow, fibrous loam and leaf-mould, well mixed with sand. Press all down rather firmly, and put a little sand on the top. Select the cuttings from the sides of the leaders of the summer's growth, about 2 inches long, and trim off six or eight leaves. Fill the pots with the cuttings, and tighten them well in. Give a good watering, and place them in a close frame or under a hand glass, in a northern aspect, under a wall or hedge. Let them remain there till the second week in September, when they will be well callused. Then take them into the propagating house and cover with bell-glasses. About the middle of January they will commence to grow, when the glasses may be taken off by degrees, and the plants removed to the greenhouse and gradually hardened off ready for potting in March. *Wyndham Fitzherbert.*

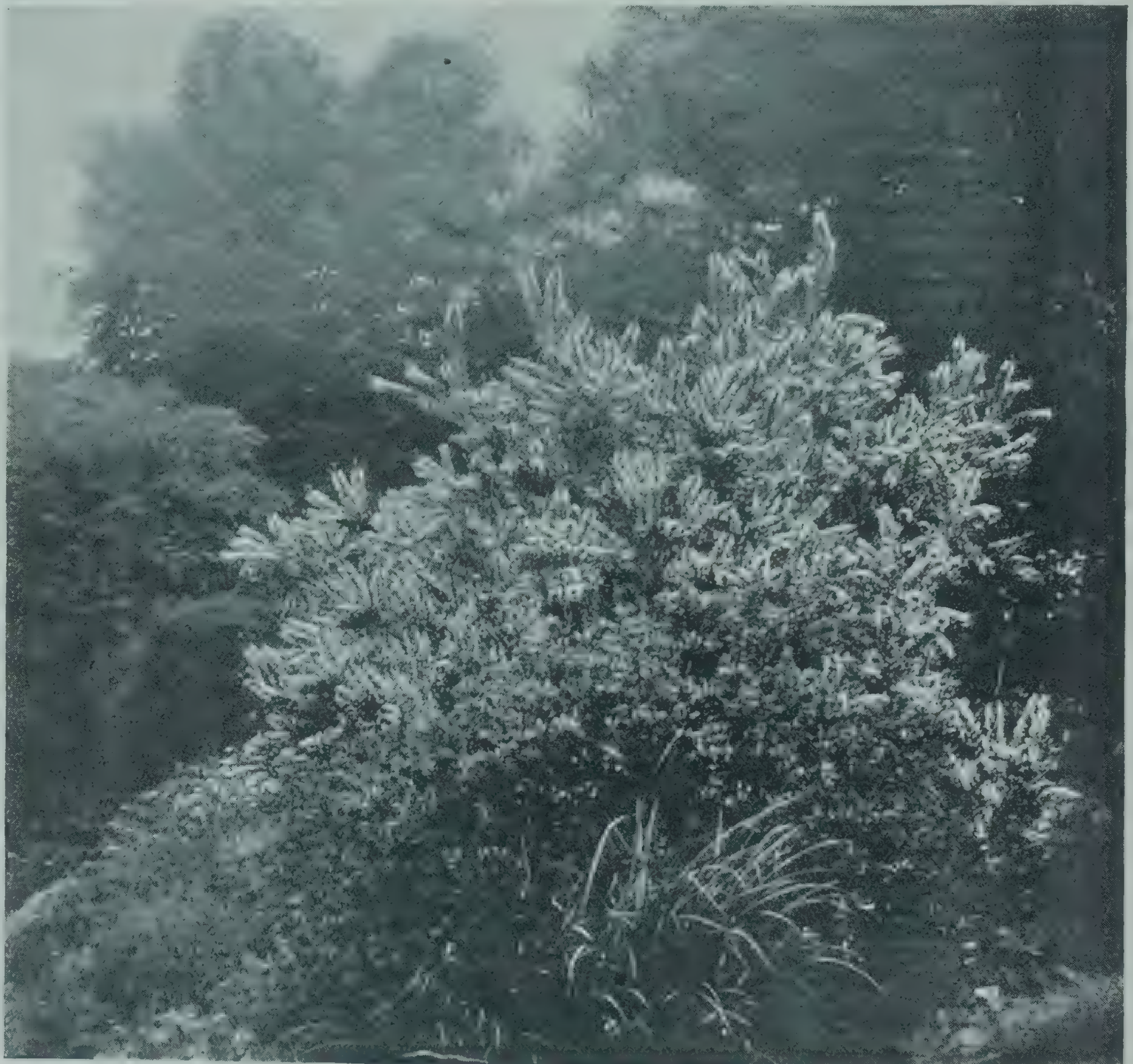

Fig. 95.—Fabiana imbricata: flowers white.

NOTICES OF BOOKS.

Vines.*

This work is an American production which, had it been indigenous, would probably have been entitled "Climbing Plants," the Grape vine occupying only a small portion of the volume. Though the climate of America is so dissimilar to ours that Melons are successfuly cultivated in the open air by the author, and plants which are immune to frost here are killed there, the contents of the book are, notwithstanding, of much interest to the Britisher, and exceedingly informative. Its perusal introduces us to a number of beautiful flowering and foliage plants of the very existence of which most of us are ignorant. Not that the American is much better, for he is chided for his neglect of the many climbers, hardy and tender, which he ought to cultivate, but does not. To us it is strange to be assured that Vinca major is not hardy, and English Ivy (Hedera Helix) is cut down by frost every winter for the first two or three years of its existence. The author does not embark in a general scheme of wall plants, many of them tender, such as is usual in this country, but confines himself to the treatment of climbers and trailing plants exclusively: the Honeysuckles, Clematises, Jasmines, Wistarias, Vitises, Tecomas, Convolvuli, Hydrangea petiolaris, Pueraria Thunbergiana, Celastrus orbicularis and C. scandans, Apios tuberosa, Dolichos Lablab, Dioscorea bulbifera and D. divaricata, Ipomæas, and Boussingaultia baselloides are some of the favourite climbers for out-of-doors. For indoors we are perhaps in advance of America, the list of plants being much restricted as compared with those grown in our conservatories and stoves. The chapter on Roses is one of the best, though here again we are in advance as regards the number and variety of climbing Roses in general cultivation, hybrids of multiflora, setigera, and Wichuraiana coming in for the largest share of attention, many of our best old Roses being passed without allusion.

The chapter on Grape vines is of much interest. It is stated that the average annual production of Grapes amounts to 80,000,000,000 lbs., the most of which is derived from vines growing in the open. The author esteems European Grape vines to be the only ones suitable to cultivate in vineries, the culture he affects being in some respects different to that pursued in this country. For instance, he sprays his vines sometimes several times daily until colouring commences, with a brief intermission at the flowering period. When in flower, the temperature is lowered to 60°, which is quite opposed to our practice of then raising it a few degrees. He allows one bunch of Grapes to every foot, but does not mention the weight of the individual clusters. It is interesting to find a short discussion of the merits of all lateral suppression and the employment of less or more secondary leaves. The author appears to recommend the value of the latter, but it would appear that in America their value is not recognised by many cultivators, a fact which is perhaps not generally known in this country.

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* *Vines and How to Grow Them:* A Manual of Climbing Plants, by William C. McCollom. (London: William Heinemann.) 1912.

In the matter relating to the destruction of parasitic vegetation and insects there is much helpful suggestion, and it is in particular noteworthy that Mr. McCollom employs hydrocyanic gas to an extent we never dream of here, only he uses it much less strong than we do, the strongest application he recommends being two ounces of cyanide of potassium to 2,000 cubic feet of air.

Strasburger's Text Book of Botany.[*]

Botanists, and particularly those engaged in teaching, will welcome the appearance of a new edition of this admirable text book. The success of Strasburger's text book may be judged from the fact that it is the fourth edition to appear in English. The present work has been prepared from the 10th German edition, and a study of its 767 pages will show that the work of producing it in its English form has been thoroughly well done. The most notable change presented by the new edition consists in the section devoted to physiology, which has been entirely re-written by Professor Jost. This text-book of botany may be recommended without reserve to all serious students of the science, and the only direction in which we could wish a change would be in the lowering of the price in order that the book might be brought within the reach of a yet wider public: though having regard to the size of the book and to the fulness with which it is illustrated, both by black and white and coloured figures, it cannot be suggested that the present price is other than moderate. Its appearance will strike a chord of sadness in reminding English-speaking botanists of the loss which they have sustained in the recent death of the great German botanist, Professor Edward Strasburger, to whom this text-book owes its origin.

CHRYSANTHEMUMS.[†]

This new volume, by a Transatlantic writer for Transatlantic growers, is interesting to those on this side of the Atlantic, chiefly on account of the methods of cultivation it propounds, many of them being different from those pursued in England. The methods of exhibiting are also different, as many as 25 to 100 blooms of one variety being shown on long stems, and the pointing is on quite another system from ours, as well as a distinct scale, 100 points in all being given instead of our few. The illustrations exhibit even more than the text how wide apart are the systems pursued in the two countries. An illustration of a specimen trained plant (opposite page 62) shows a framework of wires, which completely spoils the effect, and one could hardly imagine anyone daring to exhibit such a plant at any of our exhibitions. Specimen blooms in America are exhibited as they grow—undressed—though he must be a queer cultivator who could refrain from removing imperfect petals and arranging those where a slight change would produce a prettier bloom. The book teems with information on many cultural points, and is profusely illustrated in half-tone. *R. P. B.*

The Forcing of Plants by Electricity.[‡]

The author of this little book has performed a useful service in bringing together the results of experiments made by various investigators on the forcing of plants by means of electricity. Miss Dudgeon, whose work on the electro-culture of plants has been noticed in these pages, is properly cautious with respect to the possibilities of the method, and admits in her introduction that it has not yet passed beyond the experimental stage. It is true that there is a general agreement between those who have used electrical methods of forcing that crops grown by the aid of electricity mature somewhat earlier and yield somewhat more freely than those cultivated in the ordinary way; but it has yet to be proved that the increased return will pay for the outlay necessary for the installation of the electric plant.

After a brief account of Lemstrom's experiments, made at Durham College in 1902, Miss Dudgeon describes those which have been made in recent years both by herself and by others. The table of yields of Potatos shows that a considerable increase of yield was obtained when the growing plants were subjected to electrical treatment. Whilst acknowledging the usefulness of Miss Dudgeon's book, we regret that she has not included in it a full account of the Lodge-Priestley experiments, and also that she has not supplied a bibliography, the lack of which is a serious blemish on a work of this kind.

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

(See Tables and Summaries, ante, pp. 66-71.)

(Continued from p. 200.)

8, ENGLAND, S.W.

Herefordshire.—Apples are under the average, the trees being badly attacked with blight. In a few cases the trees will not recover from the attack. Pears are a good crop, and very clean and healthy. Plums are much under the average, excepting Egg Plums, which are a full crop. Strawberries have been unsatisfactory, and a large number of the plants were quite barren. Small fruits were plentiful and very good. Nuts also are a very full crop. The soil is a red, sandy loam. *Thos. Spencer, Goodrich Court Gardens, Ross.*

—— The trees produced plenty of bloom, but, owing to frosts and rains, the flowers suffered severely. This was especially the case with Peaches and Nectarines, although the trees were covered with nets and canvas. There was a little more blister than usual, but with careful attention on the first appearance we soon got rid of this disease. All the trees at the present time look well. Pears set freely, both on walls and in the open, and apparently all varieties are doing well. Apples are very patchy; such varieties as Cox's Orange Pippin, Blenheim Pippin, Lane's Prince Albert, and Bramley's Seedling are thin, but Worcester Pearmain, King of the Pippins, Ecklinville Seedling and Tom Putt are fairly good. The Strawberry crop was a total failure. Many plants died off after making a start into growth, and plants that survived did not set their flowers satisfactorily. Our soil is a heavy loam, resting on limestone. *George Mullins, Eastnor Castle Gardens, Ledbury.*

Monmouth.—Apples, Pears, Plums, and small fruits especially, blossomed freely. Apples were, to some extent, injured by the blossom weevil; Pears by the midge, and Plums and Black and Red Currants by aphis. Peaches and Nectarines suffered badly from leaf-curl, and the crops of these fruits are very thin. Strawberries were damaged by wet weather, though those grown for dessert were greatly benefited by supporting the fruit trusses with stakes. The continuance of cold, wet weather has been injurious to the fruit trees, which are planted in a heavy, cold soil, and the leaves of some, particularly Pears, are pale in colour. Our soil is of a clayey nature, resting on marl. *Thos. Coomber, The Hendre Gardens, Monmouth.*

—— The fruit crops in Monmouthshire as a whole, excepting Pears, Plums, small fruits and Nuts, are disappointing as to quantity and quality. The hope raised by the magnificent blossom was dispelled by uncongenial weather at the time of flowering, followed by several weeks without rain. In some parts of the county, where conditions were favourable, the fruit crops are fairly satisfactory, while in others, where the cultivation has been of the highest type of excellence, they are a failure. *W. J. Grant, County Council Offices, Newport.*

Somerset.—In the early spring there was again promise of abundant crops of all kinds of fruit, but owing to the unfavourable weather in April and May much of the bloom failed to set. Apples, Pears and Plums were most affected, and many of these trees have not a single fruit. Others growing quite near have set their fruit abundantly. This applies also to the cider Apple orchards, which are numerous in this district. *George Shawley, Halswell Park Gardens, Bridgwater.*

—— We had a wealth of blossom on all kinds of fruit, excepting Strawberries, but much of it was injured, and failed to set, owing to the unfavourable weather. Strawberries were almost scorched up during the drought of last summer, which no doubt accounted for the scarcity of blossom. Apples in some cases are well cropped, including such varieties as Beauty of Bath, Lord Suffield, Charles Ross, and Allington Pippin. But Blenheim Pippin, Cox's Orange Pippin, and Dumelow's Seedling (Wellington) are very scarce. Certain varieties of cider Apples are cropped very heavily. *G. H. Head, The Gardens, Kingsdon Manor, Taunton.*

Worcestershire.—Apples and Pears are abundant all over the county. Plums are variable, but the quantity is under the average. Cherries have been very fine. Raspberries have been abundant, and Currants good. Strawberries were scarce, mainly owing to last year's drought. Nuts are plentiful on the western side of the county. *James Udale, Experimental Garden, Droitwich.*

—— In one part of these gardens the Apple crop is heavy. This quarter is on rising ground, and sheltered from the north and east. In another portion, in a low-lying part of the garden, the crops are almost a failure. Pears are a good crop. Plums are very plentiful, and have had to be thinned severely. Gooseberries and Red Currants bore enormous crops. Damson trees are breaking down their branches with the weight of the fruit. Strawberries would have been good, but wet and cold weather caused the ripening fruits to rot. Cherries in the open split with the wet, but on wall trees they were better. Morello Cherries, trained against a north wall, cropped heavily. The soil hereabouts is on the new red sandstone formation. *A. Young, Witley Court Gardens, Worcester.*

—— Apple trees flowered profusely, but the fruits set very badly. The trees generally are healthy, being fairly free from insect or fungous attacks. Pears are the best crop we have had for years, with much less "midge" than usual. This I attribute to the drought also, which occurred during the hibernating period. Strawberries were the worst crop. Plums are very partial. We have many on some trees and none on others. Cherries were very poor, and Apricots scarce. Peaches and Nectarines are good crops on open walls, and the trees are healthy. Small fruits were abundant, and very good. *W. Crump, V.M.H., Madresfield Court Gardens, Malvern.*

—— I believe there is a large percentage of iron in the soil here, as Apples colour so well. A small Apple tree will live with but one root, and it is a difficult matter to get the common Laurel to grow. We have a variety of soils. In some parts of the gardens it is a sandy loam, with a subsoil of marly clay; other parts consist of light surface soil and clay subsoil 15 inches from the surface. In our new kitchen garden, which is not quite an acre, the different varieties of soils are very pronounced; one part is, both surface and subsoil, of stiff clay; another part consists of a good loam with a clay subsoil, whilst another portion consists of a mixture of grey sand and marl, with varying subsoil. Pears are good and clean, and the same remark applies to Cherries. Blenheim Pippin Apples are very scarce. The early sorts of Apples are, on the whole, the best, including Worcester Pearmain. Gooseberries were a patchy crop. Plums are very clean, and Pears are a good crop. Damsons in one orchard are good, in others very patchy. Strawberries were the worst crop I have ever seen. *Thos. Watkins, The Grange Gardens, Claines.*

(To be concluded.)

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[*] *Text Book of Botany*, by Dr. Edward Strasburger. Fourth English translation, by W. H. Lang, F.R.S. 18s. (London: Macmillan & Co.)

[†] *Chrysanthemums and How to Grow Them*, by J. L. Powell. (London: W. Heinemann.) 1912.

[‡] *Growing Crops and Plants by Electricity*, by E. C. Dudgeon. 1s. net. (London: S. Rentell.)

OUTDOOR PEACH CULTURE.

THE cultivation of Peaches and Nectarines on open walls is not so well understood now as it was by the older generation of gardeners, say 50 years ago.

It was therefore a real treat to see them, on the occasion of a recent visit, so exceedingly well done by Mr. G. Woodward at the Barham Court gardens, where they seem to succeed on walls of all aspects. The late varieties are mostly grown, as they suit the purpose best, the produce of the gardens being marketed. I noted a few "points," which, by Mr. Woodward's permission, I will describe for the guidance of those who have not been successful with outdoor culture, but I must first refer to the situation. The gardens, which are on the Kentish rag-stone, fall gently to the south; the soil is naturally warm, and at the same time admits of heavy waterings being given without adversely affecting the roots. Water is pumped up from the Medway, half a mile below, to very large tanks at the top of the gardens, and there it is exposed to the sun, so that it is practically of the same temperature as the soil, or very nearly so. I state this as the evils of freshly-pumped cold water on the delicate feeding roots of Peaches is not always considered. Trees trained one year are preferred to start with; they are carefully planted and cut back early, and then make what many would look upon as wild growth, so strong are the branches, and the foliage is very robust (I measured leaves 9 inches in length). The following winter this exuberance is checked by root-pruning, and the operation is again performed in two years' time, thus over-luxuriance is checked and grand bearing wood is formed. Quite early in the season stopping is done and new wood laid in where needed, and thinning is rigorously carried out. One tree carried 40 dozen of fine fruit, each Peach having a square foot of space to itself. As soon as the fruits are gathered all fruiting wood not required for extension is cut out, and the sunny days of autumn finish the ripening of the wood. I noted foliage within a foot of the ground. Mr. Woodward endeavours to lay in a few shoots to cover the main stems close to the soil, or, if this is not possible, he uses a piece of Oak-bark to prevent the sun drying the main stem. Thus the main stem swells materially and is not constricted as one so often sees, to the detriment of growth. When the winter moisture in the soil becomes exhausted in the spring, water is applied to the borders by hose, in copious quantities, for half a day at a time, and when the Peach fruits are of the size of Walnuts a layer of Moss-dung litter is placed on the borders and watered as needed, throughout the summer. Although this summer has been so cool, there is no mildew to be seen on the leaves; this pest is prevented by dusting with sulphur freely on the walls. Earwigs are trapped merely by crumpling Rhubarb or Horse-radish leaves and laying them between the branches close to the wall. Every second day they are examined and the earwigs shaken into a tin vessel and afterwards killed with scalding water. From time to time the trees are gone over and any superfluous shoots removed, so that at the time of my visit (August 24) the branches were all flat against the wall and not a fore-right shoot was to be seen. I noted Peregrine, Goshawk, Dymond, Princess of Wales, but Sea Eagle is the main variety, with Hale's Early on an east wall.

The same liberal culture is given to the Pears on the walls, and the crop is clean and unusually abundant, whilst Apples of many sorts are grand samples. Those trees only which crop are freely mulched with the moss-dung.

One is always learning. Mr. Woodward finds that trees of Warner's King Apple after some years growth canker and fail to bear satisfactorily, so he re-grafts them with the same variety 3 to 5 feet from the base. They then make less vigorous growth, and fruit freely. *George Bunyard, Maidstone.*

The Week's Work.

THE ORCHID HOUSES.

By J. COLLIER, Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey.

SEEDLINGS. — Seedlings of Cattleyas and Lælio-Cattleyas raised from late-sown seed should be far enough advanced in growth for transplanting. It is important that each plant be planted separately at the earliest possible time. Those pricked off now will have time to make roots before the winter. Where space is limited so that the plants cannot be accommodated singly in very small pots, several may be pricked out together into small pans. The ordinary shallow Orchid pan, without side holes, is the most suitable receptacle for the purpose. Seedlings that have matured their first pseudo-bulb will be sending out new roots from the base of the growths. These should be repotted in larger pots and given every encouragement to grow as quickly as possible. They will not make much growth in the winter and do not require so much water at the roots or in the atmosphere as in summer, but they must not be rested until the flowering stage is reached, nor must they be allowed to become root-bound. A suitable rooting medium consists of equal parts Osmunda fibre, A1 fibre, and Sphagnum-moss chopped into short portions, with a quantity of crushed crocks, and the whole mixed well together. The materials should not be pressed tightly in the receptacles, as it is important that water should pass quickly away. If a house is specially devoted to seedlings of this type of Orchid, it should be kept a few degrees warmer than the one in which the older plants are grown. Should it be necessary to grow them with the older plants, they should be placed in the warmer and shadier part of the house and near to the roof-glass. Seedling Cypripediums should be treated in the same manner as described above. Very young plants should be potted in a mixture of Osmunda fibre or A1 fibre, Sphagnum-moss, and fibrous loam from which all the small particles have been removed. Chop all the materials into short portions and incorporate a quantity of crushed crocks. The compost should be pressed moderately firm. Seedlings of more advanced growth and those nearing the flowering stage that have filled their pots with roots should be shifted into larger pots. These should be given a more substantial compost; it should consist of at least one-third its bulk of fibrous loam. After the seedlings are repotted, they should be afforded a warm, moist atmosphere and a shady position. Water should be applied sparingly, only keeping the compost just moist by frequent, light, overhead sprayings. Seedling Cymbidiums should be repotted in a similar compost to that recommended for Cypripediums. The plants should be kept growing actively at all seasons until they reach the flowering stage. They should occupy a position near the roof-glass in a house having an intermediate temperature.

FRUITS UNDER GLASS.

By E. HARRISS, Gardener to Lady WANTAGE, Lockinge House, Wantage, Berkshire.

RENOVATING PEACHES AND NECTARINES.—The present is the most suitable time to attend to trees which have given unsatisfactory results during the past season. In extreme cases it may be necessary to lift the whole of the roots and replant them in fresh soil. This involves a great deal of labour, and needs to be done with great care. The advantage in doing this work now is that the trees will have time to make new roots before the end of the year, and in consequence will have somewhat recovered from the check caused by disturbing the roots before growth commences next season. The work of renovating may be commenced by taking out a trench about 3 feet wide down to the drainage materials. This will admit of a thorough inspection of the roots. The soil should be removed by a fork, working gradually towards the trees. As many roots as possible should be preserved, and whilst exposed they should be covered with mats kept regularly damped. The general condition of the border will be the best guide to the operator as to what extent it is expedient to disturb the roots. In all cases it must be seen that the drains are perfectly free, and the drainage materials ample and clean. This drainage should be placed on a concrete bottom to prevent the roots from entering the subsoil. It is not good practice to fill the whole of the border space at one time with fresh soil. If it is done by degrees, the trees will not grow too strong. The soil must not be too rich, therefore if new loam is used a quantity of old soil should be mixed with it, also plenty of old, coarse lime-rubble. The border should be made quite firm, and the roots arranged towards the surface as the work proceeds. Give sufficient water to soak the soil through and syringe the trees several times daily until they have recovered from the disturbance. Shade should be provided during times of bright sunshine until the trees have made fresh roots.

LIFTING YOUNG TREES.—Most young trees require to be lifted occasionally to encourage the formation of fibrous roots, and to keep the wood from becoming too gross. Before commencing this work see that the soil about the roots is thoroughly moist, but not too wet. Commence by digging a trench a few feet from the trees, then carefully fork the soil from about the roots, thus reducing the size of the ball so that it can be conveniently lifted. All strong-growing roots should be cut back, especially those growing in a downward direction. Before replanting see that the soil at the bottom of the hole is rammed quite firm, and allow a few inches for the soil to settle or the trees will be planted too deeply. Do not shake the soil from about the roots more than is unavoidable. Keep the foliage well syringed and shade the trees till they have recovered from the check.

THE RIPENING OF THE WOOD.—The sunless season has been unfavourable for the ripening of the wood of all fruit trees. Those under glass may be assisted in this matter by providing a little heat in the water pipes. Keep the shoots well thinned so that sunshine and air may reach all parts of the tree. Maintain a free circulation of air in the houses at all times.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

BULBS.—The ease and certainty with which bulbs may be obtained in flower during the winter months make them indispensable where large supplies of pot plants and cut flowers are required. For ordinary purposes, the cheap bulbs give satisfactory results, but for exhibition purposes the higher-priced, named varieties must be purchased. The best results are only obtained when the bulbs are potted early; therefore, if they have not yet been ordered from the seedsman, the order should be despatched without delay. The earliest-flowering varieties should be potted as soon as the bulbs are received, and the later sorts dealt with as circumstances permit. Every gardener has his favourite varieties for the different seasons of the year, but it is always advisable to try a few fresh ones from time to time, which, if found preferable, may supersede some of the older varieties. Those vareties enumerated below in their various sections are recommended for general purposes.

HYACINTH.—With the exception of the Roman and Italian varieties, Hyacinths are not usually employed as cut flowers; but pot plants, especially when grown in 4½-inch pots, are exceedingly useful for conservatory decoration, and for placing in vases or jardinières in the house. *White:* Latour d'Auvergne (very early), La Grandesse, Baroness van Tuyll, L'Innocence, and albo-maximus. *Blue:* King of the Blues, Grand Maître, King Alfred, Ivanhoe, Pieneman, Johanne, and Schotel. *Pink:* Lady Derby, Morineau, Norma, Fabiola, and Roceus Maximus. *Red and Rose:* La Victoire, Amy, General Pelissier, Koh-i-Noor, Mr. Robert Steiger, and Roi des Belges. *Yellow:* City of Haarlem and Yellow Hammer. Most of these varieties are effective when grown in pans of 5 to 12 bulbs of one variety.

TULIPS.—Those of the Duc Van Thol type are decidedly the earliest varieties, and where early blooms are required, the white, scarlet, and yellow sorts should be grown. These may be followed by Pottebakker (white and yellow), Proserpine, Mon. Trésor, Keizerskroon, Prince of Austria, Vermilion Brilliant, Rose Gris de lin, Rose luisante, La Reine, Van der Neer, White Joost van Vondel, Queen of the Netherlands, Thomas Moore, and Spaendonck. Double varieties may include La Candeur, Tournesol, Murillo, Couronne d'Or, Vuurbaak, Salvator Rosa, and Primrose Beauty. For late flowering, the Parrot Tulips are very useful, but they must not be subjected to a high temperature, nor must the roots be allowed to become dry, or the flowers will be blind. The Darwin Tulips are not usually grown in pots, but, if care is taken, such varieties as Clara Butt, Mr. Farncombe Sanders, Pride of Haarlem, and Glow will give good results. For cutting purposes I have found them much more satisfactory when grown in boxes.

Narcissi.—Although the colours of Narcissi are not so bright and varied as those of Hyacinths and Tulips, the plants are very valuable, and, probably, easier to cultivate. There are many varieties to choose from, but it is best to rely upon the standard sorts if large quantities of cut flowers are required. For very early forcing, the old varieties, Van Sion and Golden Spur, are the best. These may be followed by Emperor, Empress, Victoria, Princeps, Henry Irving, Sir Watkin, and Mme. de Graaff; these, except Sir Watkin, all belong to the large trumpet section. Of the Leedsii and small-cupped varieties, the most useful are Barrii conspicua, Mrs. Langtry, Poeticus ornatus, Stella superba, Lulworth, Campernelle rugulosus, and C. J. Backhouse. The Poetaz varieties are well worth a trial; I find they last well as pot plants, are more showy than the true Polyantha varieties, and are not so strongly scented. For growing in small pots, the hoop-petticoat Daffodils, Narcissus Bulbocodium (sulphur white and yellow), are very useful, as also are the hybrids of N. Cyclamineus and N. Triandrus. Other useful bulbs for growing in pots are Crocus (Mont Blanc, Maximillian, purpurea grandiflora, and Giant Yellow); Chionodoxa in variety; Muscari botryoides and Fritillaria meleagris; whilst, for flowering late in the season, corms of the early-flowering Gladioli, such as G. Colvillei, Ne plus Ultra, Peach Blossom, Rosy Gem, and The Bride should be potted during the autumn.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Anemone japonica.—The wet season has suited these plants, and they are blooming profusely. They do well in damp and partially-shaded positions, where the flowers last longer than when exposed to the full glare of the sun. In addition to the white variety, there are several with colours ranging from red to very light pink. Queen Charlotte, rosea superba and Prince Heinrich are three good sorts. The plants do best when they are not disturbed for several years. Manure and leaf-mould may be forked into the soil during the winter.

Propagating Summer Bedding Plants.—The propagation of Pelargoniums used for summer bedding was treated upon in the Calendar for August 17. Certain subjects, including Marguerites, Calceolarias, Veronicas, and Pentstemons should be propagated this month, in order that the plants may become well rooted and established before the winter arrives. The cuttings may be rooted in pots or boxes, or dibbled in cold frames. If a large stock is required, the last method is the best. Use a moderately light, sandy compost in all cases. If a frame is used, the soil at the bottom should be made solid, so that the roots may not enter into it, as this would cause a severe check to the plants when removing them in the spring. Spread a light layer of sand over the surface, and make the soil firm before inserting the cuttings, taking care that the base of the cutting is in contact with the soil. Water the cuttings after they are inserted, and shade them from bright sunshine till roots have formed. Overhead dampings once or twice daily, according to the weather, will keep the cuttings fresh, but do not promote so much moisture as to cause damping; where there is a danger of this happening, a little air should be admitted at night, but not sufficient to cause flagging. When roots have formed, increase the amount of air till the lights are dispensed with altogether, except during inclement weather. By a cool and hardy treatment, the plants will be sturdy and healthy, and not so susceptible to injury from cold. In times of frost they should be well protected; if necessary the protective material may be allowed to remain on the lights for several days in succession, without the slightest fear of injury. Heliotropes, Coleuses, Nerines, Fuchsias, Alternantheras, and Salvias are propagated differently. The cuttings are rooted in 5-inch pots filled with light, sandy soil, made moderately firm. Dibble the cuttings in to the number of seven to ten in each pot, according to their size and strength. They should be placed in a propagating pit, and plunged in a little bottom heat, where they will soon form roots. After this stage they should be removed from the pit and exposed gradually to more light and air. Coleuses, Iresines, and Alternantheras require considerable warmth to keep them in a healthy condition during the winter; they do best on a shelf in a warm, light house. Heliotropes, Salvias, Ageratums, and similar plants should be placed in the intermediate house, as too much warmth causes them to grow weak and spindly during the winter. Stocky plants quickly provide plenty of healthy cuttings in the spring.

Early-flowering Chrysanthemums.—The incessant rains of August caused these plants to grow unusually tall. The early-flowering varieties are providing plenty of flowers for cutting and brightening the borders with their colours. See that the stakes and ties are in a proper condition, and afford stronger stakes where necessary, to make the plants secure against damage from heavy rains and winds. Keep the borders clear of weeds by frequent hoeings; if the ground is too wet for the hoe to be used, hand-weeding must be practised.

General Work.—Autumnal storms are causing much extra work in keeping the garden tidy, but every effort should be made to keep the lawns and pleasure grounds as attractive as possible, during the remaining few weeks of summer. Leaves of trees are already falling; these should be swept up and placed in a heap in the soil yard, to form leaf-mould. The rains have caused Grass to grow very quickly, necessitating constant attention in mowing and trimming of verges. Lawns should be rolled on favourable days, and worm-casts swept up. The flower-beds should be picked over frequently, in order to have them in the best possible condition till frost destroys their beauty. If Moss has grown on paths and roadways underneath trees, a weed destroyer should be applied, to ensure clean walks and drives during the winter.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Loganberries.—If the old fruiting canes of Loganberries have not yet been cut away, they should be removed at the first opportunity, so that the young growths may become thoroughly ripened before winter. It is a good plan to tie five or six of the strongest canes to the poles or wires, to prevent them from being damaged by strong winds.

Nuts.—Remove all suckers from the bases of the trees of Cobnuts and Filberts, and take measures against squirrels, or they will soon clear the crop. Nuts are rather later in maturing this season than usual; they should be gathered as soon as the kernels are brown on the outside and stored on a cool, moist floor, where they will keep in a good condition for a long time. Walnuts should be gathered as soon as they will part freely from the husks.

Mulberries.—If it is proposed to bottle these fruits, they should be gathered carefully just before they are ripe, and only when they are quite dry. Mulberries are appreciated by many for dessert, and should be placed in small punnets to prevent handling the fruits more than is avoidable.

Buds and Grafts.—The weather has been most favourable for the operation of budding, and neither shading nor syringing of the buds has been necessary. Examine the trees frequently, and loosen the ties if they become too tight, otherwise the stocks may be damaged. Recently-grafted trees should also be attended to in this respect, and, if necessary, secured to stakes, especially those on tall stocks exposed to strong winds.

General Work.—All fruit trees have made unusual growth this season; if mulchings have been employed, these should be removed, so that the borders may be fully exposed to the influences of sunlight and air. Where the ground has become hard by heavy rains and constant treading, especially near wall trees, the surface should be lightly pricked up. Trees infested with American blight or other insect pests should be attended to, and every effort made to thoroughly cleanse the branches with a suitable insecticide before the pests descend into the ground to hibernate during the winter and spring. The preparation known as No. 2 Fluid is an excellent wash, and two or three thorough syringings with this will completely destroy the majority of insect pests. Keep weeds in check with the hoe; this has been a most difficult matter this season, but if weeds are allowed to grow and hand weeding becomes necessary, much time and labour will be necessary to clear even a small area of ground.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Preparations for Winter.—Already there have been indications of frost, and the more tender crops of vegetables may be damaged from this cause at any moment. On the morning of the 3rd inst. the thermometer registered only 34°, and Vegetable Marrows were damaged considerably by the cold. Every precaution should be taken to guard the crops against frost, for it frequently happens that after the first autumn frost there is a long spell of fine, open weather, Much may be done by providing temporary shelter for such tender crops as Marrows and French Beans. The merest protection is generally sufficient at this season to prevent damage.

Cold Frames.—A suitable number of portable frames should be found in every garden where a supply of vegetables is required throughout the year. The frames need not be of an expensive character, but they should be of uniform size, so that the lights may be removed from one to another as occasion requires, thus obviating the necessity of moving the frames themselves. The position chosen for wintering the various crops should be one exposed to the south, but sheltered, if possible, on the north and north-east. Ground that has been occupied during the summer months with early vegetables provides an admirable site for the purpose. The soil in the frames should be of a moderately light texture, and placed as near to the glass as possible, leaving only sufficient space for the development of the crops. The compost should be free from wireworm, and moderately dry; it should be made very firm.

Parsley.—It is always a difficult matter to furnish a supply of Parsley during the winter months, and one or two frames should be devoted to this herb. The plants should be transplanted from the beds, and if they are of a fairly large size, they should be lifted with a fork, and all but the youngest leaves removed. Parsley is a deep-rooting plant, and it is necessary to use a long dibber to provide holes of sufficient depth for the roots. Plant in rows, at about 8 inches apart, allowing about 4 inches between the plants in the row. Make the soil very firm about them, and, after they have received a thorough soaking with water, apply a good dusting of soot. As is usual with transplanted plants, the frames need to be kept close for a time afterwards, and the interior syringed twice daily. Shade should be provided during bright weather until the plants are re-established, when plenty of fresh air may be admitted. The first rough leaves are developing on late-sown Parsley, and the plants should be pricked out rather closely together. They will afford a plentiful supply of leaves during the late spring. Surplus plants may be set under a rough shelter or at the foot of a south or west wall.

Lettuce.—Seedling Lettuces in various stages of growth should be planted in frames, selecting hardy varieties for the purpose. Hick's Hardy White and Brown Cos are two excellent varieties for winter cropping; the best Cabbage variety is Hammersmith.

Endive.—This vegetable should be treated in exactly the same manner as advised for Lettuce.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but they cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, SEPTEMBER 17—
Nat. Dahlia Soc. Sh. at Crystal Palace (2 days).
WEDNESDAY, SEPTEMBER 18—
North of England Hort. Soc. Sh. at Leeds.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—56·8.

ACTUAL TEMPERATURES:—

LONDON.—*Wednesday, September 11* (6 P.M.): Max. 53°; Min. 44°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, September 12* (10 A.M.): Bar. 30°; Temp. 58°; *Weather*—Dull.

PROVINCES.—*Wednesday, September 11*: Max. 54° Ireland S.W.; Min. 49° Shields.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.
MONDAY, WEDNESDAY AND THURSDAY—
Dutch Bulbs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.
WEDNESDAY—
Trade Sale of Bulbs, &c., at 1; Palms and Plants, at 4, at 67 & 68, Cheapside, E.C., by Protheroe & Morris.
Sale of the whole of the Specimen Exhibition Stove and Greenhouse Plants, at The Nurseries, Leamington, by Protheroe & Morris, at 12.
Palms and Decorative Plants, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 3.
THURSDAY—
Clearance Sale of the whole of the stock of Palms, &c., at 17, Tyrrell Road, E. Dulwich, S.E., by Protheroe & Morris, at 12.

Forests and Rainfall. It is an opinion very generally held by both foresters and amateurs in forestry that woods exert an influence on the amount of rain which falls in their neighbourhood. But although the opinion is general the evidence by which it is supported is by no means conclusive, and, as indicated in an article* on forests and rainfall, the verdict which must be given in the present state of our knowledge is that of "not proven."

History would at first sight appear to provide irrefutable evidence in favour of the generally-accepted view. For example, certain rivers, such as the Loire, are now considerably smaller than they were a few centuries ago. The writer of the article referred to above, in referring to the case of the Loire, mentions that in 1551 the Marquis of Northampton went from Orleans to Nantes with his suite in "five large, many-cabined boats," whereas now navigation is not possible above the halfway town of Saumur.

Evidence of this kind, however, is by no means conclusive. Though the partial drying up of the river may be indeed a consequence of the deforestation which was carried on extensively in the Loire district in the XVIIth century, it does not follow that the reduced volume of water in the river is due to a lessened rainfall. For with deforestation rain finds its way as flood water rapidly to rivers. The latter rise quickly during the floods and subside to relatively meagre proportions after the surplus rain water has been carried off.

Stronger evidence in favour of the view that forests increase rainfall is derived from data collected at "parallel" stations, that is stations one of which is in the forest and the other in neighbouring open country. Thus at Lintzel, Hanover, the rainfall in 1882 was considerably less than that at most of the neighbouring stations; but as trees planted in 1877 grew, the rainfall at this station increased, and in 1890 it was generally in excess of that of surrounding stations. But, as is pointed out by the writer whom we quote, there are pitfalls in the interpretation of even such apparently straightforward evidence as that just cited.

Sheltered from wind, the forest rain gauge is apt to give higher readings than that exposed in a more open region. It has been pointed out, moreover, that the facts may be read in the reverse way; that when deforestation is accompanied by decreased rainfall it may be that deforestation is a consequence and not a cause of the reduced precipitation. Thus in Chinese Turkestan, according to Mr. E. Huntingdon, and in the country of the Sin-Ling range in China, according to the account given by Mr. F. Kingdon Ward in these pages,* deforestation is going on extensively, and in these instances it would appear that the forests are dying because the water supply is decreasing. The subject, which is one of considerable economic and social importance, must be regarded in the light of these considerations as still open, and although we may incline to agree with the general opinion we must await further evidence before regarding that opinion as well founded.

ROYAL HORTICULTURAL SOCIETY.—The President and Council of the R.H.S. have been asked to suggest names of gentlemen willing to act on the Jury of the (1) Horticultural Exhibition at St. Petersburg, in the spring of 1913, and (2) the Exhibition of Fruit and Chrysanthemums to be held at Nantes on November 12-17, 1912. The secretary, Rev. W. WILKS, will be glad to hear from any British horticulturists intending to be present at either of these exhibitions.

——— The trial of Violas has this year been so successful, particularly in the late spring and early summer, that it has been suggested (and the Council have accepted the suggestion) that the trial should be continued in 1913, with a special view of the date of the flowering of the various varieties. Growers, amateur as well as trade, are therefore requested to send three rooted cuttings of each variety (old as well as new), so that they may be planted before the third week in October. The cuttings should be sent to the Superintendent, R.H.S. Gardens, Wisley, Ripley, Surrey.

——— The R.H.S. Daffodil Show will next year be held on Tuesday and Wednesday, April 15 and 16. The schedule of prizes may be obtained from the Secretary by application, accompanied by a stamped addressed envelope.

NORTH OF ENGLAND HORTICULTURAL SOCIETY.—The next meeting of the N.E.H.S. will be held on the 18th inst. in the Queen's (Midland) Hotel, Leeds, at 6.30 p.m., when Mr. W. DYKE, of Cranbourne Nursery, Ware, will deliver a lecture on "Commercial and General Manures." The show arranged for this date is postponed. It is proposed to hold a show on October 17 and 18.

A POTATO COMPETITION.—The St. Barnabas, Sutton, and District Horticultural Society have concluded a competition in Potato culture. On February 13 of the present year they purchased 51 bags of seed Potatos, each bag containing nine tubers weighing 1 lb., and distributed the separate bags to 51 competitors, offering four prizes for the heaviest yields from each 1 lb. of seed, and four prizes for the best quality tubers. The bags were sealed, numbered and drawn for, and each contained Potatos of the same variety, and as nearly alike in every respect. Two members of the committee inspected the weighing of the sets at the time of planting, and were also present when the crop was lifted. The successful grower was Mr. C. F. CLARK, an under-gardener to R. L. POWELL, Esq., Banstead Grange, Banstead, Surrey, his crop scaling 231½ lbs., made up of 219 lbs. 2½ ounces of ware tubers, 9 lbs. 7 ounces of seed tubers, and 2 lbs. 14½ ounces of chats or smaller tubers. Mr. CLARK's crop also gained the highest award for quality. The seed was a selected stock of "The Colleen," a second early variety of Irish origin, raised by Mr. J. F. WILLIAMSON. Other competitors' crops ranged from 90 lbs. to 200 lbs.

FORESTRY IN WALES.—The Board of Agriculture have sanctioned the appointment of Professor FRASER STORY, of the University College, Bangor, as Advisory Officer in Forestry for the whole of Wales in connection with the new scheme in which the North Wales University College will undertake advisory work in forestry in the Principality.

ACREAGE OF HOPS.—A preliminary statement compiled from the returns collected on June 4 shows that the acreage under Hops in England is 34,831, being 1,755 acres more than in 1911, and 1,945 acres in excess of 1910. The chief Hop-growing counties are Kent (21,400 acres), Hants. (1,516 acres), Hereford (5,236 acres), Sussex (2,847 acres), and Worcester (3,186 acres).

FRENCH GARDENERS AT RAYNES PARK.—The members of the Société Francaise d'Horticulture de Londres visited Messrs. JAMES CARTER & Co.'s establishment at Raynes Park on the 7th inst. There was a large party, including Mr. GEO. SCHNEIDER, the chairman. The tour of inspection included visits to the offices, warehouses, stores and trials. At the luncheon Mr. SCHNEIDER thanked Messrs. CARTER & Co. for their hospitality, and Mr. HAROLD BEALE, a member of the firm, responded.

"THE ORCHID REVIEW."—The September issue of the *Orchid Review* contains an article on the leaf-spot of Odontoglossum, which is now recognised as the work of a definite parasitic fungus, and has been identified by Mr. F. W. ROLFE with a fungus which was described in France under the name of Cercospora Odontoglossi, Prill. and Delacr. It was first found on Odontoglossum crispum at Versailles. This fungus is now shown to have given trouble in several collections, but means are described for keeping it in check. A striking new generic hybrid between Cochlioda Noezliana and Oncidium macranthum is described, under the name of Oncidioda Cooksoniæ, and an article is devoted to the yellow varieties of Lælia tenebrosa.

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* *Nature*, August 29, 1912.

* August 24, 1912.

Free Homesteads in Manitoba.—Contrary to the general impression that obtains, it appears there are still plenty of free homesteads available for settlers in the Province of Manitoba. A large area of land suitable for this purpose has hitherto been held up owing to differences between the Provincial and Dominion Governments. These differences have now been settled and a large area of land is now to be thrown open for free selection. It is expected that there will be a great rush to obtain the land, particularly as one large district is only 30 miles distant from Winnipeg, thus ensuring the advantage of a large and growing market close at hand.

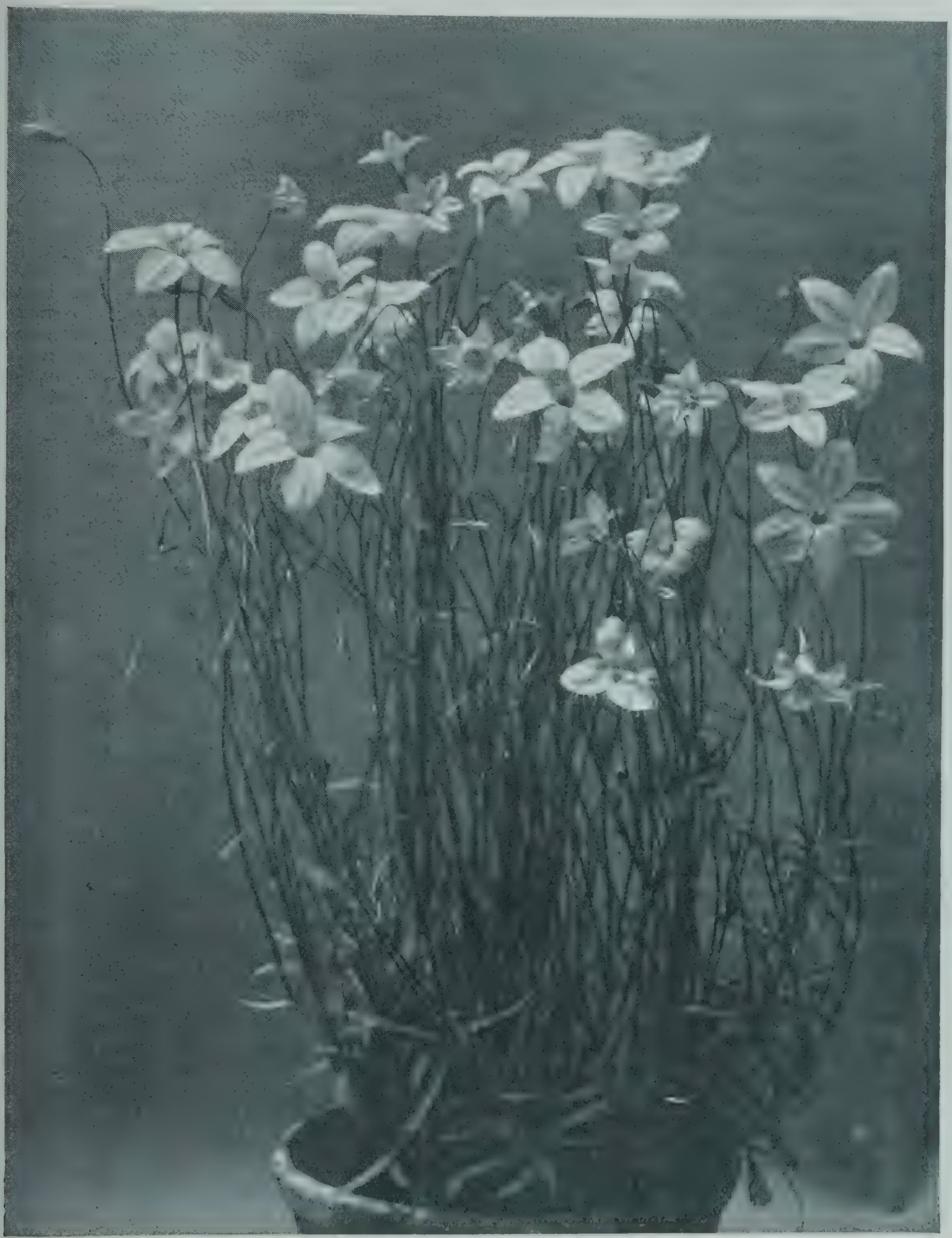

Fig. 96.—Wahlenbergia vincaeflora: flowers blue.
(See p. 216.)

The Genus Eucalyptus. — The fifteenth part of Mr. J. H. Maiden's "Critical Revision of the Genus Eucalyptus" deals with E. oleosa, E. Gillii, a new species, and E. falcata, with four plates. E. oleosa is a shrubby species, occasionally attaining the dimensions of a small tree, and comes under the local designation of Mallee, a native name applied to several shrubby species. It ranges through Southern Australia, from the extreme west to the Murray River, in Victoria, and northward into New South Wales. Two plates and part of a third are devoted to the illustration of this species, which belongs to the group bearing quite small seed-vessels. The other species illustrated are closely allied to E. oleosa.

Fruit Industry in Central America.—According to the *Financial Times*, a general scheme of consolidation has been arranged, whereby the whole of the railroads in Central America will be placed under one administration dominated by the United Fruit Company, of the United States, while plans of development have been drawn up which, together with the cost of acquiring the lines, will require a sum of at least $40,000,000. It is pointed out that the scheme will prevent other interests from obtaining a footing in a region where the United Fruit Company has, for some time past, sought to make itself paramount, while the project, it is further contended, should add greatly to the prosperity of the companies to be taken over. The lines over which control has already been obtained will not only link one with another but will be joined up with certain Mexican railways, thereby giving a connection between New York and Guatemala.

North American Species of Hemitelia.—A new synopsis of the North American species of Hemitelia, by W. R. Maxon, appears in part 2, volume xvi., of the *Contributions from the United States National Herbarium.* The members of this genus are among the most handsome of tree Ferns. Mr. Maxon enumerates 21 species including three or four from the West Indies. The author encountered great confusion in the synonymy of some of the species, especially in relation to those bearing the name Hemitelia speciosa. The cultivated H. Lindenii is the true speciosa. There are figures of a dozen species. The same paper contains definitions and figures of the American species of Cibotium, namely: C. Schiedei, C. regale, C. guatemalense, and C. Wendlandii; generally referred to as Dicksonia in this country. Nothochlaena leonina and N. Rosei are new Mexican Ferns.

Spraying Apple Trees. — The Agricultural Experiment Station of the University of Nebraska has issued a useful little *Bulletin* on the subject of "The Spraying of Apple Trees." The remedies recommended for the control of Apple scab are Bordeaux mixture, or commercial lime-sulphur solution. For the control of the codlin moth, lead arsenate at the rate of 2 lbs. to 50 gallons of spray material is recommended, the latter being either Bordeaux mixture or lime-sulphur. The usefulness of the *Bulletin* is enhanced by a series of illustrations of Apple flowers, which serve to indicate graphically in what state the blossom should be when the first and second applications of the spray-fluids should be made.

Settlers in Eastern Canada.—In Nova Scotia power has been obtained by legislation for the purpose of providing assistance to take up farms to settlers who are not otherwise in possession of sufficient means to do so. If the individual is found to possess adequate farming experience and is judged otherwise suitable, assistance, if need be, is given him to the extent of 80 per cent. of the valuation of the farm he proposes to purchase. This guarantee the Government has arranged through a loan company. A settler who possesses at least 20 per cent. of the capital required and sufficient to start on his farm, after paying his passage, is at once placed in a position of acquiring an independence. The authorities in Nova Scotia, New Brunswick and Ontario are prepared to receive applications from any number of married men with families who possess from £100 to £300, through their representatives in London, who will furnish the fullest particulars and advice.

The Tonga Bean. — In the course of an article in the *Journal d'Agriculture Tropicale* (July 31, 1912), Hon. M. J. Grisard draws the attention of agriculturists of tropical countries to the prevailing scarcity of the Tonga Bean, and suggests that its cultivation might prove remunerative. The Bean, which contains in its cotyledons large quantities of coumarine, is the seed of the leguminous plant, Dipteryx odorata, a native of the forests of Venezuela, Guiana and Northern Brazil. Although its pharmaceutical uses are but scanty, the active principle of the Tonga Bean is employed in commerce on a huge scale, especially for the purpose of perfumery, soaps, pomades and many scents depending largely on coumarine for their aroma. The sale of Tonga Beans is particularly great in the United States, and the world's output is insufficient to meet the demand.

Publications Received.—***Rock Gardens and Alpine Plants,*** by E. H. Jenkins. Edited by T. W. Sanders. (London: W. H. & L. Collingridge.) Price 2s. 6d.—***The Land and Tenants League,*** by James MacConnell. Secretary, Mr. T. Martin Brindley, 5, Waterloo Place, London, S.W.—***Thirty-fifth Report of the Connecticut Agricultural Experiment Station for the Year 1911.***

WAHLENBERGIA VINCÆFLORA.

(See fig. 96, p. 215.)

THE Wahlenbergias of Australia and New Zealand possess a definite character of their own, quite distinct in habit from the European members of the genus. The latter, in fact, form such a well-marked section that they are generally known by the name of Edraianthus. Those included in the section Edraianthus are all more or less biennial in habit, although some species like W. dinarica and W. serpyllifolia keep on for several years under favourable conditions. They all form long, somewhat fleshy roots, with a tuft of leaves close to the ground. From this tuft the inflorescences are produced on decumbent stems, long in some like W. tenuifolia, and short in others like W. dinarica. In the latter choice little species the flowers just top the leaves.

The Australian and New Zealand species are very variable in size and habit, and a good deal of confusion has arisen with regard to the nomenclature of the various species. Cheeseman, in his *Flora of New Zealand*, mentions three species, but does not clear the matter up satisfactorily, as he makes W. vincæflora a synonym of W. gracilis. The type of the latter, however, is a small flowered annual, whereas the former is a large flowered perennial. The three Australian and New Zealand species in cultivation are:

W. ALBO-MARGINATA, Hook.—This is the plant figured in the *Botanical Magazine*, t. 6613, as W. saxicola, and is a perennial. It is called the "Bluebell of New Zealand," and spreads by means of underground stems which produce rosettes of leaves at intervals. The leaves vary in length from an inch to an inch-and-a-half; the lower are broadly spatulate, while the upper leaves are longer and narrower and have undulate margins. The flowering stems, 9 inches to 12 inches high, branch near the base, and have very few leaves, while the flowers are borne singly on stalks nearly 6 inches long. The colour of the flowers, which are over an inch across, varies from pale blue or lilac to white, with deeper-coloured veins. Like the other two species, it is very free-flowering, producing flowers from June to September. This plant is only found in New Zealand.

W. SAXICOLA, A. H.—Similar in habit to the above, this species only grows to the height of from 2 inches to 4 inches. It bears small blue flowers, the petals barely exceeding the sepals in length. The type specimen comes from Mt. Wellington, in Tasmania, where it grows in the scanty soil of crevices of large rocks. It is also found in New Zealand.

W. VINCÆFLORA, Dene (see fig. 96).—Under the name of W. gracilis, which is a small flowered annual, this plant has been grown in gardens for many years. It was figured in the *Botanical Magazine*, t. 691, as Campanula gracilis, from plants which flowered in Curtis's Botanic Garden in 1803. These plants were raised from seeds which germinated in soil surrounding other plants imported from Australia. A good form of it was exhibited at the meeting of the Royal Horticultural Society, on June 4 last, under the provisional name of W. gentianoides, and obtained an Award of Merit. It was raised by Mr. R. Prichard, of West Moon, Wimborne, and was found amongst a batch of seedlings of the so-called W. gracilis. W. vincæflora is a very variable perennial. It is found in New Zealand, but is more common in South Australia, where it is known as the "Australian Harebell." It is a graceful little plant with many slender stems, branching freely and reaching a height of from 1 foot to 15 inches. The blue flowers, 1½ inches to 2 inches across, are borne singly on long stalks.

All three species are easily grown in light, rich soil, in shady positions, and produce seed freely. *W. T.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

THE R.H.S. AUTUMN FRUIT SHOW.—Now that the date of this show is approaching, I would suggest that the Council make arrangements to prevent exhibitors losing their exhibits. Last year many thefts were committed, and even Grapes were removed from the boards. The police should receive instructions to clear the hall at the end of the show of all those who have no interest in the exhibits. I admit that in some instances even an exhibitor may be liable to pick up a wrong dish, but no exhibitor would take another man's Grapes from the boards. It is usually the small exhibitor who is the loser. *A. G.*

COLOUR IN HARDY FRUITS.—Mr. S. Gilthorpe's notes, p. 201, seem to me well-timed. On two occasions quite recently the subject has been discussed in my presence, and on both occasions last year's discussion was referred to. The first one was when a small party of gardeners and amateurs were inspecting the fruit trees in the Cattal Nurseries of Messrs. J. Backhouse & Son, York. The manager, Mr. William Richardson, drew our attention to the grand colouring of certain varieties of Apples, such as Worcester Pearmain and Red Victoria. Yet the sun had shone less this summer than for many seasons past. He specially appealed to the writer, whose sympathies have on the whole up to now been on the side of those who thought the sun had much to do with colouring Apples in the north. I at once admitted I was wrong. The next day, accompanied by Mr. R. McIntosh, of York, a well-known and experienced cultivator of hardy fruits in that district, I went to Warter Priory, Pocklington, to inspect recent extensive garden developments there. The first object noticed was some pot-grown trees of Peasgood's Nonesuch Apple standing amongst Currant bushes, protected overhead with fish netting. Each tree bore several fine fruits. Without any mention of the previous day's discussion, Mr. Jordan said he had put the trees there from the large orchard house, so that the fruits might become coloured. They had only been out three or four days, and he could see a decided advance in that direction almost daily. There had been practically no sunshine in the interval. As is well-known, Mr. Jordan is one of the very best cultivators of fruits in the country. He is a firm believer that atmospheric conditions apart from bright sunshine have much to do with the colouring of Apples. The soil at the two places is quite different. At Cattal it is a good red loam overlaying sandstone; at Warter, a less enriched soil, with the chalk of the Yorkshire Wolds for its base. Having attended several horticultural shows this year, I can confirm Mr. Gilthorpe's opinion as to the better colouring of black Grapes this season as compared with last year. This applies more particularly to the two best varieties for dessert, viz., Black Hamburgh and Madresfield Court. Muscat of Alexandria has not been so well coloured. Peaches, too, especially of the Bellegarde type, have exhibited high colour during the present season. *Yorkshire Gardener.*

——— Mr. Gilthorpe's letter respecting the colouring of fruit is most interesting. Apples here have coloured well this exceptionally wet season. I have never seen deeper colour in Lady Sudeley, Worcester Pearmain, and Beauty of Bath; whilst Mère de Ménage, Red Astrachan, Peasgood's Nonesuch, Tom Putt, and other varieties are all well coloured. Peaches have coloured well, and Figs have ripened outside. Owing to the excessive rains, Plums cracked badly, and we have lost a large number of these fruits. There is a deficiency of flavour in all fruits this season. *J. S. Higgins, Glynllivon Gardens, Carnarvon.*

——— I have long maintained that wet and wind have a great influence on high colour in Apples, and the present season seems to confirm my opinion. Apples here, and especially the varieties Worcester Pearmain and Bramley's Seedling, are much more brightly coloured this year than last season. The fruits in the majority of varieties are also better developed than they were in 1911. This is no doubt due to the abundant rains, for it is well established that Apples like plenty of moisture. What is needed now is sunshine to ripen the wood. *Wilmot H. Yates, Rotherfield Park Gardens, Hampshire.*

THE BEARING OF APPLES.—My observations coupled with the experience of a large number of commercial growers in Kent, have led me to the conclusion that it is chiefly the late varieties that have the tendency to bear in alternate years, due, in my opinion, to the wood failing to ripen when the tree is carrying a large crop. I have in mind some 40 fine standard trees of the variety Royal Jubilee. Some of these are carrying excellent crops, while others which bore well last season are barren. On the trees which are carrying crops the foliage is remarkably fresh and green, while on those which have no fruit the foliage is turning yellow, and the wood is ripening well. Viewed at a distance the trees would give one the impression of being different varieties. I have also noted Bramley's Seedling showing the same marked appearance. *F. G. Cousins.*

HISTORY OF THE JARGONELLE.—It is not so clear, as Mr. Sydney H. Kenwood assumes, that the Jargonelle of our gardens is not the old Jargonelle. It is to Miller, who mentions both names, that the statement is due that the Jargonelle and the Cuisse Madame had been confounded with each other on their introduction, but others have controverted this statement as devoid of foundation in fact. The earliest mention of the fruit by that name that I have seen is in De Senes *Theatre d'Agriculture* as ‘de Jargonet," which would make it appear that it was named after a place or a person. It is not named among the Pears in the earlier *La Maison Rustique*. There are, or were, three distinct varieties named Jargonel or Jargonelle: Dr. Hogg's variety, to which with other names he gives as synonyms Beau Présent, Epergne, Grosse Cuisse Madame, and St. Samson. This is the recognised form. The Jargonelle of Merlet, synonyms Bassin, Bellissime d'Eté, St. Laurent and Belle Cornélie; and Bradley, whose list first appeared in one of his monthly tracts, obviously copied from Merlet, has one called La Jargonelle simply. In Furber's Catalogue of Pears (1724), it is spelled "Jargonel." Laurence spells it "Jergonel," ripe in August, and "Cusse Madam," ripe in July, and if clearer evidence than this is needed to show that Miller was mistaken in his assumption that names had been changed, it is to be found in Langley's *Pomona*, Langley's position as a nurseryman making the evidence particularly strong, and in *Pomona* our Jargonelle is figured under that name, and the Cuisse Madame by its proper designation. As an indication of how almost inextricably the names are mixed, there is a "Petite Cuisse Madame" in *The Gentleman's Recreation* of Richard Blome (1686), the Cuisse Madame of Laurence and of Langley and the Grosse Cuisse Madame, the Jargonelle of to-day, La Jargonelle of Bradley, and the Grosse Jargonelle or Windsor. The conflicting names in synonyms could be carried much further. Mortimer, I should say, refers to one of these by the name St. Laurence. I have nothing to say concerning the derivation of Jargonelle, except that each of the derivations proposed seems to be rather far-fetched. If De Jargonet of De Senes is the correct word, it would put the question at rest. The Pear Volema is always noted as The Warden. *B.*

TRADE NOTICES.

POLLARDS NURSERIES, LTD.

The above-named company has been registered with a capital of £50,000 in £1 shares (20,000 Preference), to carry on the business of florists, market and nursery gardeners, dealers of all kinds of plants and garden requisites, and general contractors, as formerly carried on by A. W. Pollard, at Longfield Lane, Cheshunt, Herts., as Pollard's Nurseries.

JOSEPH ROCHFORD & SONS, LTD.

This company has been registered with a capital of £70,000 in £1 shares, to carry on the business of fruit growers, nurserymen, farmers, market gardeners, seedsmen, raisers, growers, and dealers of all kinds of seeds, plants, trees, shrubs, bulbs, flowers, vegetables, fruit, corn, cereals, &c., and to adopt an agreement with J. Rochford. The signatories are: J. Rochford, Turnford, near Broxbourne, Herts.; J. P. Rochford, Covent House, Turnford, near Broxbourne, Herts.; B. Rochford, 21, Fitzjohn's Avenue, N.W. (one share each). Private company. Mr. J. Rochford is the first governing director. Office, Turnford Nursery, Turnford, near Broxbourne, Herts.

SOCIETIES.

ROYAL HORTICULTURAL.

September 10.—The Royal Horticultural Hall at Vincent Square was agreeably furnished on Tuesday last with interesting exhibits. Gorgeous Dahlia blooms of many kinds and large masses of excellent herbaceous Phloxes were the dominant features of the show.

The Orchid Committee recommended two First-class Certificates and two Awards of Merit to novelties.

The Floral Committee bestowed 21 Medals and 14 Awards of Merit. Of these Awards of Merit, 9 were made to Dahlia blooms, in conjunction with the National Dahlia Society, whose First-class Certificate is simultaneously awarded.

The Fruit and Vegetable Committee awarded three Medals, two Awards of Merit, and one Card of Cultural Commendation.

At the 3 p.m. meeting of Fellows, Miss Troyte-Bullock delivered a lecture on "Cape Pelargoniums."

Floral Committee.

Present: Henry B. May, Esq (in the Chair); and Messrs. C. T. Druery, J. Green, W. J. Bean, J. Hudson, E. A. Bowles, J. W. Barr, George Gordon, C. R. Fielder, Wm. Howe, J. F. McLeod, Chas. Dixon, W. T. Ware, Arthur Turner, John Dickson, H. J. Jones, Chas. E. Pearson, W. P. Thomson, C. H. Jenkins, and W. J. James.

Mr. James Box, Lindfield, Sussex, arranged large masses of herbaceous Phloxes, which were exceedingly effective. The deep-purple Mahdi contrasted well with the nearly-white Frau Antoine Buchner and the pure-white Freifraulein von Lassberg. The variety Rijnstroom, which received an Award of Merit, was present in large quantities, and showed a great advance on others of similar colour. In another part of the Hall, Mr. Box exhibited a splendid collection of border flowers, the early-flowering Chrysanthemums and Montbretias being especially good. (Silver-gilt Flora Medal.)

Mr. Amos Perry, Enfield, Middlesex, contributed an attractive group of hardy plants. Artemisia lactiflora was shown in a large mass; Delphiniums of good size and colour; long spikes of Liatris pycnostachya; Heleniums, and a batch of Sedum spectabile atropurpurea were especially good. The tall, stout heads of Kniphofia nobilis were in marked contrast with those of the tiny but equally beautiful species K. rufa, which is deserving of extended culture. (Silver-gilt Banksian Medal.)

Messrs. J. Cheal & Sons, Crawley, Sussex, displayed a large number of trees and shrubs in flower, with autumn colouring. There were tall plants of various Crabs and species of Cratægus, which bore large crops of fruit, placed along the centre of this collection, which included varieties of Heaths. Japanese Maples, several species of Ceanothus, the bushy Spiræas, and Veronicas in flower also contributed towards making a pleasing exhibit. Messrs. Cheal & Sons also showed many varieties of Dahlias. (Silver Flora Medal.)

Messrs. G. & A. Clark, Dover, displayed hardy border flowers, including several varieties of Kniphofia Uvaria, Liatris pycnostachya, various Gladioli, and Michaelmas Daisies.

Mr. O. Dixon, Putney, also showed cut blooms of hardy herbaceous perennials.

Messrs. Gunn & Sons, Olton, Warwickshire, arranged a fine collection of herbaceous Phlox in a very attractive manner, and exhibited the wide range of colour obtainable to great advantage. (Silver Flora Medal.)

Messrs. Barr & Sons, Covent Garden, London, exhibited many hardy border flowers near the entrance. A group of Kochia tricophylla, with vivid autumn colouring, behind some flowering plants of Valotta purpurea and cut spikes of Nerine Fothergillii major, and vases of various herbaceous Phloxes, made a charming display. The uncommon colour of the flowers of the old favourite Verbena venosa attracted attention, as also did a spike of Lilium nepalense. At the back of a small collection of rock-plants there was a good row of Polygonum affine. (Silver Banksian Medal.)

Messrs. Whitelegg & Page, Chislehurst, Kent, arranged a very neat collection of border flowers and a few Alpines in pots.

Messrs. Geo. Bunyard & Co., Ltd., Maidstone, Kent, included in their collection of hardy border flowers good varieties of Anemone japonica, such as A. j. elegantissima and A. j. rubra; Rudbeckia "Autumn Glory," Aster "Saturn," A. "Lustre," herbaceous Phloxes, and Lilium tigrinum Fortunei. (Silver Banksian Medal.)

Mr. A. Ll. Gwillim, Sidcup, Kent, exhibited a large number of excellent blooms of tuberous Begonias—chiefly of the double varieties—laid on show boards, with leaves of the Virginian Creeper. The rows of Begonias were broken by vases of well-grown Michaelmas Daisies. (Silver Banksian Medal.)

Mr. G. Reuthe, Fox Hill Nursery, Keston, Kent, showed many interesting Alpine and other uncommon plants and shrubs. Perovskia atriplicifolia, Gentiana Andrewsii, Clethra alnifolia rosea, Escallonia organensis, Desfontainea spinosa, and Berberidopsis corallina are a few of the subjects displayed.

The Misses Hopkins, Shepperton-on-Thames, furnished a small rockery with many plants in flower.

Messrs. Wm. Fells & Son, Hitchin, Herts., also made a rockery, using red sandstone in a pleasant and unostentatious manner.

Messrs. W. & J. Brown, Peterborough, exhibited in Dianthus Napoleon III a very sturdy purple-flowered variety. The colour of the flowers of Petunia New Purple quite justifies its name.

T. B. Bolitho, Esq., Trewidden, Penzance (gr. Mr. Maddern), sent sprays of several exceedingly interesting shrubs from his well-known garden. Styrax Obassa was well furnished with the pendulous racemes of nut-like fruits which follow the fragrant flowers The Protean Guevina Avellana must have been taken from a very healthy bush, and it bore many racemes and a number of flowers; the kernel of the resulting nut is said to be esteemed in Chili. Two shoots of Magnolia hypoleuca each bore a horned fruit fully 6 inches long. Sprays were also sent of the white-flowered Tricuspidaria dependens.

Messrs. Wm. Paul & Sons, Ltd., Waltham Cross, had a surprisingly fine display of cut Roses, mostly arranged in round baskets. Such well-known varieties as George C. Waud, the deep-red Florence Haswell Veitch, Lady Wellington, La Tosca, General MacArthur, Mrs. R. G. S. Crawford, and Hugh Dickson were very good indeed, and amongst the lesser-known varieties there were good examples of Hugo Roller, a Tea Rose with creamy-white petals; Château de Clos Vouget, deep velvety crimson; Coronet, a very pretty semi-double cluster Rose; and Senateur Mascurand. (Silver Flora Medal.)

Messrs. Benj. Cant & Sons, Colchester, also showed an attractive group of Roses. The many stands contained fresh typical blooms of such varieties as Irish Elegance, Dean Hole, Juliet, Reliance, R. N. Thomas, and Caroline Testout. The seedling Tea Rose Lady Reay, which was placed near a fine stand of the Lyon Rose, is a charming variety. (Silver Flora Medal.)

Messrs. Stuart Low & Co., Bush Hill Park, Middlesex, displayed vases and cut Roses. The popular varieties Juliet and Lyon were well shown. Beauté de Lyon, a hybrid Briar Rose, possesses uncommon colouring, which may be described as a deep reddish-apricot shade. A stand of the dwarf Polyantha Rose Jessie was exceedingly effective.

Messrs. R. Felton & Son, Hanover Place, London, were awarded a Silver Flora Medal for their delightful exhibit of imported Nelumbium blooms.

Miss Walters Anson exhibited a beautiful painting of life-like Nelumbium blooms. (Silver Banksian Medal.)

Mr. L. R. Russell, Richmond, contributed many round baskets, containing floriferous Clematis, hardy Fuchsias in small pots, bearing large quantities of flower, and Ceanothus species and varieties. (Silver Banksian Medal.)

Messrs. H. B. May & Sons, Upper Edmonton, again showed many excellent stove and greenhouse Ferns and a collection of sturdy, floriferous, shrubby Veronicas. (Silver Banksian Medal.)

Messrs. Wm. Cutbush & Son, Highgate, contributed some very fine plants of Cordyline australis in variety. The variegated plants of Dracæna Doucettii and the yellow and green Bruanti variegata are very valuable for greenhouse decoration or for furnishing large vases in the dwelling-house. (Silver Banksian Medal.)

Dahlias.

Messrs. Carter, Page & Co., 3, London Wall, London, arranged a very large bank of Dahlias, which made a gorgeous show. The massed centre of Pæony-flowered varieties was flanked by vases of exceedingly fine Cactus flowers, such as Nisi Prius, Great Western, Leda, and Mrs. McMillan. (Silver-gilt Flora Medal.)

Messrs. Hobbies, Ltd., Dereham, made an exceedingly effective display of Dahlias. Tall stands contained blooms of the decorative and collarette varieties, which included, amongst the former type, the bright rose-coloured Delice, the rich-toned Leveller and Bonfire, and the orange-scarlet Dr. Hogg. (Silver-gilt Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, filled one length of tabling with a comprehensive collection of Dahlia blooms, which were tastefully arranged with sprays of Aster (Michaelmas Daisy) growths. (Silver Flora Medal.)

Mr. S. Mortimer, Farnham, Surrey, exhibited many very fine blooms of show and fancy and Cactus Dahlias on exhibition stands. (Silver Banksian Medal.)

Messrs. T. S. Ware, Ltd., Feltham, arranged a number of Dahlia blooms, amongst which the dark Excelsior, Jupiter, Conquest, Jeannie Charmet and Florrie Wells were prominent. At one end of the Dahlias Messrs. Ware showed a fine selection of border flowers. (Silver Banksian Medal.)

Mr. Charles Turner, The Royal Nurseries, Slough, showed an exceptionally fine collection of Dahlia blooms. The varieties Alfrida, Berthe von Süttner, Eleanor, and Bayard were splendid, and the white Cactus Snowdon was probably the best in the show. (Silver Banksian Medal.)

Mr. J. T. West, Tower Hill, Brentwood, also showed a good collection of Dahlias of different sorts. (Bronze Flora Medal.)

Messrs. S. Bide & Sons, Farnham, Surrey, showed Sweet Peas of many varieties. The best were Arthur Unwin, Scarlet Emperor, Mrs. R. Hallam and Barbara.

Awards of Merit.

Chrysanthemum Crimson Polly.—A chestnut crimson, early-flowering variety with gold reverse to the florets. Shown by Messrs. W. Wells & Co.

Helenium autumnale rubrum.—The flowers of this variety are of a very deep red colour. In the hall they appeared to be too dark. Shown by Mr. Amos Perry.

Achillea Perry's White.—A splendid white border flower which shows a great improvement on former varieties. Shown by Mr. Amos Perry.

Phlox Rijnstroom.—The large flowers are of a soft rose-colour, which is at times paler in the centre. This very desirable herbaceous Phlox was shown by Mr. James Box.

Pentstemon Gaddesden Gem.—One of the very best Pentstemons. The large scarlet flowers have white tubes. Shown by Mr. A. G. Gentle.

Dahlia Queen Mary.—A decorative variety of excellent form; the florets are lined and flushed with rose colour. Shown by Messrs. H. Cannell & Sons.

D. Crawley Star.—This variety represents a new section, which may be termed the Cosmos type. The flowers are of a rosy-mauve colour. Shown by Messrs. J. Cheal & Sons.

D. Ideal.—A fine crimson collarette variety with a yellow collar. Shown by Mr. Riding.

D. Albert Maumene.—A rosy-mauve collarette bloom with much paler collar. The disc florets of this large round flower are reflexed. Shown by Mr. Riding.

D. Selma.—A very pretty Pompon variety. The flowers are buff coloured, slightly suffused with Apricot when mature. Shown by Mr. Charles Turner.

D. Nantwich.—A medium-sized Cactus variety. The buff-coloured, incurved florets are occasionally suffused with red.

D. Dolly.—A compact Cactus variety. The scarlet colour merges to white at the tips of the florets.

D. John Riding.—A very long incurved Cactus variety of rich red colour. These three varieties were shown by Messrs. J. Stredwick & Son.

D. Papa Charmet.—A decorative variety with bright, velvety maroon florets. Shown by Messrs. Hobbies, Ltd.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); Messrs. Jas. O'Brien (hon. sec.), R. Brooman-White, W. Bolton, W. H. White, Arthur Dye, J. E. Shill, J. Cypher, W. H. Hatcher, W. P. Bound, W. Cobb, J. Charlesworth, A. McBean, F. J. Hanbury, W. Thompson, Stuart Low, Gurney Wilson, and Sir Harry J. Veitch.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), staged an effective group of showy Orchids, set up with Adiantum Ferns, for which a Silver Flora Medal was awarded. Varieties of Cattleya Suavior, C. Source d'Or, C. Armstrongiæ, C. Gertrude Pitt (Mossiæ × Pittiæ), C. Gaskelliana, and other Cattleyas were prominent; whilst there were good examples of Lælio-Cattleya rubiginosa (L. Boothiana × C. Schilleriana), L.-C. Hector, L.-C. Henry Greenwood, and L.-C. Nysa. We noticed various Brasso-Cattleyas, fine Odontioda Charlesworthii, several Odontoglossum Victor Hye de Crom, O. crispum King of Britain, a very handsome blotched form, and other Odontoglossums.

E. H. Davidson, Esq., Borlases, Twyford, staged a selection, among which were noted the new Odontoglossum Aurora (Rossii rubescens × Lambeauianum), with a spike of nine handsome flowers, the first of the Rossii hybrids to produce the erect, many-flowered spike of the ordinary hybrid Odontoglossum. The flowers were large, white, tinged with lilac flush, and spotted with dark purple on the sepals and petals. Lælio-Cattleya Neleus (C. Iris × L.-C. Ophir), bright yellow, with a fine, light-crimson lip, with gold veining; a very fine, dark-scarlet Odontioda Charlesworthii, and an equally bright Odontioda of unknown parentage; Cattleya Cybele var. Sanderæ, a charming flower; Odontoglossum crispum Louis, a noble, pure-white flower, with a large maroon blotch on the lip, and other showy varieties.

H. S. Goodson, Esq., Fairlawn, West Hill, Putney (gr. Mr. G. E. Day), showed a selection of rare Orchids, including the handsome Cattleya Rhoda "Fairlawn variety," which secured a First-class Certificate in August, 1910, and is very fine in colour; C. Atalanta illuminata, with large, rose-coloured flowers; Lælio-Cattleya Elva var. St. Vincent (Award of Merit, 1908); some Brasso-Cattleyas, and a grand new hybrid (see Awards).

Messrs. Sander & Sons, St. Albans, staged a small group remarkable for several instances of fine culture and for the superb new Dendrobium Schützei, which justly secured a First-class Certificate (see Awards). Among the best noted were Arachnanthe Lowii, with three long, drooping spikes of its curious flowers; a noble specimen of Vanda cœrulea, 4 feet in height, and bearing leaves to the base; Cœlogyne Micholitzii and C. fuscescens brunnea; Lælio-Cattleya Fred Gott (Martinetii × bicolor), with large rose-purple labellum; L.-C. venusta (L.-C. Schilleriana × L.-C. Aphrodite), white, with purple feather on the petals, and bright-purple lip; and several other pretty hybrids.

Messrs. Stuart Low & Co., Bush Hill Park, staged an effective group, at the back of which were good specimens of the yellow Oncidium varicosum, and a finely-flowered O. macranthum, Stanhopea graveolens, several specimens of Dendrobium Phalænopsis Schröderianum, Renanthera Imschootiana, and the curious Cirrhopetalum appendiculatum.

His Grace the Duke of Marlborough, Blenheim Palace, Woodstock (gr. Mr. Hunter), sent Vanda cœrulea Blenheimensis, a model flower, closely veined with pure blue, the white ground showing between; Lælio-Cattleya Phœnix "Blenheim variety" (L.-C. Hy. Greenwood × C. Hardyana), with a fine claret-coloured lip; L.-C. eximia "Blenheim variety" (C. Warneri alba × L. purpurata alba), blush white, with purple veining on the lip; and a pretty hybrid Cypripedium.

Messrs. J. & A. A. McBean, Cooksbridge, showed Cattleya Thurgoodiana "Model," a large, finely-formed and richly-coloured flower; and Cattleya Adula excelsa, a grand flower, with bronzy-yellow sepals and petals and rich purplish-rose lip.

Mr. Sidney Flory, Tracy's Nursery, Twickenham, staged a small group, in which were a fine plant of Pescatorea Klabochorum, white, with claret lip and tips to the segments; Zygopetalum Maxillare Gautieri, with a bright-blue lip; a good Cattleya Pittiana; the rare and pretty Dendrobium McCarthiæ; Cypripedium Jas. H. Veitch; C. Massaianum; C. Kubele grandis; C. beechense; C. Lord Ossulston; and C. Curtisii, with eight flowers.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Lælio-Cattleya Mrs. Donald MacMaster (C. Dowiana aurea × L.-C. luminosa), a very remarkable hybrid, of attractive colour. In size and shape it is nearest to C. aurea, but the lip is more openly displayed. The sepals and petals have a golden-yellow ground suffused and veined with reddish-rose. The broad lip is reddish-rose, with a dark reddish ray in the centre, and fine gold lines at the base.

AWARDS.

First-class Certificates.

Dendrobium Schützei, from Messrs. Sander & Sons. A remarkable and beautiful new species from the Philippines, nearest to the handsome D. Sanderæ, but with flowers formed like and somewhat resembling those of D. formosum giganteum, which it also resembles in growth. The stout pseudo-bulbs are 9 inches to 1 foot in height, and bear four to five flowers on a spike, pure white, with a small, emerald-green disc to the lip, which has a ray of the same colour, with dark spots at the base. The lanceolate sepals are keeled, the petals broad and openly displayed, and the lip broad and effective.

Lælio-Cattleya × Memoria H. A. Tracy (L.-C. Canhamiana × C. Hardyana), from H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day). A superb flower, among the largest of hybrid Cattleyas, and of fine shape and substance. Sepals white, tinged and veined with rosy-lilac; the broad petals bright rose, with a silver veining at the edge. The broad, rounded lip, which has a crimped edge, is intense purplish-crimson, with yellow disc and veining at the base.

Awards of Merit.

Odontioda Devossiana "Fowler's variety" (O. Edwardii × C. Noezliana), from J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis). A very bright hybrid, with branched spikes of dark-red flowers, with yellow disc to the lip.

Lælio-Cattleya St. Gothard "Glebe variety" (L.-C. Gottoiana × C. Hardyana), from C. J. Phillips, Esq., The Glebe, Sevenoaks. Flowers large and of fine shape, closely approaching a good C. Hardyana. Sepals and petals tinged and marbled rosy-lilac. Lip deep ruby-red, with yellow disc.

Cultural Commendation

To Messrs. Sander & Sons, St. Albans, for a grand specimen of Vanda cœrulea, 4 feet in height, and bearing 74 leaves and two fine spikes, the one bearing 19 and the other 10 fine, blue flowers.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (in the Chair); and Messrs. Jos. Cheal, W. Bates, Wm. Pope, J. Jaques, H. S. Rivers, A. H. Pearson, E. Beckett, H. Markham, Owen Thomas, and A. W. Metcalfe.

A Silver Knightian Medal was awarded to H. B. Brandt, Esq., Nutfield, Surrey, for a very fine collection of Grapes and other fruits. The Grapes included large, shapely bunches of splendidly-coloured Appley Towers, Black Alicante, Lady Downe's, Prince of Wales, and Diamond Jubilee. Amongst the Apples shown the varieties Cox's Pomona, Wealthy, and American Mother were especially meritorious, as also was a dish of Durondeau Pear.

A. W. Merry, Esq., Welwyn, Herts., also showed a very good collection of fruit. This exhibit was of a much more varied character. The several Melons (Barnet Hill Favourite and Hero of Lockinge) were of nice, useful size, and possessed the yellow colour and perfume which betokens rich flavour. There were also very good bunches of Grapes, many varieties of Apples and Pears, Plums, a box of ripe Alpine Strawberries, and several dishes of Cob and Filbert Nuts. (Silver Knightian Medal.)

H. V. Woodgates, Esq., Old Malden House, Worcester, sent dishes of very large Warner's King and The Queen Apples, which deservedly received a Silver Banksian Medal.

The Countess of Selkirk, Balmae, Kirkcudbright, exhibited excellent Morello Cherries.

Awards of Merit.

Strawberry Merveille de France.—An autumn-fruiting variety, which produces large crops of good-flavoured fruits. Shown by Messrs. George Bunyard & Co., Ltd.

Potato The Diamond.—An oval, smooth-skinned tuber. It is a very heavy cropper, and the haulm becomes about 3 feet high. Shown by Messrs. Barr & Sons.

These Awards were made after trial at Wisley.

A Card of Cultural Commendation was awarded to Lord Llangattock, The Hendre, Monmouth, for an exceedingly fine fruit of "Smooth Cayenne" Pineapple.

NEWTOWNARDS HORTICULTURAL.

September 6.—Roses of splendid quality were the outstanding feature of the autumn show of the above society, which was held as usual in the nursery grounds of Messrs. Alexander Dickson & Sons. As in former years, three large marquees were required for the numerous exhibits. The chief prize-winners were:—C. W. Dunbar-Buller, Esq., D.L., Woburn; Lord O'Neill, of Shanes Castle; Lord Dunleath, Ballywater; Charles Duffin, Esq., Danesfort; and Frank Workman, Esq., The Moat, Belfast.

Plants.

There was only one entry in the class for a miscellaneous group of plants, and the 1st prize was awarded to C. W. Dunbar-Buller, Esq., D.L. (gr. Mr. E. R. Rutherford), for an exceedingly tasteful arrangement of especially well-grown plants. Charles Duffin, Esq. (gr. Mr. J. M'Cormick), Belfast, was the most successful exhibitor with ten stove and greenhouse plants; 2nd, Lord O'Neill (gr. Mr. W. G. Wadge).

In the class for two Palms or Cycads the 1st prize was awarded to Lord Dunleath (gr. Mr. W. J. King), and the 2nd prize to Frank Workman, Esq. (gr. Mr. Thos. Culbert).

Lord Dunleath exhibited the best collection of Coleus, and Mr. C. W. Dunbar-Buller the best pair of Japanese Lilies.

There was strong competition in the class for six dinner-table plants, in which the 1st prize was awarded to Charles Duffin, Esq.; and the 2nd prize to C. W. Dunbar-Buller, Esq.

Frank Workman, Esq., showed six exceedingly good Codiæums (Crotons), and was closely followed by the collection from the gardens of Charles Duffin, Esq.

In the class for amateurs who do not employ gardeners the most successful exhibitor was Mr. W. J. Ferguson, who excelled with Pelargoniums (in three classes), Coleus, Fuchsias, Mignonette and Marguerites. Mrs. James Willing also won 1st prizes in several classes.

In the nurserymen's class Messrs. Alex. Dickson & Sons, Ltd., Newtownards, were awarded the 1st prize (a gold medal) for a large group of stove and greenhouse plants, which contained exceedingly fine Palms, Codiæums, Caladiums, Ferns and many splendid Gloxinias.

Cut Flowers.

Of the many fine collections of 24 Cactus Dahlias the best was that from C. W. Dunbar-Buller, Esq., whilst Charles Duffin, Esq., and P. Kerr-Smiley, Esq., M.P. (gr. Mr. E. Horne), Belfast, were 2nd and 3rd respectively.

The best 18 Show and Fancy Dahlias were exhibited by John Bennett, Esq., Ballycloughan; 2nd, C. W. Dunbar-Buller.

There were many meritorious bunches of Sweet Peas staged. The three prizes in the class for 24 bunches were awarded to Lord Dunleath, Colonel R. H. Wallace, C.B. (gr. D. Patrick), Downpatrick, and Lord O'Neill, in the order named.

Herbert Brown, Esq. (gr. Mr. J. Taylor), Helen's Bay, was awarded the 1st prize for 12 bunches of Sweet Peas.

The exhibit of 18 spikes of Gladiolus which won the 1st prize for C. W. Dunbar-Buller, Esq., was exceptionally good; 2nd, E. C. Herdman, Esq., D.L. (gr. Mr. E. G. Reilly), Strabane.

As we have already indicated, the Roses were of very high merit. The best collection was shown by Mrs. G. H. Brown (gr. Mr. Jas. Reid), Helen's Bay; 2nd, P. Kerr-Smiley, Esq.

The best collection of hardy border flowers was exhibited by Col. R. G. Sharman-Crawford, D.L., who also showed the premier 12 border Carnations; and the best annuals came from the gardens of P. Kerr-Smiley, Esq., M.P. E. C. Herdman, Esq., D.L., was very successful with Asters and Marigolds.

In the nurserymen's cut-flower classes Messrs. Alex. Dickson & Sons, Ltd., were awarded the 1st prizes in all the six classes, their collection of Roses being excellent.

Fruit and Vegetables.

The classes for decorated fruit tables formed the feature of this section of the show. The 1st prize for the table of fruit, and also for decorations, was awarded to Sir Thos. J. Dixon, Bart. (gr. Mr. J. Bradshaw), Hillsborough; 2nd, Lord O'Neill. Sir Thomas Dixon also showed the best Grapes and Plums of all kinds. Lord O'Neill sent the best scarlet-fleshed Melon, whilst the 1st prize green or white-fleshed Melon was won by Col. R. G. Sharman-Crawford. The Earl of Roden exhibited the best dish of Peaches, and Sir Chas. Dixon similarly excelled in the class for Nectarines. In the vegetable classes Lord O'Neill, Col. Wallace, Col. R. G. Sharman-Crawford, and C. W. Dunbar-Buller were the most successful exhibitors.

CHESHIRE AGRICULTURAL.

August 28.—The horticultural section of the Cheshire Agricultural Society's show, which took place at The Roodee, Chester, on this date, proved the most successful for several years past, the only falling off being in the exhibits of cut flowers.

There were four entries in the class for a group of miscellaneous plants, and the exhibits were well up to the average quality of these shows. The 1st prize was won by Mr. C. H. Creasey, Oxton, Birkenhead; 2nd J. G. Frost, Esq., Mollington Hall (gr. Mr. T. Gilbert).

For six stove or greenhouse plants, Mr. B. Cromwell was successful with medium-sized plants, including a good specimen of Ixora.

A. E. Hall, Esq., Abbotsfield, Chester (gr. Mr. H. Randles), led in the class for four Ferns.

Mr. A. Ellams won the 1st prize with capital plants in the class for four Pelargoniums, and he also showed, as the best specimen plant, a well-grown Fern; 2nd, Mr. Cromwell; and 3rd, Sir Foster Cunliffe, Bart., Wrexham (gr. Mr. M. Brennan).

In the cut-flower section Mr. P. Miller, Hartford, and Mr. S. Salisbury, Wallasey, won the 1st and 2nd prizes, respectively, in the class for Cactus Dahlias.

Mr. A. D. Pitcairn Campbell, Bangor-on-Dee, showed the best dozen Asters; and Mr. Bernard J. Sandy, Sandiway, excelled in the class for 12 Roses.

Mr. L. N. Brooke, Heswell, staged the best annuals; whilst G. R. Darsie, Esq., Newton House (gr. Mr. J. Dean), won the 1st prize for 12 bunches of hardy herbaceous cut flowers; and Mr. A. D. Pitcairn Campbell the 1st prize for six bunches of hardy border flowers.

Mr. Wynne, Rowton, and Miss Roberts, Wrexford, excelled in the classes for 12 and 6 vases of Sweet Peas respectively; Capt. Townsend Currie, Christleton (gr. Mr. T. Saunders), won Messrs. Webb & Sons' special prize for six vases of Sweet Peas; whilst Messrs. McHattie's prize offered for six vases of these flowers was won by Mr. J. Bapscott.

Fruit was staged in fair quantity, and of good quality throughout. Sir George Merrick, Bart., Anglesey (gr. Mr. W. Pilgrim), was successful in the class for two bunches of black Grapes, showing well-coloured bunches of the variety Madresfield Court; whilst, for two bunches of white varieties, J. Amphlett, Esq. (gr. Mr. R. Jones), Colwyn Bay, excelled with well-coloured examples of Muscat of Alexandria.

P. H. Ashworth, Esq., Gresford (gr. Mr. H. Young), showed the best Peaches; Mr. W. Pilgrim had the winning exhibit of Nectarines; and Mr. J. Dean exhibited the best Melon.

The exhibits of vegetables were well up to the average of these shows. T. C. Nelson, Esq. (gr. Mr. D. Macdonald), won the 1st prize, offered by Messrs. Sutton & Sons for six distinct kinds, with fine produce. The 1st prize in Messrs. Dickson and Robinson's class was won by Mr. Chas. Parker, Waverton, who also showed a fine exhibit. The winner of Messrs. Clibrans' 1st prize was Mr. J. Edwards, Ruabon; whilst in Messrs. Webb's class the 1st prize was won by Mr. J. Tomlinson, Northwich.

SCOTTISH HORTICULTURAL.

September 3.—The monthly meeting of the above society was held on this date at 5, St. Andrew Square, Edinburgh. Mr. Massie, the president, was in the chair, and there were 80 members present. Mr. John Highgate, Hopetoun Gardens, read a paper on "How to Produce Effective Displays with Hardy Plants." Mr. Highgate said that in most cases the class of hardy plants to be grown would depend on the size of the garden, or on the borders or beds to be furnished. No one, for instance, would dream of growing Gunnera or some of the larger Senecios in a garden of very limited size. In some large places it was becoming the fashion to have borders devoted to single colours. He had never been impressed by this arrangement. Another, and a more popular, style was to plant in patches of one variety, but it did not admit of such a great variety as in the more common mixed style. The planting of good-sized clumps, with a large variety of subjects, so as to prolong the season of flowering as much as possible, was what he recommended, as in this way one could have a much better selection than if planted in patches. Where possible, edgings should be formed of Alpines, such as small Linarias, Thymes, Sedums, or Erinus alpinus, instead of the more formal Box edging. A style which was becoming popular, and deservedly so, was to introduce Japanese Maples, Buddleias, Prunus Pissardii, Roses, &c., in order to relieve the flatness of the herbaceous border. One could scarcely imagine anything more handsome than a few good plants of Spiræa ariæfolia, the long plumes of white flowers, dotted along the back of the border, and against these such plants as Prunus Pissardii and Acer Negundo variegata could be effectively used as dot plants. Golden Privet could also be employed in this way. Roses could be used in a variety of ways, but perhaps the most common, and certainly the most effective, way to use them was as plants against rustic poles or espaliers behind the border. Other old favourites were the hardy Fuchsias and the improved form of Monarda didyma, called "Cambridge Scarlet." For masses of colour the last-mentioned plant was certainly one of the best, but it required to be replanted every year, or at most every two years, as they quickly exhaust the soil. A plant which was an acquisition for the herbaceous border was Artemisia lactiflora. It produced white flowers in autumn, and white flowers were scarce then; but, like Monarda, it required frequent replanting. Senecio Wilsoniana was very suitable for the backs of borders, or for planting by streams. For a late season effect a bed of Japanese Maples and Lilium auratum, with an edging of hardy Heaths, gave great satisfaction. But the most imposing display to be imagined was one produced by bold groups of Roses, with or without a background. One was apt to get tired of too much repetition of Dorothy Perkins and Crimson Ramblers, but there were many other varieties, such as Conrad Meyer (one of the finest of Roses when trained against a rustic pole), which could be used in this way. A simple and exceedingly pretty arrangement on the lawn was a bed of the dwarf Phlox "Regulus," with standard plants of Hydrangea paniculata as dot plants, and an edging of Cerastium tomentosum.

The exhibits were:—New Pentstemon "Mrs. F. Fulford," from Mr. F. Fulford, Montgomerie Castle, Tarbolton (awarded a Certificate of Merit); New Tomato "Simpson's No. 1" (= Carter's Sunrise × seedling variety), from Mr. G. N. Simpson, Edinburgh (awarded a Certificate of Merit); Ampelopsis Henryi and Tomato "Balch's Fillbasket," from Messrs. James Grieve & Sons, Edinburgh; spike of Dobbie's "Countess Spencer" Sweet Pea, with six flowers, and Sweet Peas "Elfrida Pearson" and "Isobel Malcolm," with double standards, from Mr. R. H. Cockburn, Gartmore Gardens, Perthshire; double-flowered Heather, from Mr. W. Young, Currie; Tomato "Phillips' Hipper," from the City of Edinburgh Distress Committee's Farm at Murieston, per Mr. Cairns (awarded a Cultural Certificate); and Fruits, Vegetables, &c., damaged by hail, from Mr. C. Ritchie, Kimmerghame Mains, Duns.

At the meeting on October 1, the secretary will give a paper on "Edinburgh's Park and other Trees," with lantern illustrations.

DUNDEE HORTICULTURAL.

September 5, 6, 7.—The annual show of this association was held on these dates, and proved the finest of the series. In view of the meeting of the British Association a special effort was made in order that the exhibition should be worthy of the occasion, with very satisfactory results. The entries numbered 2,600, there being 350 more than last year. The local Executive Committee of the British Association gave a sum of £100 to be offered in prizes, and this, together with the usual prizes, resulted in a very keen and strenuous competition. The Dundee Horticultural Association was formed in 1864, and when the British Association visited the town in 1867 a handsome donation was given to the local society, enabling it to make a capital start, since which it has never once looked back. Year by year the show has grown, and now it is one of the finest—if we except fruit, in which Edinburgh excels—in Scotland.

The annual dinner was held in the Queen's Hotel, Ex-Bailie Melville presiding.

Pot Plants.

In size and quality this section has ever been an outstanding feature at the Dundee shows. On this occasion past efforts were excelled, and competition was very keen for the British Association prizes. For the best group of plants arranged on the ground, to be judged for quality and effective arrangement, Mrs. Boase, Binrock, Dundee (gr. Mr. James Beats), was awarded the 1st prize, her beautifully-designed exhibit comprised some finely-grown Codiæums (Crotons), whilst the flowering plants consisted principally of Chrysanthemums, Lilium auratum, and pink Clerodendrons. This exhibit reflected great credit on the gardener, Mr. Beats, who has for the eleventh time carried off the premier honours for the best groups at this show. C. G. Gilroy, Esq., The Grange, Monifieth (gr. Mr. James Bethel), was placed 2nd; and A. Sinclair, Esq., Seathwood, Dundee (gr. Mr. George Scott), 3rd. In the class for nine stove or greenhouse plants J. Kinnear, Esq., Fernbrae, Dundee, excelled with well-grown Codiæums (Crotons) forming his leading foliage plants, and very fine specimens of Ixora and Clerodendron were amongst his flowering specimens. Mr. George Reid, Invertay, West Ferry, Dundee, was awarded the 2nd prize, the prominent flowering plant of this exhibit being a specimen of Statice; 3rd, Mrs. Boase. There was a remarkably good show of Ferns. For exotic Ferns Mr. George Reid and Mr. James Beats divided the honours. W. T. Morrison, Esq., Gowrie House, Perth, showed the winning exhibits in the classes for four British Ferns, and also for six dwarf British Ferns, while Mr. Reid, Invertay, was successful in the class for tree Ferns. Dracænas made a fine show, W. Grieve, Esq., Hazlewood, Broughty Ferry, Dundee, winning the 1st prize. Pelargoniums, both single and double specimens, were well shown, J. G. Clarke, Esq., Elmslea, Dundee, and Mrs. Boase, Binrock, being placed 1st in these classes respectively. The last-named exhibitor also secured the premier award for the best pot plant of Lilium auratum. J. G. Clarke, Esq., excelled for three well-grown Coleus. In the class for six stove or greenhouse plants (three foliage and three flowering) the 1st prize was awarded to G. Reid, Esq., Invertay. Mrs. Boase and Mr. Kinnear were placed 2nd and 3rd respectively. The best Palms were shown by Mrs. Boase; 2nd, Mr. Kinnear. For varieties of Cocos or Geonoma Palms, Mr. Grieve, Hazlewood, secured the premier award. Mr. Reid, Invertay, showed the winning exhibits of Cordyline and Selaginella. Mr. Morrison, Gowrie House, exhibited the best collection of 20 Alpine plants (distinct), and Mr. Reid, Invertay, showed the best table plants.

Cut Flowers.

Notwithstanding the unfavourable season, a capital show was made with cut flowers. A special prize was awarded for the best exhibit of cut flowers in vases, Orchids excluded. A keen competition ensued, and the 1st prize was awarded to A. Sinclair, Esq., Seathwood. Finely-grown Chrysanthemums, Liliums of various varieties, and large, intensely-coloured Sweet Peas were the predominating flowers shown. 2nd, Mrs. Boase, with well-grown Carnations. 3rd, C. S. Gilroy, Esq., The Grange, Monifieth. Mrs. Boase (gr. Mr. James

Beats) was awarded the premier prizes in the class for (a) decorated dinner table, (b) bouquet of Roses, (c) basket of flowers, and (d) wreath. W. J. J. Steuart Fothringham, Esq., Fothringham (gr. Mr. John Machar) won the Dundee Corporation Challenge Cup with a capital exhibit of Sweet Peas. 2nd, Mrs. Dunbar Dunbar, Seapark, Forres (gr. Mr. J. A. Grigor).

In the open classes for nurserymen and florists Messrs. James Cocker & Sons, Aberdeen, exhibited the winning table of Roses. 2nd, Messrs. D. & W. Croll, Dundee, who were successful in the class for 12 vases of decorative Roses. For baskets of Roses Messrs. Adam & Craigmile, Aberdeen, secured the premier award. The best display of hardy flowers arranged on a table was made by Messrs. James Cocker & Sons, Aberdeen. For four vases and six vases of summer-flowering Chrysanthemums the 1st prizes were awarded to A. Sinclair, Esq., Seathwood, and Mr. John Fraser, Dryburgh House, Lochee, Dundee, respectively. Mr. James Bethel, Monifieth, was placed 2nd in both classes. In the class for annuals Mr. G. Reid, Invertay, was successful. Asters were well shown by Mr. William Nicoll, Dundee, who won the premier award for these flowers. Mr. David Keilor, Seabourne House, Broughty Ferry, showed the winning exhibit of Cactus Dahlias. The 1st prize for Pompon Dahlias was awarded to Mr. John S. Summers, Dundee. Mr. Thomas Buchanan, Lyndhurst, Dundee, was successful in the class for border Carnations. In the class for trusses or bunches cut from stove or greenhouse plants Mr. A. Duncan, Carbet Castle, was awarded the 1st prize. Mr. William Grieve and Mr. John Simpson were very successful exhibitors of Roses. Mr. Grieve won the 1st prizes in the classes for 12 Cactus Dahlias and 12 Souvenir de la Malmaison Carnations. Begonias were remarkably well shown, Mr. Thomas C. Brown securing the 1st prize offered for the best 12 blooms.

Fruit.

There was very keen competition in the fruit classes. The special prize which was offered for the best collection of six bunches of Grapes was won by Mr. James Beisant, Castle Huntly; 2nd, Mr. John G. Clarke, Elmslea. Mr. Scott, Seathwood, was successful in the class for Black Alicante Grapes. Other successful exhibitors of Grapes were Mr. William Balfour, Rockfield, Dundee, and Mr. William Green, Mylnfield, Invergowrie. The hardy fruits were especially fine, Apples being well shown. For the best 12 varieties of Apples Mr. Walter Staward, Aston Hall, Oswestry, Shropshire, was successful; 2nd, Mr. William Benvie, Murie Gardens, Errol. Mrs. McGrath, Letham Grange, Arbroath, won the 1st prize for Apples, Plums, and Pears. The other prize-winners for Apples included Mr. Bethel, Mr. Harry Nunn, Ballindean; Mr. Samuel Shields, Glencarse; Mr. Harper, Tulliebelton, Perthshire; Mr. John Simpson, Panmure Gardens, Dundee; and Mr. John Summers, Ashcliffe, Dundee. First prizes were won by Mr. John Birrel, Glassingate Gardens, Dunblane (for a scarlet-fleshed Melon); Mr. J. E. Davis, Stanley (for a green or white-fleshed Melon); Mr. D. A. Milne, Linlathen (for Peaches and Nectarines); Mr. Staward, Aston Hall Gardens (for Apricots); Mr. D. Nicoll, Forgandenny (for a collection of orchard house fruit); Mr. J. Farquharson, Kinfauns Castle, Perthshire (for a collection of hardy fruits grown in the open air); and Mr. J. M. Niven, Port Allan, Errol (for Jargonelle Pears).

Vegetables.

A great display of vegetables was seen, and some fine competition resulted. The special prize in this section was won by Mr. James Kinnear, Dundee, for a fine collection. 2nd, Mr. Harper, Tulliebelton, Perthshire; 3rd, Mr. George Hendry, Dundee. Other prize-winners in the vegetable classes were:—Mr. D. Dalrymple, Cupar, Fife (Beetroot); Mr. James Benvie, Inchmartine, Inchture (Kidney Beans); Mr. G. H. Young, Balmyle, Dundee (Potatos); Mr. D. Hampton (Parsnips); Mr. J. Beisant (Vegetable Marrow); and Mr. Goodall, Errol (Turnips and Parsley).

Amateurs' Classes.

The "Amateur" Corporation Cup, offered for the best display of cut flowers exhibited on a table, was won by Mr. Alex. Easton, Dundee; 2nd, Mr. D. Smith, Dundee. Plants in pots were well shown, and the leading prize for six stove or greenhouse plants was awarded to Mr. W. Robertson, Dundee.

Non-competitive Exhibits.

Local nurserymen and florists exhibited some capital groups. Messrs. Thyn & Son had a large exhibit, covering over 600 square feet. Messrs. Harley & Sons showed floral designs. The exhibit of Messrs. D. & W. Croll, Dundee, comprised Roses, Begonias, Sweet Peas, and vegetables. Messrs. Laird & Sinclair showed a rockery, flanked on either side by a fine collection of floral designs. Messrs. Storrie & Storrie showed choice fruit.

STIRLING HORTICULTURAL.

August 29, 30.—The annual exhibition of this society, held in the Albert Halls, Stirling, on these dates, marked the centenary of the association. The display was worthy of the occasion, demonstrating that the enthusiasm of the society's early days had not vanished.

The displays of plants were numerous, Palms, Ferns, Fuchsias and Zonal Pelargoniums excelling. The leading prize-winners in this section were: Messrs. J. Macdonald, Touch; J. K. Meston, Springbank; R. McDonald, The Elms, and A. Johnstone, Annfield.

Cut flowers were an interesting feature, and included fine exhibits of Sweet Peas, Gladioli, Roses, Dahlias, hardy herbaceous and rock-garden plants. Two fine collections were shown by Messrs. Dan. Carmichael, Coldstream, and John Maclennan, Clarendon Place, who were awarded the 1st and 2nd prizes respectively. Messrs. Chas. Shaw, Boquhan; Geo. Watson, Kippen; Chas. Kay, Gargunnock; John Neaves, Kirkintilloch; T. F. Malcolm, Dunmore; J. K. Meston; Henry Gray and A. Johnstone secured the winning prizes in the other classes for cut flowers.

Fruit of fine quality was shown, and the competition in these classes was keen. Mr. J. Blacklock, Blairdrummond, won the 1st prize for a collection of eight varieties; 2nd, Mr., John Mitchell, Airthrey Castle. For the collection of hardy fruit the positions were reversed.

Mr. J. Macdonald, Touch, secured the premier prize for two bunches of Grapes; Mr. Mitchell was successful for four bunches and two bunches of a white variety. For one bunch, Mr. Meston was awarded the 1st prize.

Exhibits of vegetables were excellent. Mr. Shaw was the most successful exhibitor in the class for a collection of ten kinds, and Mr. Geo. Watson showed the best collection of six kinds.

Children's classes attracted much attention, there being competitions for bouquets of wild flowers made up in the hall, of wild fruit and British grasses. The prizes for these classes were provided by the Stirling and District Horticultural Association in such a generous way, that prizes were awarded for all the entries, which numbered 44.

HORTICULTURAL TRADES' ASSOCIATION.

(ANNUAL MEETING.)

The annual gathering of nurserymen and seedsmen forming the above association took place last week at Scarborough, and though the attendance suffered from the deplorable weather which has been general all over the country, the meeting was a very successful one. The only rainfall was on the 3rd inst., when no excursions were arranged. Visits were made to the local nurseries of Messrs. Walshaw & Son, and the programme included a 60-mile motor run to Scampston Hall, Castle Howard, and the beautiful ruins of Rievaulx Abbey. One day was devoted to York, including a visit to Messrs. Backhouse & Son's nurseries. The world-famed rock-garden, ferneries, &c., at Halgate and the fine new nursery recently established at Cattal were inspected.

The evenings were devoted to the discussion of trade matters, including the effect of legislation on the nursery business, the vexatious restrictions on foreign trade by the regulations imposed during the Phylloxera scare, the best methods of checking unfair and dishonest trading, and similar matters. Mr. W. J. Jefferies, of the Cirencester Nurseries, was unanimously elected president for the coming year.

GLASGOW AND WEST OF SCOTLAND HORTICULTURAL.

CENTENARY SHOW.

September 4, 5, 6.—The show of the above society, held in the West End Roller Skating Rink at Bunhouse Grounds, Glasgow, on these dates, represented the one-hundredth anniversary exhibition. Most of the competitive exhibits were staged in the Skating Rink, but the trade groups were accommodated in two large marquees adjoining the building. The evening preceding the opening of the show was very boisterous, with heavy showers of rain, and the marquees, unfortunately, were flooded with water. Drains, however, were made with considerable promptitude, and the floors of the tents were strewn with ashes, so that when the show was opened to the public the ground was in a fairly good condition. The entries had decreased by 250 as against those of last year, when the show was held in the grounds of the Glasgow Exhibition, but on this occasion they are well above the average for these shows. Despite the wet, sunless summer, the quality of the exhibits has seldom been excelled in Glasgow. Vegetables were especially good. The great feature of the show was the trade exhibits. The Royal Horticultural Society was represented by a deputation including Sir Daniel Morris, Sir Harry Veitch, Mr. H. B. May, Mr. James Hudson, and Mr. Arthur J. Gaskell. R.H.S. cups and medals were awarded to several of the more important exhibits.

Collections of Fruit.

In the fruit section the principal class was one for a table of dessert fruit, 10 feet by 4 feet 6 inches, decorated with plants in pots, cut flowers or foliage. In addition to the prize money given by the society, a special prize of £5 and the Veitch Memorial Medal was awarded to the exhibitor of the 1st prize collection. Separate prizes were also provided for the decorations. The 1st prize for fruit was awarded to the Duke of Portland, Welbeck Abbey (gr. Mr. Jas. Gibson). His fruit, which was all well finished, consisted of Grapes Buckland Sweetwater, Muscat of Alexandria, Madresfield Ccurt, and Black Hamburgh; Peaches Barrington and Sea Eagle; Nectarines Pineapple and Spencer; Apples Washington and Cox's Orange Pippin; Figs Negro Largo and Brown Turkey; Pears Marguerite Marillat and Souvenir du Congrès; and two fine seedling Melons. This exhibit was placed 2nd for decoration. J. Graeme Thomson, Esq., Norwood, Alloa (gr. Mr. James Small), was placed 2nd for fruit and 3rd for decoration. Lord Elphinstone, Carberry Tower, Musselburgh (gr. Mr. D. Kidd), was awarded the 3rd prize for fruit and 1st for decoration.

In the class for a collection of 12 dishes of fruit, of distinct varieties, the Duke of Portland was again the leading exhibitor, followed by A. A. H. Spiers, Esq., Houston, Renfrew (gr. Mr. James Brown). 3rd, J. Graeme Thomson, Esq., Alloa. For a collection of six dishes of fruit the 1st prize was won by Mr. John Finnie, Shandon; 2nd, W. T. Maclellan, Esq., Helensburgh (gr. Mr. H. MacSkimming); 3rd, the Duke of Portland.

Grapes.

The principal class for Grapes was one for eight bunches, not more than two bunches of any variety, each exhibit to be decorated with plants or cut flowers in glasses or vases. Lord Rowallan, Kilmarnock (gr. Mr. James Dixon), won the 1st prize, this carrying with it, in addition to the prize money, the "Centenary" Silver Cup presented by the Glasgow seed trade. This exhibitor's bunches were splendidly finished, and comprised two bunches each of Muscat of Alexandria, Madresfield Court, Black Hamburgh and Muscat Hamburgh. He received the following points:—

		Max.	Points.
Muscat Hamburgh	...	9	8
,,	...	9	7½
Muscat of Alexandria	...	10	8
,,	...	10	8
Madresfield Court	...	9	8½
,,	...	9	8½
Black Hamburgh	...	9	7½
,,	...	9	7½
		74	63½

R. W. Donaldson, Esq., Row (gr. Mr. Robt. Glen), was 2nd with 59 points out of a possible 72; 3rd, W. Mackay, Esq., Ascog, Bute (gr. Mr. D. Halliday); 4th, Wm. Forbes, Esq., Falkirk (gr. Mr. John Middleton).

In the class for four bunches of Grapes (two white and two black varieties), W. MacLellan, Esq., was placed 1st; John Finnie, Esq., 2nd; and W. Mackay, Esq., 3rd. W. MacLellan, Esq., and John Finnie, Esq., were 1st and 2nd respectively in the class for two bunches of Black Hamburgh. For two bunches of white Grapes W. MacLellan, Esq., again led with splendid examples of Muscat of Alexandria; 2nd, John Finnie, Esq. In the class for white Grapes other than Muscat of Alexandria Lord Rowallan was easily 1st with beautiful, well-balanced bunches of Mrs. Pearson. There were several smaller classes for Grapes.

In the class for a collection of six varieties of Pears, four fruits of each sort, Miss Hamilton, Rozelle, Ayr (gr. Mr. Andrew Harvey), was awarded the 1st prize; 2nd, Duke of Portland; and 3rd, H. J. Younger, Esq., Kilmun (gr. Mr. R. Greenlaw). H. J. Younger, Esq., was easily 1st for a collection of Apples, to consist of 12 varieties, four fruits of each sort. 2nd, Mr. A. T. Harrison; 3rd Mr. J. Small. The best collection of Plums in six varieties was shown by Hugh S. Gladstone, Esq., Dumfries (gr. Mr. D. Campbell); 2nd, Mr. A. Harrison; 3rd, Miss Hamilton, Ayr. There was only one competitor in the class for 12 Plums in two varieties, and the 1st prize was awarded to the exhibitor, Mr. John Russell, Prospect House, Newton Mearns. For two Melons, one green or white and one scarlet variety, H. J. Younger, Esq., was awarded the 1st prize, and Lady Augusta Orr Ewing (gr. Mr. H. Jowitt) the 2nd prize. For 12 Peaches in two varieties Mr. John Ferrier, Craigends, was placed 1st; Mr. John Finnie 2nd; and Hugh S. Gladstone, Esq., 3rd.

In the class for 12 Nectarines in two varieties H. J. Younger, Esq., was 1st; Mr. A. T. Harrison, 2nd, and J. Graeme Thomson, Esq., Alloa, 3rd. The best 12 Figs were shown by W. Mackay, Esq., Ascog.

The Highland and Agricultural Society of Scotland offered a Silver Medal, in addition to the 1st prize, in the class for 12 dessert Apples. This was won by the Duke of Portland, followed by J. H. Bell, Esq., Rossie Forgandenny (gr. Mr. D. Nicoll).

Vegetables.

The vegetables were accommodated in a special marquee, and this was one of the most popular attractions of the show. For a collection of 13 varieties, the prizes being presented by Messrs. Sutton & Sons, the Duke of Portland was 1st, with a splendid exhibit, and was very closely followed by Mr. Chas. Shaw, Keppen Station. The 3rd prize was awarded to Lady Orr Ewing, Portpatrick.

For a collection of nine varieties, for prizes presented by Messrs. Webb & Sons, Mr. Chas. Shaw was 1st, Mr. Joseph Denny, Stranraer, 2nd, and Mr. John Gray, Uddingston, 3rd.

The prizes presented by Messrs. Austin & McAslan for 13 varieties of vegetables were won by Mr. Chas. Shaw, who secured the 1st place and the Hunter Memorial Medal, followed by Lady Orr Ewing and the Rt. Hon. Earl of Home, Bothwell Castle (gr. Mr. W. P. Bell), in this order.

In the collection for nine varieties, open to amateurs, there was good competition and high quality; the 1st prize and a silver cup presented by the directors was won by Mr. Joseph Denny, Stranraer; 2nd, Mr. Geo. Watson, Keppen; and 3rd, Mr. John Gray.

The Highland and Agricultural Society offered a Silver Medal in addition to the 1st prize for a collection of salads. This was won by Mr. Chas. Shaw.

For 12 distinct varieties of Potatos there was keen competition, the Earl of Home, Bothwell Castle, being placed 1st, Mr. Donald McPherson, Bridge of Weir, 2nd, and Mr. John Ferrier, Craigends, 3rd.

There was a good competition in the class for a collection of Tomatos, in which Messrs. Forrest & Co., Welldale Nurseries, Douglas, excelled.

Pot Plants.

The principal class in the pot-plant section was for a group of miscellaneous plants arranged on the ground in a space of 15 feet by 10 feet. The 1st prize consisted of £7, together with £5 and a medal presented by the trustees of the Veitch Memorial Fund. The judges had little difficulty in awarding the 1st prize, which was won by Sir Wilfrid Lawson, Bart., Brayton Hall, Carlisle (gr. Mr. A. Knight), for an effective display of Codiæums, Alocasias, Orchids and Lilium lancifolium, with Palms and Ferns. All the plants were well grown. The 2nd prize was won by Colonel Stewart Richardson, Ballathie, Perth (gr. Mr. J. E. Davis), for a collection, beautifully arranged, but lacking the quality of the winning group. T. G. Bishop, Esq., Helensburgh (gr. Mr. J. Hood), was 3rd, and W. Beattie, Esq., Helensburgh (gr. Mr. A. Kelly), 4th.

Prizes were offered for a group of stove or greenhouse plants arranged on the ground in a circle 8 feet in diameter. With a good group, in which Codiæums and Liliums were the chief features, Sir Wilfrid Lawson was again the leading prize-taker; 2nd, Colonel Stewart Richardson; 3rd, Colonel Gray Buchanan, Cambuslang (gr. Mr. W. Ferguson).

In the class for 12 plants suitable for table decoration, in 12 distinct varieties, the pots not to exceed 6 inches in diameter, Messrs. Malcolm Campbell, Ltd., Glasgow, were placed 1st; Sir Wilfrid Lawson, Bart., 2nd; and A. H. Pettigrew, Esq., Lanark (gr. Mr. A. L. Davidson), 3rd.

For six similar plants, Mr. James Thompson, Giffnock, was awarded the 1st prize; Sir Wilfrid Lawson, Bart., the 2nd; and A. H. Pettigrew, Esq., the 3rd prize.

The Earl of Home (gr. Mr. A. McMillan) was a notable prize-winner in the remaining classes.

The leading prizes in both the classes for Orchids were won by W. Mackay, Esq., Ascog, Bute (gr. Mr. D. Halliday).

Cut Flowers.

There were only two entries in the class for 24 spikes of Gladioli in not fewer than 12 varieties, and here the 1st place was secured by Messrs. Geo. Mair & Sons, Prestwich, for magnificent spikes. This stand of flowers was one of the features of the show, and well deserved the special recognition it received from the deputation from the Royal Horticultural Society. Messrs. A. Campbell & Sons, Gourock, were 2nd.

For a collection of Roses in a space of 8 feet by 5 feet there were three competitors. Mr. W. Ferguson, Dunfermline, showed best, his blooms of Mrs. David McKee and Duchess of Wellington being exceptionally fine. Messrs. Jas. Cocker & Sons, Aberdeen, were placed 2nd; and The Killermont Nursery Co., Bearsden, 3rd.

Mr. W. Ferguson again excelled in the class for eight vases of decorative Roses; 2nd, Messrs. D. Robertson & Co., Helensburgh.

In the class for six vases the Dunfermline grower again excelled, Messrs. Cocker being 2nd, and Messrs. Robertson 3rd.

For 36 blooms of Roses, distinct, Messrs. Cocker won the 1st prize, Mrs. Andrew Carnegie, their new variety of this season, being prominent on the stand; Mr. W. Ferguson was placed 2nd; and the Killermont Nursery Co. 3rd.

For 24 blooms, Hugh Renwick, Esq., Lanark (gr. Mr. W. Virtue), was 1st; Chas. C. Mann, Esq., Gourock (gr. Mr. J. Barclay), 2nd; and Mr. Peter Kenyon 3rd.

The class for 12 blooms was restricted to amateurs, and here the 1st prize was won by Mr. Robert Borrowman, Bargeddie.

Messrs. M. Campbell & Sons, High Blantyre, were placed 1st in the leading collection for Dahlias. The flowers were all exceptionally well grown, and were mostly of the Cactus type; 2nd, Mr. George Bowness, Nurseryman, Busby.

Messrs. M. Campbell & Sons were the leading prize-winners in the principal classes for Carnations.

In the class for a collection of Sweet Peas, open to all, a Lanarkshire amateur, Mr. John Fletcher, Auchenheath, won easily. The flowers were well grown and showed little traces of injury from the weather. 2nd, Mr. J. H. Crossley, Comrie.

The best collection of 18 vases of Sweet Peas was shown by Mr. Geo. Bowness, Busby; whilst for 12 vases Mr. Fletcher was placed 1st.

As usual, the exhibits of early-flowering Chrysanthemums were exceptionally good. Mr. Thomas Robertson, Thornliebank, and Mr. John Smellie were the leading winners in the principal classes.

In the class for 12 vases or bunches of hardy flowers, distinct varieties, some splendid exhibits were staged. The 1st prize, which included a Gold Medal, for the most meritorious display in the cut-flower section, was awarded to Mr. Chas. Pattison, "The Village Blacksmith," Linwood. The Royal Horticultural Society also honoured this working blacksmith with a Silver Banksian Medal, and his exhibit deserves the highest praise. 2nd, Alex. Murray, Esq., Duncryne, Alexandria (gr. Mr. R. McLelland).

Mr. C. Kay, Gargunnock, excelled in the class for 48 Fancy Pansies, his flowers being exceptionally good. He was the principal winner in the other classes for these flowers. Mr. John McGrory, Junr., Campbeltown, had the best exhibit of 48 Violas.

Decorative Classes.

The principal class in this section was for a decorated dinner table (8 feet by 4 feet). The 1st prize was awarded to T. G. Bishop, Esq., Helensburgh (gr. Mr. J. Hood), for a light and effective arrangement of Irish Elegance Roses, and Selaginella. Mr. J. Donaldson, Kern, was 2nd, with an arrangement of pink Carnations. Codiæum foliage, and Selaginella.

R.H.S. Awards.

The following Awards were made by the deputation of the Royal Horticultural Society to competitive exhibits :—

Silver Knightian Medal to the Duke of Portland (gr. Mr. Jas. Gibson), for a collection of vegetables.

Silver Banksian Medal to Messrs. Geo. Mair & Son, Prestwich, for 24 spikes of Gladioli.

Veitch Memorial Medal to Sir Wilfrid Lawson, Bart., Brayton Hall, Carlisle (gr. Mr. A. Knight), for a group of flowering plants.

Silver Banksian Medal to Mr. William Ferguson, Dunfermline, for a collection of Roses.

Silver-gilt Flora Medal to Messrs. M. Campbell & Son, for a collection of Dahlias.

Silver Flora Medal to Col. Stewart Richardson (gr. Mr. J. E. Davis), for a group of plants.

Silver Flora Medals to Mr. John Smellie, Busby, for Dahlias and Chrysanthemums, and Mr. John Fletcher, Lanark, for a collection of Sweet Peas.

Silver Banksian Medal to Mr. Charles Pattison, Linwood, near Paisley, for hardy herbaceous flowers.

Veitch Memorial Prize to the Duke of Portland for a collection of fruit.

"Hogg" Memorial Medal to Lord Rowallan, Kilmarnock (gr. Mr. Jas. Dixon), for two bunches of Mrs. Pearson Grapes; W. MacLellan, Esq., Helensburgh (gr. Mr. MacSkimming), for two bunches of Muscat of Alexandria Grapes.

The following R.H.S. Awards were made to non-competitive exhibits :—

Gold Medals.—Messrs. J. Veitch & Sons, for Orchids; and Messrs. Sutton & Sons, for vegetables.

Silver Cups.—Messrs. Dobbie & Co., Edinburgh, for cut flowers; Messrs. Malcolm & Campbell, Ltd., Glasgow, for fruit; Messrs. May & Sons, Edmonton, for Ferns; and Messrs. Blackmore & Langdon, Bath, for Begonias.

Silver-gilt Knightian Medal.—Messrs. Clibrans, Altrincham, for vegetables.

Silver-gilt Flora Medal.—Messrs. Austin & McAslan, Glasgow, for stove plants.

Silver-gilt Banksian Medals.—Messrs. Webb & Sons, Wordsley, for vegetables; Mr. D. G. Purdie, Glasgow, for plants; and Mr. Hugh Dickson, Belfast, for Roses.

Silver Flora Medal.—Messrs. W. Cutbush & Son, Highgate, for Carnations.

Silver Banksian Medals.—Messrs. W. Wells, Ltd., Merstham, for Chrysanthemums; Messrs. Cunningham, Fraser & Co., Edinburgh, for cut flowers; Mr. G. A. Jones, Kilkenny, for Gladioli; Messrs. Young & Co., Cheltenham, for Carnations; and Messrs. Austin & McAslan, Glasgow, for collection of vegetables.

Awards to Novelties.

The First-class Certificate of the Glasgow and West of Scotland Horticultural Society was awarded to the following novelties:—

Collerette Dahlias "Princess Louise," "Frogmore," "Kensington," and *Prince John,"* and *Pompon Dahlia "Moira."*—All these were shown by Messrs. Dobbie & Co., Edinburgh.

Rose "Mrs. Andrew Carnegie."—Shown by Messrs. Cocker & Sons, Aberdeen.

Early-flowering Chrysanthemum "Crimson Polly."—Shown by Messrs. W. Wells, Ltd., Merstham.

Non-competitive Exhibits.

Messrs. Sutton & Sons, Reading, exhibited many of their specialities in vegetables. Some fine Melons were also shown. The background of the stand consisted of single Asters and Antirrhinums. (Gold Medal.)

Messrs. J. Veitch & Sons, Chelsea, staged a collection of choice Orchids and fine stove plants. (Gold Medal.)

Messrs. Dobbie & Co., Edinburgh, put up a large collection of very showy collerette Dahlias, Sweet Peas, Roses, and Chrysanthemums. (Gold Medal.)

Messrs. Austin & McAslan, Glasgow, contributed two separate groups, one consisting of choice stove plants and the other of vegetables. Gold and Silver Medals, respectively, were awarded these exhibits.

Messrs. Blackmore & Langdon, Bath, staged a magnificent display of tuberous-rooted Begonias. (Gold Medal.)

Messrs. Clibrans, Ltd., Altrincham, showed an extensive collection of well-grown vegetables in great variety. (Gold Medal.)

Messrs. Webb & Sons, Stourbridge, put up a very pretty circular exhibit of Sweet Peas and many varieties of vegetables. (Gold Medal.)

Messrs. Malcolm Campbell, Ltd., Glasgow, showed choice Grapes and fruit on a well-arranged stand. (Gold Medal.)

Mr. Hugh Dickson, Belfast, exhibited a collection of Roses, including several new varieties. (First-class Certificate of Merit.)

Messrs. Alex. Cross & Sons, Glasgow, set up an attractive exhibit of their horticultural specialities. (Certificate of Merit.)

Messrs. J. Forbes, Ltd., Hawick, showed Violas, Carnations, Pentstemons, &c. (Certificate of Merit.)

Messrs. Sander & Sons, St. Albans, showed a small collection of choice Orchids. (First-class Certificate of Merit.)

Messrs. H. B. May & Sons, Edmonton, staged a collection of Ferns. (First-class Certificate of Merit.)

Messrs. Young & Co., Cheltenham, exhibited a large collection of perpetual-flowering Carnations. (First-class Certificate of Merit.)

Messrs. Cunningham, Fraser & Co., Edinburgh, had a small display of cut flowers. (First-class Certificate of Merit.)

Messrs. Wm. Cutbush & Sons, Highgate, staged choice Carnations. (First-class Certificate of Merit.)

Mr. Wm. Leighton, Glasgow, exhibited pot plants. (First-class Certificate of Merit.)

There were many other trade exhibits.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

A committee meeting of the above society was held at the R.H.S. Hall on the 9th inst. Mr. Charles H. Curtis presided. Thirty-four new members were elected, making a total of nearly 400 since July last. The sick pay for the month amounted to £27. Two members having reached the age of 70, withdrew from their deposit the sums of £68 and £49 10s. respectively, still leaving a balance of £10 for their nominee. The secretary, Mr. W. Collins, who is retiring, thanked the members for their kindness to him, and regretted his inability to carry on the work. The chairman on behalf of the committee expressed their high appreciation of Mr. Collins' long and valued services, and expressed a hope that he would long be spared to still render some assistance to the society. All communications should be addressed to Mr. A. C. Hill, 35, Alexandra Road, West Kensington Park, who has been appointed secretary *pro. tem.*

CARLISLE AND CUMBERLAND HORTICULTURAL.

September 4, 5.—This society's annual show was held at Carlisle, on these dates, in the spacious City Market Hall, in conjunction with the Northern Counties Fruit Congress and Show. The judging was undertaken by representatives of the North of England Horticultural Society.

Fruit Section (Open).

The Challenge Bowl offered for 12 dishes of Apples by Messrs. Walter Voss & Co., Ltd., was won by Mr. J. Millican, Carlisle. Mr. W. Alexander, Hexham, was placed 2nd, and Messrs. Leslie Bros., Carlisle, 3rd.

Messrs. Leslie Bros. were awarded Messrs. Coopers & Nephews' prizes in Classes 3 and 4.

In the class for one 28 lb. box, non-returnable, of cooking Apples, graded and packed for market, Mr. W. Walton, Carlisle, was successful. 2nd, Mr. J. Millican.

In the single-dish classes of early varieties of cooking Apples, Mr. J. Millican won the 1st prize in every class, and he also excelled for the dessert varieties Cumberland Gilliflower and Mr. Gladstone, and any variety other than those named, also for Royal Jubilee, Lane's Prince Albert, Newton Wonder, Allington Pippin, and for a locally cultivated variety. Other 1st prize-winners in the single-dish classes were *Beauty of Bath*, Mrs. F. W. Crewdson; *Worcester Pearmain* and *Cox's Orange Pippin*, Mr. A. Knight; *James Grieve*, Mr. T. Fixter; *Bismark*, Mr. W. Walton, and *Fearn's Pippin*, Mr. J. T. Stewart.

In the class for three dishes of Pears, distinct, Mr. T. Fixter was successful; 2nd, Mrs. F. W. Crewdson.

For one dish of Pears the 1st prize was awarded to Mr. G. Coulthard; 2nd, Mr. T. Fixter.

Mr. W. Scott showed the three winning dishes of Plums. For one dish of Victoria Plums Mr. T. S. Walton excelled. Mr. J. Robertson was successful in the class for any other variety of Plum.

In the classes for Gooseberries, Mr. J. Turner and Mr. J. Tait were the 1st prize-winners for green and red sorts respectively.

Mr. T. Fixter showed the finest Loganberries, Red Currants, and Raspberries.

The 1st prize for White Currants was awarded to Mr. C. Lewis; Mr. J. T. Stewart receiving the 1st prizes for Black Currants and Cherries.

In the classes confined to gentlemen employing regular gardeners, the Challenge Cup, offered for 12 dishes of hardy fruits, was awarded to Mr. J. Cocker; 2nd, Mr. W. Scott.

Mr. W. Scott won the Silver Cup offered for six dishes of fruit grown out-of-doors.

For six dishes of fruit Mr. J. Cocker secured the 1st award.

For two bunches of black Grapes, Mr. G. F. Hallett, Netherby Hall, was successful, Mr. W. Scott being placed 2nd.

In a similar class for one bunch, Mr. J. Robertson secured the 1st prize; 2nd, Mr. J. Farquharson.

Mr. T. Fixter won the 1st prize for white Grapes; and Mr. J. Robertson showed the best Melons.

In the class for Peaches, Mr. W. Scott and Mr. G. F. Hallett were the 1st and 2nd prize-winners respectively.

In the two classes devoted to market growers, Mr. J. Millican exhibited the winning collections in the classes for culinary and dessert Apples; Mr. W. Walton and Mr. J. W. Telford receiving the 2nd prizes.

Sweet Peas.

In the class for 12 varieties, the Challenge Bowl offered by Robert Sydenham Limited was awarded to Mr. J. Robertson, the 2nd prize being awarded to Mr. J. Hay.

The 1st prize for 12 vases was awarded to Mr. J. Shaw; 2nd, Mr. G. F. Hallett. Mr. Shaw was also successful in the class for 12 vases arranged with foliage; 2nd, Mr. G. L. Moffat.

In the plant classes the chief winners were Messrs. A. Knight, J. Dixon, J. Hay, and C. Lewis.

In the class for a collection of hardy herbaceous perennials, Mr. J. Hay excelled; 2nd, Mr. J. Robertson. Mr. J. W. James showed the best exhibit of 12 Cactus Dahlias.

The most successful exhibitors in the Rose classes were Mr. T. Pride and Messrs. F. France and J. Robertson.

Vegetables.

The Silver Cup offered for a collection of 12 kinds was won by Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. E. Beckett). This exhibitor also won the 1st prize in Messrs. Sutton & Son's class.

Mr. J. Smith excelled in Messrs. Ed. Webb & Sons' class.

A keen competition ensued in all the other classes, a notable feature being the success of a local allotment holder, Mr. J. Smith, who excelled in several classes.

Awards to Novelties.

First-class Diplomas were granted for *Perpetual Carnation "The Geisha"* (Messrs. Geo. Fairbairn & Sons); *Collerette Dahlias The Czar, Queen Anne*, and *Sandringham* (Messrs. Dobbie & Co., Edinburgh).

Second-class Diplomas were awarded for *Cosmos White Queen, Pink Queen, Princess Louise*, and *Crimson King*.

Non-competitive Exhibits.

The Medals were awarded by the N.E.H.S.

Messrs. Little & Ballantyne, Carlisle, staged a large, circular exhibit of flowering and foliage plants, in addition to a large collection of hardy fruits. (Large Gold Medal.)

Messrs. Geo. Bunyard & Son, Ltd., Maidstone, Kent, exhibited 50 dishes of out-door-grown fruits, including chiefly Apples and Pears. (Large Gold Medal.)

Messrs. T. Rivers & Sons, Sawbridgeworth, showed a small but meritorious collection of orchard house and out-door-grown fruit. (Large Silver-gilt Medal.)

Mr. J. Millican, Scotby Nurseries, staged a splendid assortment of locally-grown Apples. (Large Silver-gilt Medal.)

Messrs. G. Fairbairn, Botcherby Nurseries, Carlisle, staged Begonias, Carnations, Dahlias, and Sweet Peas. (Large Silver-gilt Medal.)

Messrs. E. F. Fairbairn & Sons, Edentown, displayed a collection of Phloxes, Dahlias, and hardy plants. (Silver-gilt Medal.)

Messrs. Dobbie & Co., Edinburgh, exhibited a beautiful collection of collerette Dahlias, Cosmos, and Scabious. (Silver-gilt Medal.)

A well-grown group of Orchids was exhibited by Sir Benjamin Scott (Mayor of Carlisle). (Silver Medal.)

Mr. W. B. Little arranged an exhibit of Apples and Pears from the County Council Experimental Fruit Plots, marked according to their suitability for various soils. (Silver Medal.)

A table of cut flowers and pot plants was staged by Messrs. Clark Bros. & Co., Carlisle. (Bronze Medal.)

Messrs. Alex. McLaughlin, Stranraer, were awarded a Bronze Medal for models of conservatories and greenhouses; and Messrs. Muncaster Bros., Carlisle, a Bronze Medal for bee appliances.

Mr. W. Miller, Wisbech, showed Apple Red Victoria.

Special awards were made to the Four Oaks Spraying Machine Co. and Messrs. W. Weeks & Son, Maidstone, for spraying appliances.

THE CONFERENCE.

The conference meetings were held in the Arcade room in close proximity to the Show and were well attended. During the afternoon of the first day Mr. J. S. Chisholm, Lecturer to the Northumberland County Council, gave a demonstration on the bottling of fruits.

At 5 p.m. the same day, Mr. G. P. Berry, Edinburgh and East of Scotland College of Agriculture, gave a lecture on "Soils in Relation to Fruit-growing." He emphasised the necessity of an alkaline condition of the soil for successful fruit-growing. He stated that modern investigation had revealed the fact that, unless the soil was in a neutral state, it was impossible for the healthy bacteria which played such an important part in the manufacture of good material to carry on a healthy existence. This, in a great many instances in the past, had been ignored, and it probably explained to a great extent the poor results obtained by inoculation with nitrifying bacteria in experiments. He strongly emphasised the importance of drainage and the need of guarding against stagnant water in the soil during the winter. In many instances, said Mr. Berry, fruit plantations suffered more through the decay of autumn-made roots in winter, due to the water-logged condition of the soil, than to any extremes of climate during the growing season.

Mr. Haig referred to the feeding of fruit trees, and said that when growing Pears in certain soils he had great difficulty in obtaining fruits of a satisfactory flavour, whereas their size and appearance were all that could be desired. He assumed it was owing to a deficiency of potash, and was at the present time carrying out experiments.

At 7.30 p.m. Mr. Somers Rivers, Sawbridgeworth, in the absence of Professor F. V. Theobald, gave a lecture on "The Spraying and Washing of Fruit Trees as a Means of Combating Insect Pests and Diseases." He said that now that a Department of Horticulture had been formed they might, perhaps, look forward to the State taking a lead in advising and experimenting, as was done in most countries where fruit-growing was carried on. Growers themselves had neither the time nor the money to spend upon such trials. If the Government were to undertake experiments in different parts of the country—districts varied so much that results were difficult to collate—much valuable information could be collected. Mr. Rivers dealt with many of the most common pests and diseases of fruit trees, and gave the times when to spray and the specifics to use.

On Thursday a fruit-bottling demonstration was given by Mr. W. B. Little.

Later in the same day Mr. F. J. Chittenden gave an address on "Canker and Other Bark Diseases of Fruit Trees." The chief subjects dealt with were canker, Apple and Pear scab, and Brown rot.

At 7.30 p.m. Mr. Chisholm gave a practical demonstration in the methods of pruning fruit trees and bushes.

Obituary.

James Condie. — We regret to record the death of Mr. James Condie, who died on the 27th ult., at Larbert. Deceased was for 50 years gardener at Brooks Hill, Harrow Weald. He retired about 18 months ago, when he was granted a pension by his employer, Mr. S. J. Blackwell, whom he had served for about 30 years. Mr. Condie was an enthusiastic supporter of the Gardeners' Royal Benevolent Institution. He leaves one son. His remains were laid to rest in Dollar Cemetery, his native town, where he received his early education, and served his apprenticeship.

Harry Dampier.—The death of Mr. Harry Dampier, gardener, of New Orleans, U.S.A., is announced in *Horticulture*. Mr. Dampier, who was a native of Devonshire, settled in New Orleans 20 years ago, and was 57 years of age. His wife and two daughters survive him.

J. S. Bergheim.—We regret to record the death of Mr. J. S. Bergheim, whose gardens at his residence, Belsize Court, Hampstead, contained a remarkable collection of interesting plants, including Orchids. On the 7th inst. Mr. and Mrs. Bergheim were journeying in their motorcar on the Ripley Road, and, in attempting to avoid a cart, the car skidded and turned over. Mr. Bergheim, who was in his 70th year, sustained a fractured skull, and was otherwise injured, and Mrs. Bergheim sustained a severe shock. Both were taken to the Surrey County Hospital, Guildford, where Mr Bergheim died on the 10th inst., without regaining consciousness. Mrs. Bergheim is recovering satisfactorily, and the chauffeur escaped almost unhurt. Mr. Bergheim was well known in financial circles in the City, but he was also a keen naturalist. He had a large circle of friends interested in science, and was always studying various points in plant economy and plant culture. Almost every year he made a journey to some distant country, accompanied by Mrs. Bergheim; this year the visit was to Brazil. He brought back interesting specimens, and Belsize Court has many curiosities collected during these visits.

LAW NOTES.

AMERICAN GOOSEBERRY-MILDEW.

A gardener was summoned recently at the Cheltenham Police Court under the order of the Board of Agriculture, 1912, for having knowingly sold Gooseberries affected with American Gooseberry-mildew. The evidence was to the effect that a pot of 68 lbs. of Gooseberries was sent to Cheltenham fruit market by defendant on July 9, and that they were disposed of by auction. The auctioneer noticed nothing wrong with the Gooseberries, but the purchaser informed the Bench that when he emptied the basket he noticed the fruit was wet. As there had been no rain for a day or two, his suspicions were aroused, and further examination convinced him that the Gooseberries had been washed. There were traces of American mildew on the berries. He communicated with the police. Mr. Allen H. Lees, of Evesham, Board of Agriculture inspector, said he inspected the defendant's garden. He found some badly-diseased berries on the bushes, and a little of the disease on the twigs. The berries had the winter stage on them; this was chocolate-brown in colour. Defendant denied having told the inspector that there was a little mildew last year; there was saw-fly, and it was for that pest that he treated the bushes with lime.

The Bench imposed a fine of £1 and costs.

THE LATE JAMES CONDIE.

COMPENSATION FOR INJURIES.

At a recent sitting of the Bromley County Court, Leonard James Fenning, 18, of 4, Church Road, Sidcup, jobbing gardener, sued John Bartlett, a solicitor, of Savernake, Carlton Road, Sidcup, for compensation under the Workmen's Compensation Act, in respect of an injury to his eye. The applicant, an under-gardener, stated that up to March 20 he was in the employ of the respondent. He had been in his employ for two years, and had earned 15s. a week for the last 12 months. Whilst chopping wood on March 20, a chip flew up and struck him in the eye. He went to Guy's Hospital on the following day, and on March 28 an operation was performed and the eye removed. Later a false eye was inserted, and he returned to work about the middle of June. He found, however, that he could not work; he was afraid of chopping his fingers and of cutting himself with the scythe. He was discharged on August 5, and had been unable to obtain work since, being considerably handicapped through the loss of his eye. In reply to the judge, the respondent said it was not his wish that the matter should be disputed. He agreed that the lad was incapacitated.

The judge made an order for the applicant to receive 10s. a week from the date of the accident to that day, and 7s. 6d. a week during his incapacity, remarking that the case should never have been brought before him, as the employer was willing to pay compensation.

THEFT OF FERNS.

At the Wonford Petty Sessions, Exeter, a defendant was sentenced to two months' imprisonment for damaging Fern roots, the property of the Earl of Iddesleigh, at Upton Pyne, on the 22nd ult., value 10s. The gamekeeper, William Venton, stated that he saw defendant gathering Ferns at 6 a.m. He had 1,400 Fern fronds and six roots. Mr. H. Osmond, estate agent, stated that the Ferns had been taken from a Fernery.

DEBATING SOCIETIES.

BRISTOL AND DISTRICT GARDENERS'.—The monthly meeting of this association was held on August 29, at St. John's Parish Rooms, Clifton. Mr. Theoday presided. A paper on "Hardy Flowers" was read by Mr. Rich, of Bath. Amongst other points dealt with by the lecturer were the various methods of propagation, manuring, and the value of these flowers for use as cut blooms. He stated that hardy border flowers may be had in bloom from March to November. The prizes offered by Mr. J. C. House for four branches of Phlox were won as follow: 1st, Mr. Woodward; 2nd, Mr. Scott; and 3rd, Mr. Curtis.

STIRLING AND DISTRICT HORTICULTURAL.—The first monthly meeting for the season was held on September 3, in the Temperance Hotel, Stirling; Mr. Wm. Watts, Bridge of Allan, occupied the chair. A lecture was delivered by Mr. Sinclair, superintendent Beveridge Park, Kirkcaldy, his subject being "How to Make the Flower Garden Beautiful." The lecturer showed several photographs representing colour and planting schemes; these gave the members an excellent idea of the bedding practised at Beveridge Park. Mr. Ritchie will lecture on "The Apple" at the October meeting.

BATH GARDENERS'.—The members of this association met on the 9th inst., under the presidency of their chairman, when a paper was read by Mr. Allen, on "The Cultivation of the Melon." Mr. Allen dealt principally with the culture of those fruits in frames. Special prizes were offered for 20 Runner Beans. Mr. Garraway was awarded the 1st prize for a splendid dish, Mr. Sparey being placed 2nd. The meetings will take place on the second and fourth Mondays in each month.

Answers to Correspondents

*** *Owing to pressure of space we are compelled to hold over our report of the Royal Caledonian Society's exhibition until the next issue.*

Acetylene Gas Refuse: *W. M.* Several notes on the value of this substance as a manure will be found in *Gardeners' Chronicle*, vol. xlv. In a note published in these columns, May 8, 1909, p. 299, Mr. Staddon states that it is best applied to vacant land, and dug into the ground. No plant should be placed on the land for at least two months after the gas lime is applied. The best time for applying it is autumn or spring. Do not put it on fresh from the generator when wet, but in some out-of-the-way corner of the garden, where it should remain until it is well drained and nearly dry.

A Gardener's Character: *Correspondent.* You cannot legally compel your employer to give you a character, but it is undoubtedly his moral duty to supply you with one. If he wilfully gives you a false character when replying to your new employer's enquiries, you could sue him for libel. Your best plan would be to explain all the circumstances to your new employer.

A Gardener's Hours: *A. S.* The number of hours worked in gardens varies, and, there being no fixed rule, the British Gardeners' Association recommends that "for under gardeners, 54 hours (exclusive of time allowed for meals) in the summer period (eight months) and 48 hours per week in winter, should be the maximum, and beyond this extra remuneration should be given."

Black Currant Shoot: *F. E. C.* The Black Currants are affected with big bud or gall-mite Phytoptus ribes. If only a few swollen buds are found, you will do well to cut away the shoots on which such buds are and burn them.

If only certain bushes are badly attacked, let them be grubbed out carefully, and remove both root and branch to the fire. If matters are even worse than this your best plan is to grub out every one of the bushes and burn them. After this, double-dig the ground, putting the top spit below the second spit, which will destroy any mites there may be in the surface soil, and it will not be wise to plant Black Currants on the same ground for several years afterwards. When buying fresh stock every precaution should be taken to be certain that it is free from the pest at time of purchase, and bushes, if subjected to preventive treatment, ought to remain healthy for an indefinite period. When spraying as a preventive measure against attack and on mildly-attacked bushes from which big buds have been removed, the mites are so secreted in the buds that it is necessary that some spray of only moderate strength be used so that it may be applied frequently and sufficiently. In this way the liquid will soak through the bud scales and reach the mites. In an article contributed by Mr. A. H. Pearson to *Gardeners' Chronicle*, May 21, 1904, p. 298, and May 13, 1905, it was stated that in May and June mites change their abodes from old to new buds, and spraying is more likely to be effective at such a time, and the cultivator should spray the bushes with a mixture of soft soap, Quassia and water at the strength of 2 ounces of soft soap and 4 ounces of Quassia to each gallon of water at intervals of 10 days. Apply it by means of the knapsack sprayer (Vermorel's).

Blue Hydrangeas: *A. M. C.* Try watering the plants twice weekly with a solution of ammonia alum (half-ounce to 1 gallon of water). It is desirable to water with this solution in the autumn until the plants pass into their resting stage. During their flowering period the plants should not be grown in the full sun, or the blue colour will become blotchy. Other cultivators have obtained good results by the use of such substances as alum, iron, and slate chippings mixed with the soil.

Chrysanthemum Seedling: *J. H.* Your plant is the double-flowered Matricaria inoroda, a very floriferous and pretty border plant.

Exhibiting Runner Beans: *Trimsaran.* According to the R.H.S. *Code of Rules for Judging* the pods should be long, straight, clear, even, fleshy and brittle. The following points are recommended: length and form, 2; substance, 2; condition, 2; colour, 1—total 7. As to whether your pods were the finest we are unable to say, and the decision must rest with the judges.

Horticultural Instructor: *Climbing Corydalis.* We can only express a very general opinion as to the probability of your being ultimately successful in obtaining an appointment as a lecturer in horticulture. The competition for these posts is very keen, and as a general rule the best man wins. When other qualities are equal, personal appearance and address would almost certainly have great influence with the committee or council who make the appointment. In our opinion you are too young and your practical experience is limited. We have read your copies of testimonials, and it seems to us that you have neglected horticulture in favour of botany, and other sciences, which, admirable in themselves, are not sufficient to enable you to carry out successfully the duties of a horticultural instructor.

Hydrangea Arborescens: *W. E.* Hydrangea arborescens can be cut back in the spring in the same manner as H. paniculata grandiflora, but the flowering period will be late, in fact, this treatment cannot be recommended except in very warm localities. In your district the better way would be to thin out the old and weakly wood in the spring, leaving the remainder entire, except that any unripened ends of the shoots may be cut back to sound wood.

Marguerites Failing: *J. P.* Eelworm is present. This is a difficult pest to eradicate and insecticides are of very little avail. The best plan is to burn the plants, and remove the soil in which they have been grown, either sterilising it by baking, or burying it deeply in some out-of-the-way part of the garden. The house should then be cleaned thoroughly with carbolic in solution, washing the woodwork with soft soap, carbolic acid and warm water. A correspondent in *Gardeners' Chronicle*, July 8, 1911, page 7, recommends top-dressing pot plants with rape dust, which acts as an exterminator of eelworms and as a fertiliser of the soil at the same time. See also an article in the issue for July 13 last, page 30.

Melons Failing: *W. J. F.* The wilted parts of the Melon sent contain bacteria. It would appear that a bacterial "wilt" (possibly caused by Bacillus carotovorus), is attacking your plants. A complete plant, packed carefully in a tin box, should be sent us for examination, in order to make identification certain. In any case affected plants, or stems, should be removed and burnt.

Names of Fruits: Correspondents sending Peaches and Nectarines for naming should enclose leaves of each variety, and state whether the flowers are large or small, and if the trees are grown under glass or in the open.—*Fruitian.* 1, Clapp's Favourite; 2, Flemish Beauty; 3, Beurré Bachelier; 4, Durondeau; 5, Doyenné du Comice; 6, Beurré Bosc.—*Lyons.* 1, Beauty of Bath; 2, King of the Pippins; 3, Lane's Prince Albert; 4, Kerry Pippin; 5, 6, 7, Worcester Pearmain; 8, Not recognised; 9, Bess Pool; 10, Allington Pippin.—*F. Severn.* Mr. Gladstone.—*H. W.* 1, Ecklinville Seedling; 2, Red Astrachan; 3, Grenadier.—*E. A. L.* 1, Not recognised; 2, Lord Suffield; 3, Northern Dumpling; 4, Not recognised; 5, Manks Codlin; 6, Too small to name.—*H. Elliott.* 12, Will publish name in a later issue; 13, Not recognised; 14, Beurré Rance; 15, Pitmaston Duchess; 17, Clapp's Favourite.—*J. Mills.* Not recognised.—*G. Clark.* 1, Peasgood's Nonesuch; 2, Prince Albert; 3, Manks Codlin.—*Caldwell & Sons* Badly grown fruits and not more than half-developed. 1, Williams's Bon Chrétien; 2 and 5, Beurré d'Amanlis; 3, 6, 8, 11, 12, Not of sufficient size to determine the varieties.—*J. H.* 1, Louise Bonne of Jersey; 2, Williams's Bon Chrétien.—*Constant Reader.* 1, 2, 6, 7, Not recognised: most likely local varieties; 3, Pitmaston Duchess; 4 and 5, Louise Bonne of Jersey; 8, Beurré Clairgeau; 9, Easter Beurré; 10, Vineuse; 11, Uvedale's St. Germain; 12, Beurré d'Amanlis; 13, Beurré Hardy; 14, Beurré Diel. Plums: 1, Monarch; 2, Denniston's Superb.

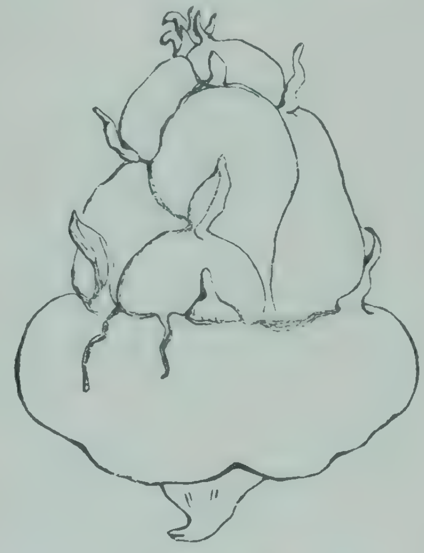

Fig. 98.—A proliferous pear.

Names of Fungi: *Fungi.* 1, It is not possible to name the fungus from the strands of spawn (mycelium) received. It is not likely that this fungus attacks living plants. 2, If the "mildew" noticed on the Tomato is black, it is the "sooty mould" (Fumago) which was present on the leaves. This fungus feeds on the "honey dew" excreted by Aphides. Get rid of these by a nicotine wash, and the "sooty mould" will disappear. 3, The fungus is an immature stage of one of the Polyporaceæ—probably Stereum. It has probably developed after the death of the tree, but was not the cause of its death.

Names of Plants: *Nutley.* Lysimachia clethroides.—*W. H. C.* 1, Sempervivum arachnoideum; 2, Kleinia articulata; 3, K. repens; 4, Sedum rupestre; 5, Sempervivum calcareum; 6, Scorpiurus vermiculata.—*F. C. L.* 1, Hieracium borealæ; 2, Sonchus oleracea; 3, Polygonum persicaria; 4, Lapsana communis; 5, Bidens cernua; 6, Epilobium montanum. The best work for studying British wild flowers is Hooker's *Students' Flora*, with illustrations. For the other purposes mentioned, Nicholson's *Dictionary of Gardening* or Robinson's *Flower Gardening* would be useful. These books may be obtained from our publishing department.—*Bude.* Cratægus Pyracantha.—*Perennial.* Monarda didyma (the red), Lysimachia vulgaris (yellow). On another occasion please number the specimens.—*H. O.* 1, Oncidium candidum; 2, Cypripedium venustum; 3, Leochilus cochlearis; 4, Ionopsis teres.—*A. J. M.* Oncidium Lanceanum.—*C.* Desfontainea spinosa and Hypericum patulum.—*R. H.* 1, Pteris tremula; 2, Adiantum hispidulum; 3, A. cultratum; 4, Pteris cretica; 5, P. serrulata.—*G. Chamberlain.* You send more than the proper number; a small donation to the R.G.O.F. box would be appropriate. 1, Pittosporum tenuifolium; 2, Cedrus sp.; 3, Cupressus sp. (send cones); 4, Sequoia gigantea; 5, Abies Pinsapo; 6 and 7, Pseudotsuga Douglasii; 8, Thuya plicata; 9, Cryptomeria elegans; 10, Pinus insignis; 11, Cupressus Lawsoniana var.; 12 and 14, C. nutkatensis; 13, 16 and 17, Thuya plicata; 15, Cupressus pisifera; 18, C. sempervirens.—*J. D.* Agrostis vulgaris.

Packing Grapes for Transit by Post: *A. F.* Grapes may be sent with safety through the post if they are packed in wooden boxes with wood-wool. The latter should not be of too fine a quality, as the coarser material offers greater resilience. Place a layer of the wood-wool at the bottom of the box, next insert a sheet of tissue paper, place the Grapes in position, and then pack the wood-wool about them, making it secure down the sides by means of a blunt table knife. Thus packed, the Grapes should reach their destination in a perfect condition.

Abnormal Pear: *T. B.* Monstrous Pears, such as the one illustrated in fig. 98, are very common in some seasons. The edible portion of a Pear is the dilated end of the flower-stalk, in which the true-fruit or core is embedded. In these proliferous Pears, for some reason or other, the swollen branch, after temporary arrest, has started into growth, and produced other swollen branches, with leaves proceeding from them. See also *Vegetable Teratology* (Masters), pp. 422-3.

Pears Cracking: *Enquirer.* The Pears are affected with the Pear Scab (Venturia pirina). Spray the diseased trees with Bordeaux mixture, using it at not more than half strength, when the buds commence to open, repeating the operation next spring when the petals are falling from the flowers, and again when the young fruits have attained the size of Peas. Where the disease has been troublesome previously syringe the trees in the winter thoroughly with a solution of sulphate of iron.

Runner Beans: *G. M. D.* In *Gardeners' Chronicle*, September 9, 1905, Mr. Wm. Smythe recommends preserving Runner Beans by putting them into a liquid containing $\frac{1}{4}$ ounce of salt-petre and about $\frac{1}{2}$ ounce of salt to 2 quarts of clear, spring water. He states that they are not too salt, and keep well for winter use.

Tomato Discoloured: *J. A.* The yellow patches in the Tomato fruits are due to a deficiency of potash in the soil.

Tulips Diseased: *Fidem* and *W. W.* The Tulip bulbs are being destroyed by various saprophytic fungi (Penicillium glaucum and another species of Penicillium). So far as can be gathered from the specimens received, the bulbs have been previously attacked when in the ground, and patches of surface tissue have been destroyed. Various fungi causing a decay are now entering at these places. The effect of steeping the bulbs in a solution of formalin (1 pint of commercial formalin in 32 gallons of water) for 2 hours may be tried.

Water Lilies: *A. C.* See reply to *W. W.* in the last issue, p. 203.

Communications Received.—C. R.—G. B.—L. M. B.—F. E. C.—S. & Son D. W.—E. J. W.—H. V.—S. G.—A. C. D.—A. P. B.—E. E. C.—G. N. S.—R. W. T.—T. H.—S. C.—J. W.—C. R.—J. H.—G. F.—A. J. B.—A. P.—T. S.—T. Y.—O. W.—Hillfield—W. H. M.—J. H.—H. S.—F. R., Quedlinburg—E. W. S.—W. C.—F. A.—F. B.—A. W. C.

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THE ROMANCE OF THE ROAD.

IT may be that the title of this article will conjure up in the minds of youthful readers memories of dreadful novels devoted to the heroic and unlawful doings of highwaymen. They will picture the lonely tavern, with the sour-faced innkeeper at the door, wherein the unsuspecting traveller would have met his doom had it not been for the warning conveyed to him with all the fit accompaniments of mystery by the rose-cheeked serving maid. The romance of the road with which we deal is, however, not that of a fast-disappearing style of melodrama. It is the romance of the road itself: that long, straight stretch of road which pursues its course through county after county; the road along which Roman legions marched; the road winding tortuously between deep hedgerows starry with Dog Rose and sweet with Honeysuckle.

In the history and vicissitudes of roads themselves there is romance more real and enthralling than in the dubious capers of villains long since and duly hanged.

The spirit of this romance breathes through the sober pages of the reprint of a discourse on *The Road, Present, Past, and Future*, delivered by the Rt. Hon. Sir John H. A. Macdonald, member of H.M. Road Board, at the Royal Institution of Great Britain early in the present year. That discourse may be commended in its entirety to all who have a feeling for history, and also to all whose concern it is to attend, whether in parks, in public or private gardens or elsewhere, to the making of roads.

Sir John Macdonald shows us the road in the making, the road with all its virtues and defects, and finally, with prophetic vision, reveals to us the road of the future.

With the decadence of Rome the art of road-making was lost, and it was not till comparatively recent times—at all events in our country—that this art was rediscovered.

The rise of commerce and the love of travel compelled the conversion of the quagmires of Elizabethan and later times into good roads, over which, as was the case with the Bath Road, a hundred and more coaches thundered in a single day. Then, when the road had been resuscitated, came the advent of the railroad, and once again the highway roads fell on evil days. With dwindling traffic, it seemed nobody's business to maintain the road, and the post of road-surveyor became a perquisite and sinecure, to be filled, as was actually the case in one district, by "a miller, an undertaker, a carpenter, a coal merchant, a publican, a baker, an infirm old man, and a bed-ridden old man who had not been out of his house for several months." This in the early years of last century. Nor, although those geniuses of road-making, Macadam and Telford, effected improvements, was the neglect of the road to be wondered at, for the railroad had robbed the highway of nine-tenths of its traffic.

This neglect might have continued long had it not been for the coming of the motorcar and the marvellously rapid increase in the number of these vehicles. The extent of this increase, though familiar enough to all of us, may be gauged by the figures cited by Sir John Macdonald. Thus there were no fewer than 200,000 motor vehicles upon the roads of Great Britain in 1911, and in that year, of the 500,000 horses that were used formerly in London alone, 420,000 had disappeared from the streets.

How great is the revolution set on foot by the advent of the motor vehicle we need not stay to inquire, though we may venture on the hope that it may entail in the near future a reform in the cooking practised in wayside hostelries. To-day the road has come into its own again, and is the recipient of a princely endowment, held in trust for it by the Road Board.

The vastness of this endowment may be judged by the fact that every motorbus which helps to make London hideous and progress easy pays as its share of the endowment of the road £45 per annum. Collectively these terrors of the London streets pay three-quarters of a million a year—the proceeds of the petrol tax—toward the repair of the roads which they help to destroy.

No less interesting than the vicissitudes of the road is the history of progress in the art and science of road-making. The modern history of the road begins with Macadam and Telford, who showed that the essentials of a good road are a good foundation and a good crust, and who demonstrated that the latter may be obtained by the use of small, angular stones: angular that they might bind well to form an impervious surface, and small (passing a 1½ inch gauge) in order that the blows which a stone receives may not, even though they fall on its edge, dislodge it from its setting. Most interesting is it to discover from Sir John Macdonald's account how the wise precepts of Macadam came to be disregarded. The origin of this disregard is traceable to the steam roller. Before that monster was devised the traffic made the road. The road-maker was content to provide the stones, and the horses and vehicles did the rest, the unceasing beat of hoof, the pressure of the wheels sooner or later bedded the stones, keying them in the bed and forming a crust which served to keep out water—the destroyer of roads. The road-mender saw to it that the traffic did its work thoroughly. He placed trestles now on one side and now on the other side of the road, compelling the luckless driver to prolong his suffering by zigzagging across the loose stones. When one section was thus well and truly laid, the position of the trestles was altered, and the carts and coachmen were put to the hard labour of making another section of the road. But when the steam roller came all this was changed, and although the change was greatly to the advantage of the traveller, it was equally to the detriment of the road. For, in order for the steam-roller to do its work nicely, it became the practice to water the roadway under construction. Thus the agent of destruction which, when it once gains access to the body of the road, destroys it utterly was introduced, despite all the teaching of Macadam, one of whose maxims might be written: Water—there is the enemy! Instead of bedding the stones in the dry body, they were worked into a slush of water and mud. As the slush dried or froze or was compressed, the stones worked loose, and all had to be redone. Other evils attended the introduction of the steam-roller. It drove the sludge before it into ridge and furrow; and yet another evil arose from the habit of road-menders in using stones of larger size than those prescribed by Macadam. Such stones are useless, for reasons already mentioned. A hoof's blow falling on one edge of a big stone dislodges it from its bed, and so makes holes for the entrance of water. No wonder that bad road-making is yet more costly than good! All this has changed. Brains have been devoted to the study of the road, and in the future it will be made and mended on scientific principles. These principles are simple. First, the bed or foundation must be good, and second, the crust must be tough and as impervious as may be to water. The latter end is secured by the use of pitch or bitumen, which materials give cohesion to the stony ingredients of the crust. The substitution of tar for mud-binding has worked wonders in the roads of Kent and other counties, and with the use of yet finer stones than those prescribed by Macadam the problem of the impenetrable crust has been solved—solved, that is to say, from the point of view of the road-maker, but by no means solved from that of the horticulturist. For there is no doubt, as we have shown in sundry places in this journal, that tarred roads are bad for vegetation. But the perfect road requires something more than good foundation and crust. It requires an elastic carpet to deaden the noise and to take the weight of the blow, and thus preserve the crust. The modern road surveyor has discovered in bitumen a substance which has the property of resiliency necessary for this purpose, and it will not be long before he makes us roads which, though carpeted with some resilient, sound-deadening material, shall cost no more to construct and far less to maintain than any of the roads of the past. Hence, after many vicissitudes and many ups and downs, the road is at last coming to its own as the best highway of all, whereon the motor may fly with winged wheels, the horse-driven vehicle roll without racking the bones of beast and man—even the pedestrian may aspire once again to tread the old road, and, unpoisoned by dust, find pleasure in a leisured and clean progression along the King's highway.

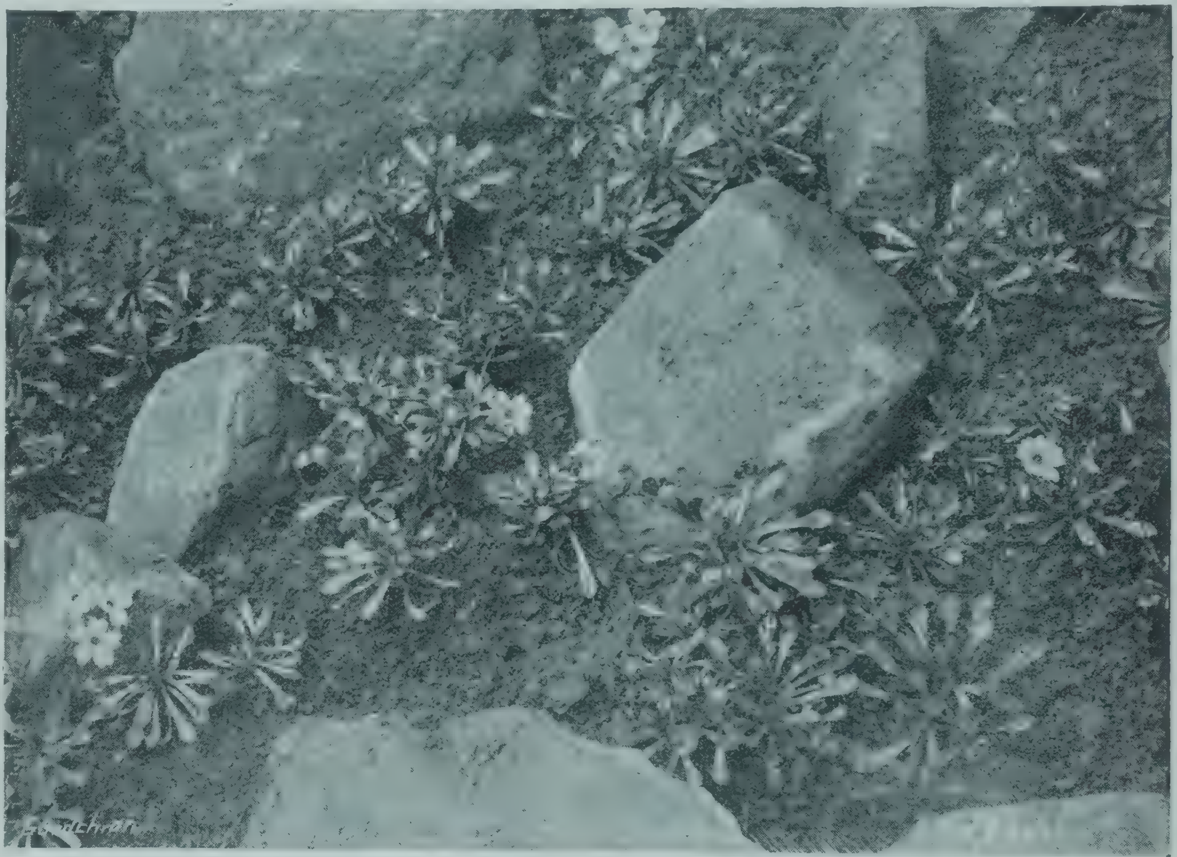
CULTURAL NOTES.

TRANSPLANTING PEACH TREES.

In many gardens there are Peach and Nectarine trees that would become more fruitful if they were transplanted occasionally, and this is especially the case with trees growing under glass. It may be considered advisable to move trees (a) because they require more space, (b) because they are growing too vigorously, or (c) on account of the unsatisfactory condition of the roots. The work of transplanting may be successfully done at any time from now until growth recommences in the spring; but it is best done at the present time whilst the leaves are still on the trees and it is possible for the trees to make fresh roots before next season. All the branches should be loosened from the walls or trellis and tied into bunches before commencing to operate on the roots. A trench should be dug at a convenient distance from the stem of the tree, and the soil that is removed from the roots forked into it. Great care must be taken whilst exposing the roots to avoid injuring them, and, as each side of the root-system is sufficiently exposed, it is advisable to damp the roots and cover them with a wet mat. Before thus exposing the roots of the tree, all preparations should be made for conveying the tree to its fresh position, so that the roots may be covered with soil again at the earliest moment. The drainage of the border should be examined to make sure that it is in perfect order. The borders should not be made too large or deep, as too much root room frequently results in gross, unfruitful wood. It is a far better plan to have a restricted border and to add to it as required. The most suitable soil for a Peach border is good fibrous loam, cut from old pasture land, and stacked for at least six months before being used. A liberal quantity of old mortar rubble and coarse charcoal should be well mixed with the chopped loam. The soil should be moist, but not wet, at the time of planting. Whole turves should be placed, with the grass-side downwards, directly on to the drainage, and the compost then placed in position and made firm as the work proceeds. It is essential to have a firm base on which to place the roots, which should be planted near to the surface. Any broken roots should be removed with a sharp knife, making the cut in a slanting direction from the undersides of the root; all very strong roots should be shortened, and have small notches cut on their upper sides to induce the formation of fibrous roots. A supply of fine soil should be at hand to work around the roots, which should be spread out evenly and as straight as possible. When dealing with large trees, the roots of which are in tiers, care should be taken to cover each layer of roots separately. After the planting is finished, the branches should be loosely secured to the trellis or wall to keep them in position. The border should then have a thorough soaking with clear water, and the structure should be kept close for the next week or two, after which time air should be admitted. Should the weather be bright and sunny, temporary shading may be employed with advantage. The trees should be frequently syringed until the foliage commences to fall. Trees treated in the manner described invariably yield a satisfactory crop the following season, and if the growth has been excessively rank and vigorous, this treatment assists the wood to ripen. *J. Gardner, Batsford.*

RAISING SWEET PEAS FROM CUTTINGS.

There is one detail in connection with the growing of Sweet Peas that does not appear to be known to the majority of growers, and that is the extreme simplicity of increasing the stock by means of cuttings. New varieties are always expensive, and the seed of some kinds is sometimes a little capricious. But by means of cuttings a stock of any variety may be increased at least four or five-fold. From the first, the original plants must be encouraged to grow as sturdily and short-jointed as possible, for cuttings from drawn or weakly plants are never likely to prove satisfactory, even if they form roots, which is doubtful. Cuttings should be taken from the parent plants when the latter are about 4 inches high, by which time they should have made five or six joints. A sharp pair of scissors is much better than a knife for taking off the tips of the plants, for the Sweet Pea is tough, and if force has to be used in the operation the roots are likely to be injured. A clean cut should be made below a joint, care being taken to leave three joints on the parent plant. After the leaves, except the two uppermost, have been removed from the cuttings, they should be dibbled in around the sides of small pots filled with sand only. It is best to water the sand first to make it firm, and to repeat the operation after the cuttings have been inserted. The pots should then be stood in a box deep enough to allow a piece of glass to be placed over the top without touching the tips of the cuttings, and the box should then be put in an ordinary cold frame or on a very gentle hot-bed. In the former method, the cuttings will root in a fortnight to three weeks; in the latter, more quickly, but some varieties take longer than others. A little shading should be provided if the sun is bright, but otherwise the cuttings should be exposed to all the light possible. The glass should be wiped dry if much moisture condenses upon it, and immediately replaced. Watering should not be necessary for the first week, and probably not until the cuttings have made roots. When they have reached that stage, the glass should be removed, and a week later the cuttings may be potted separately into small pots and treated exactly as if they were seedlings. The three or four side shoots left on the parent plants may be treated in the same way when they are long enough, and if all are grown on without a check, these plants raised from cuttings will bloom just as well as seedlings, and almost as soon. *East Sussex.*



[*Photograph by Miss Amy Cameron.*

FIG. 99.—PRIMULA SUFFRUTESCENS: FLOWERS REDDISH-PURPLE, WITH YELLOW TUBE. (See p. 227.)

FORESTRY.

TREE GROWTH IN BELGIUM.

By far the largest Beech trees that I have seen are growing in the famous forest of Bois de la Cambre, just outside Brussels. Growing in deep sandy soil, the trees have attained gigantic proportions, both as regards their height and cubic contents of stem, many being from 100 feet to 120 feet in height, and containing 200 cubic feet of timber. In a single line of these trees which I particularly noticed, the individual specimens were standing at about 18 feet apart with straight, clean trunks which rose to 60 feet without a branch, and contained on an average 160 feet of wood. The very gradual taper of the stems is most remarkable, as in many cases the girth of bole was almost as great at 40 feet as at 3 feet from the ground. The Elm trees in the grounds of the Royal palace are, taken as a whole, and from a timber point of view, the finest that I have seen, many rising to fully 100 feet in height, with clean, very gradually tapering trunks that girthed from 10 feet to 12 feet at a yard from the ground level. *A. D. Webster.*

THE ALPINE GARDEN.

PRIMULA SUFFRUTESCENS.

Primula suffrutescens (fig. 99) is a Californian species, shrubby in appearance, with woody, branching stems which creep along the ground; it is thus distinct from any other member of the genus.

The foliage, including the petiole, is from $\frac{3}{4}$ inch to 2 inches in length and $\frac{1}{4}$ inch to $\frac{5}{8}$ inch in breadth. The leathery, wedge-shaped, spatulate leaves are denticulated in front. The scape, about 4 inches high, carries an umbel of several reddish-purple flowers with a light yellow tube.

This plant should be grown in loamy earth and peat, with the addition of a little rough sand. It requires protection during the winter, and thrives best in a half-shaded situation.

The plants shown in fig. 99 were flowering in my rockery at the end of June. *John MacWatt, Morelands, Duns.*

SAXIFRAGA RUDOLPHIANA.

This beautiful Saxifrage is a variety of S. oppositifolia. The plant illustrated in fig. 100 is growing in the garden of Mr. R. Smyth, Mount Henry, Dalkey, Co. Dublin. It is planted in well-drained, gritty soil of a poor nature, and has flowered freely for the past five years. The colour of the flowers is pink, the blooms are larger than the type, and present a fine patch of colour in March at the base of a large rock, especially when lighted up by the sun.

VERONICA CINEREA.

Veronica cinerea is different from any other species of Veronica known to me, and one of the finest of all for the rock-garden. It forms a low-growing plant, producing a mat of grey leaves, almost flat on the ground. In April and May it produces its small spikes of violet-blue flowers, which open in succession. The effect of the grey, ash-coloured foliage and the violet-blue flowers is very charming. I observe in a Continental catalogue it is described as having white blooms, but it is quite probable that there are both blue and white varieties, just as with many other Veronicas. I assume my plant to be Boissier's V. cinerea, from Asia Minor. It came to me without any cultural suggestions, and I have planted it on a terrace in my rock-garden but little above the ground level, in dry soil. Its appearance makes one doubtful of its standing the winter well in wet districts.

ARABIS STURII.

I wonder if anyone can give the exact origin of this little Arabis, which is generally understood to be of garden origin. It is, in any case, one of the best of a genus not distinguished by neatness, yet of much garden value. A. Sturii is an exception to the prevailing want of refinement among the Arabises, being very neat and pretty with its small carpet of glossy leaves and its small, white flowers, which are borne an inch or two above the foliage. It appears to be an accommodating little plant, and thrives well with me on a south-east exposure in my rock-garden in light, dry soil.

ERYTHRONIUM HENDERSONII.

Erythronium Hendersonii has fine scapes, each carrying several beautiful flowers with recurved petals and of a good purple colour. Examined closely and upturned, the flower becomes still more beautiful to the eye, as the purple segments are almost black towards the base, with the exception of a little yellow, the whole combination being exquisite and fascinating. I have had this handsome Dog's Tooth Violet in my garden for several years past, but it has, unfortunately, made hardly any increase. It is planted in a cool exposure at the base of rockwork facing almost N.N.E., where it grows satisfactorily and blooms every year. The soil is open and rather sandy. *S. Arnott, Dumfries.*

REMARKS ON THE CONDITION OF THE FRUIT CROPS.

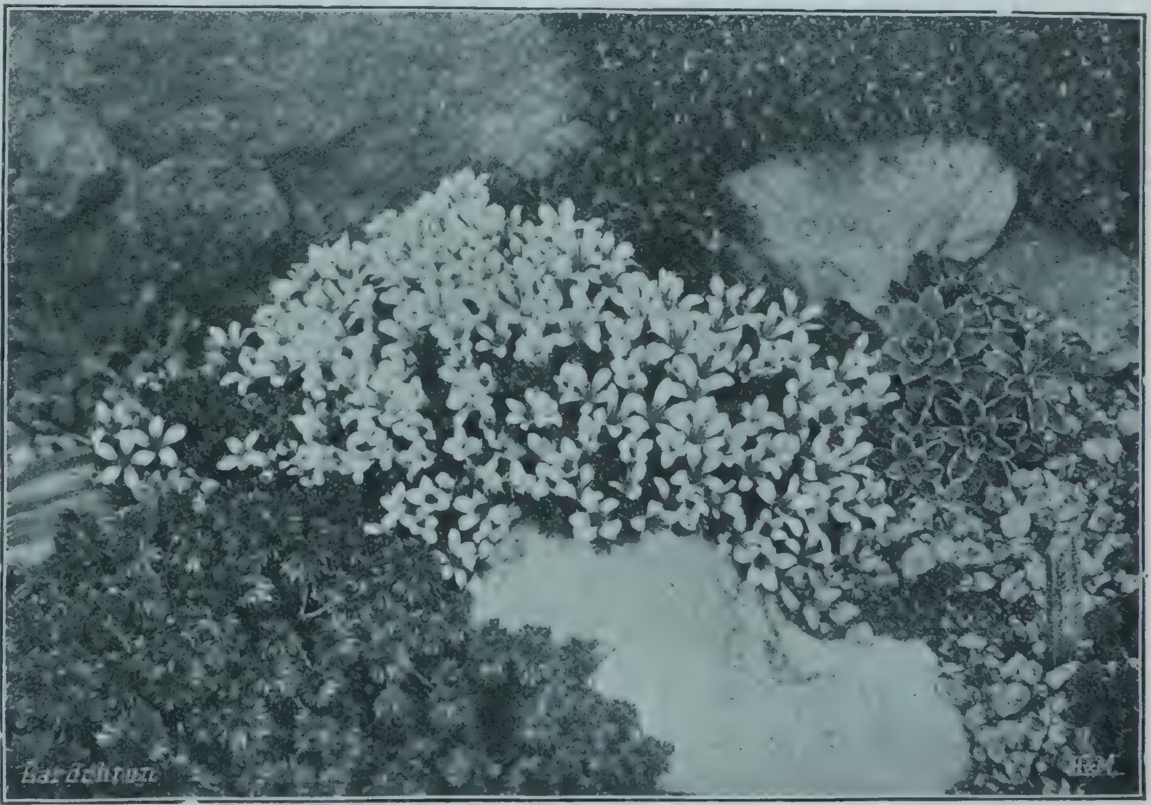
(See Tables and Summaries, ante, pp. 66-71.)

(Concluded from p. 211.)

WALES.

Cardiganshire.—The fruit crops generally are very much under the average. In this garden Pears are a good crop. Apples, with the exception of two or three varieties, are poor. Plums are good, especially Victoria, Czar and the Gages. Morello Cherries are very satisfactory. Gooseberries, Raspberries and Red Currants were plentiful crops, but Black Currants were affected by aphis. Strawberries were very good. Our soil is shallow and heavy, overlying slaty rock, and is of a very cold nature. *W. Phillips, Derry Ormond, Llangybi.*

Carnarvon.—The fruit crops generally are satisfactory, and the fruits of good quality. Apples, however, are much under the average. Last season there was a glut of these fruits, and this may account to a certain extent for their scarcity this season. Trees that were sprayed in January last with V.I. fluid are making very clean growth and looking well. Small fruits were very good indeed, but the Strawberry season came to an end very suddenly, owing to many of the berries rotting on the ground whilst they were still green. June was a very wet month, 6.59 inches of rain falling. The soil here is very gravelly and hungry, and dries out very quickly. *J. S. Higgins, Glynllivon Park Gardens.*



[*Photograph by E. V. Low.*

Fig. 100.—Saxifraga Rudolphiana in an Irish garden.

Denbighshire.—The fruit crops are not so good as might have been expected considering the wealth of blossom. Certain varieties of Apples are carrying fair crops, whilst others are barren. Pears set well and the fruits required thinning. Certain varieties of Plums are carrying good crops. Strawberries were a heavy crop, but owing to continuous rain half the fruits rotted. Small fruits were plentiful. The soil is a stiff clay. *J. A. Jones, Chirk Castle Gardens.*

—— With the exception of Apricots, fruit trees generally blossomed well and are carrying good crops. The buds of Apricots seemed to have been damaged before they opened. Strawberries looked well up to the middle of June, when, owing to the sunless, damp weather at that time, many of the fruits rotted. *J. Martin, Bryn Estyn Gardens, Wrexham.*

Flintshire.—The prospects of the fruit crops at one time were exceedingly good, but cold winds at the time Apples were in bloom spoilt the bright prospects and also injured the young growth of Peach trees, the leaves being badly blistered. Pears appear to have escaped damage, as there is a good crop of clean fruits. Gooseberries are superabundant, and Raspberries very good. Strawberries were greatly spoilt through the continual rains when ripening. We were much troubled with caterpillar and aphis. *J. Barnard, Mostyn Hall Gardens, Mostyn.*

Glamorganshire.—On the whole the fruit crops in this district are very disappointing, especially after the profusion of bloom on all kinds of fruit trees. The reasons for the partial failure are, I think: (1) the continued dry weather and cold nights during the time the trees were in bloom, and (2) blight, which affected the Apple trees at the end of May and in the early part of June. Apples are an average crop but badly affected with blight. The varieties carrying the heaviest crops are James Grieve, Cox's Orange Pippin, Ribston Pippin, King of the Pippins, Bramley's Seedling, Lane's Prince Albert, Lord Burghley and Lord Derby. Pears are an average crop, but very good and clean, especially Marie Louise, Louise Bonne of Jersey, Winter Nelis, Glou Morceau, Doyenné du Comice and Easter Beurré. Peaches and Nectarines are excellent, all varieties carrying heavy crops, and the trees have been very free from blister. All small fruits were plentiful and good. Strawberries have been a heavy crop, but half the fruits were damaged by the heavy rains during the time the berries were ripening. Our rainfall for June was $7\frac{1}{2}$ inches. The soil is of a light texture with a gravelly subsoil. *R. Milner, Margam Gardens, Port Talbot.*

Pembrokeshire.—There is a fair general crop of hardy fruits. In some districts Apples are very plentiful, whilst in others this crop is a comparative failure. Winds from the Atlantic sweep over the county in the spring and do great injury to foliage and flowers. Consequently numbers of Apple trees in exposed gardens scarcely ever bear fruit. Plums are a good crop, especially the variety Victoria, whilst Damsons, which are extensively grown in this county, are a very heavy crop. Insect pests are doing great damage to fruit trees this season, especially in the case of Apple trees which have not been sprayed. *Geo. Griffin, Slebeck Park, Haverfordwest.*

—— The fruit crops are good, with the exception of Apples on young trees, although established trees are bearing very heavy crops. It is many years since I saw a better crop of Pears: the fruits of most varieties required thinning. Peaches on south walls are plentiful. We had a very heavy crop of sweet Cherries, but Morellos were not so plentiful. Plums set well, and are a heavy crop. Raspberries, Red and Black Currants have never been finer or more abundant, and the same may be said of Gooseberries. Royal Sovereign Strawberry has done remarkably well, also Givon's Late Prolific and Laxton's Latest. I have grown many varieties of Strawberries in these gardens, but have now discarded all but those named. The gardens are on a slope facing south. The soil is a light loam overlying slate stone. *Wm. A. Baldwin, The Gardens, Clynfiew, Boncath, S.O.*

Radnorshire.—Pears and all kinds of Nuts are very plentiful. Late Apples are almost a failure, but early sorts were satisfactory. Small fruits were variable crops; Currants were scarce and bad, whilst Raspberries were plentiful and good. Late Strawberries were satisfactory, but early sorts were damaged by frost when in flower. Peaches and Nectarines were extremely few, and there was only half a crop of Apricots. *J. MacCormack, Maesllwch Castle Gardens, Glasbury.*

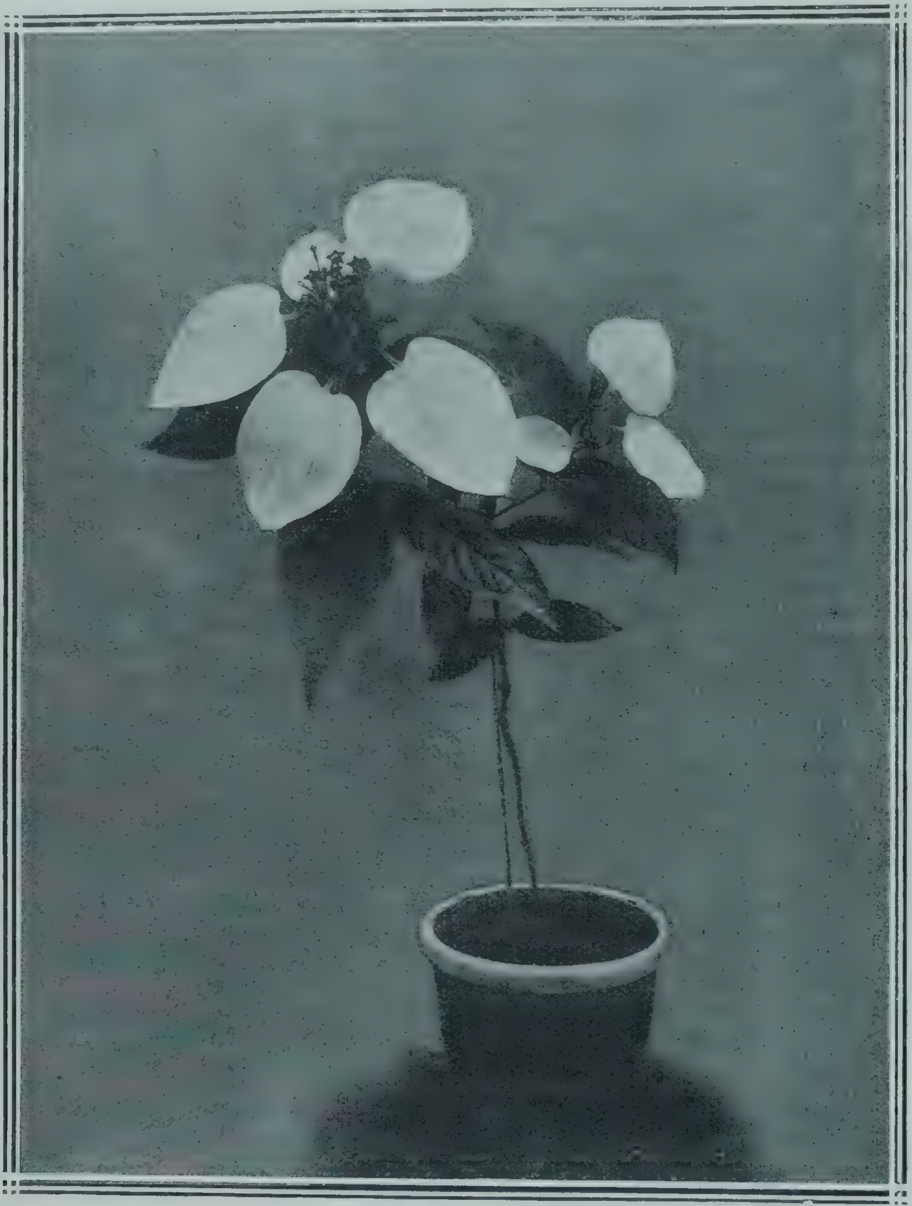


Fig. 101.—Mussaenda Sanderiana: flowers yellow, with white, petaloid sepals.

—— The fruit crops generally are disappointing. The scarcity of Apples is no doubt owing to the very heavy crop of last year and also to a severe hailstorm the like of which was never witnessed here before. The weather in spring was cold, and the greater part of the Plum crop was ruined. Black Currant bushes are badly affected with blight, notwithstanding spraying was practised. *Wilson Palliser, Norton Manor Gardens, Norton.*

IRELAND.

King's Co.—All fruit trees gave great promise in the blossoming season, but owing no doubt to the drought of March and April and the cold winds in May, accompanied by thunder and heavy rains, the good promise was not realised. Apples are not so good as last year, and Pears are under the average. Plums, Raspberries and Gooseberries were all satisfactory crops. Black and Red Currants were poor, the latter being deficient in colour. Strawberries were most promising, but rain and cold winds delayed the setting of the fruits, consequently only about half the crop ripened. Cherries were good. All trees have made healthy, clean growth. *W. A. Maxwell.*

Tyrone.—The fruit crops are very satisfactory. Pears are particularly good. Strawberries suffered badly from damp, and many of the early fruits decayed. Aphis was prevalent very early this year, and did some damage. The codlin moth has also been in evidence, whilst American blight is always with us in greater or less degree. *Fred. W. Walker, The Gardens, Sion House, Sion Mills.*

Westmeath.—Low temperatures and drought during April and May are the chief causes of the poor fruit crops in this locality. The frequent rains during the month of June caused many of our Strawberries to rot. Our soil, which rests principally on clay, ranges from heavy to medium texture, and is rather shallow in places. *Geo. Bogie, Pakenham Hall Gardens, Castlepollard.*

Cork.—It was a splendid season up to the middle of May, when severe frosts did much injury to Apples and Pears, particularly the latter. The codlin moth is very prevalent here, numbers of Apples falling prematurely from this cause. Cold, south-westerly winds early in June were most destructive to Apple orchards exposed to the south or west. Numbers of trees are badly blighted. *M. Colbert, Aghern, Conna.*

Kildare.—With the exception of Black Currants, we had heavy crops of good fruits. Even Apricots required some thinning, Raspberries and Gooseberries were much over the average, but Black Currants were a total failure, due to a frost which occurred on May 13. Strawberries also suffered from the same frost, and at a later period many of the berries rotted from excessive wet. The subsoil is a cold, retentive clay. *Fredk. Bedford, Straffan House Gardens.*

Waterford.—The favourable spring has ensured a very abundant crop of most fruits, notably Apples and Pears, which have not been better for the past 12 years. Plums are very plentiful and good, which is rather unusual in our low-lying valley. All fruit trees are making good growth. The gardens are situated at an altitude of 95 feet above sea-level. The soil is of a poor quality, and rests on a retentive clay. *D. Crombie, Curraghmore Gardens, Portlaw.*

CHANNEL ISLANDS.

Guernsey.—The fruit crops are rather disappointing, although the prospects were good at one time. Unfortunately, when the trees were well in bloom, heavy rains and cold winds prevailed, with the result that Pears, Plums and Cherries are not plentiful. *C. Smith & Son, Caledonia Nursery.*

Jersey.—The fruit crops are, on the whole, fairly good. The failure of Plums, Peaches and Apricots was due to the very dry and hot weather of April, which caused the fruits to drop. Pears also dropped freely, but a fair crop remains. Apples, being later in setting, did not suffer so much. *Thomas Sharman, Imperial Nursery, St. Heliers.*

SCOTLAND.

THE DEVELOPMENT COMMISSIONERS AND SCOTTISH FORESTRY.

The second Report of the Development Commissioners gives important information regarding the aid the Commissioners have granted towards the teaching of forestry in Scotland. The Commissioners agreed to give a grant, not to exceed £2,000, to be spread over five years, in aid of forestry instruction in connection with the University of Edinburgh, to be expended in the provision and maintenance of a forest garden, this to be for the use of the University students and for those of the Edinburgh and East of Scotland College of Agriculture. At the same time, an indication was given that consideration would be extended to proposals for further work when a definite agreement had been made between the two bodies having the use of the forest garden. The Commissioners agreed to give an additional grant of £9,000 for new buildings, equipment, and salaries of lecturer and demonstrators. In a further reference to the subject, it is stated that the Agriculture (Scotland) Fund, which was established subsequent to the Development Fund, is applicable to several of the subjects, such as forestry, to which the latter can be applied. The Commissioners think that, as a matter of principle, the demands of Scottish forestry and agriculture should be met from the Scottish Fund, as far as possible. *Correspondent.*

MUSSAENDA SANDERIANA.

This new species was first described in *Gard. Chron.*, July 17, 1909, p. 34, by Mr. H. N. Ridley, of Singapore, who states that in its natural habitat the plant grows about 5 feet or 6 feet high, but is often prostrate on the ground. Mussaenda Sanderiana (see fig. 101) was introduced by Messrs. Sander & Sons, St. Albans, from the Eastern Tropics through their collector, Mr. W. Micholitz. The attraction of the plant lies in the white, petaloid sepals, which are borne by one flower out of every three. The plant flowers when about a foot high, and continues to produce blossoms as the growths are completed. The flowers, apart from the petaloid sepals already mentioned, are inconspicuous, being yellowish in colour. The plant requires a stove temperature and an abundance of light. It grows well in a mixture of equal parts loam and peat, with a liberal admixture of sand. It forms a fine companion to the scarlet-crimson Mussaenda erythrophylla.

ECHINOCACTUS MYRIOSTIGMA.

ECHINOCACTUS MYRIOSTIGMA (see fig. 103) is in many ways a remarkable plant. Belonging to a genus rich in every conceivable form of spines, it and its neighbour E. Asterias are perfectly spineless, except for a few small, brown setæ mixed with woolly hairs which surround the flowers at their first appearance.

The form of the stem, too, is unusual, and composed of five or six high ridges, so that a transverse section would resemble the outline of a starfish. When originally described by Lemaire, this peculiarity led him to give the name Astrophytum to what he considered a distinct genus.

The whole of the surface of these ridges is beautifully freckled with brilliantly white spots, which upon examination under a strong lens are found to be tufts of very fine hairs densely interwoven. At a little distance these spots give the plant a silvery-grey appearance, more like that of some stone carving than of a living plant.

The flowers are straw-coloured, and my plant flowers thrice in each season, bearing only one flower at a time. The sepals are unicolorous, but the sepals are tipped with purplish-black and end in a distinct mucro of the same colour. The plant illustrated in fig. 103 is young, and measures only 3½ inches in height, but older specimens grow to a foot or more. This species requires the protection of a warm greenhouse or stove. When I first had the plant it was kept in an ordinary greenhouse and it scarcely increased for a year or two, but after its removal to a sunny shelf in the stove it developed rapidly. It is a native of a district called Moran, in Mexico, and was introduced to Europe by M. Galeottii, and was first flowered at Havre by the late M. Courant. There is a good figure of it in Schumann's *Blühende Kakteen,* t. 110, and a less satisfactory one in the *Botanical Magazine,* vol. lxxi., t. 4177. *E. A. Bowles.*

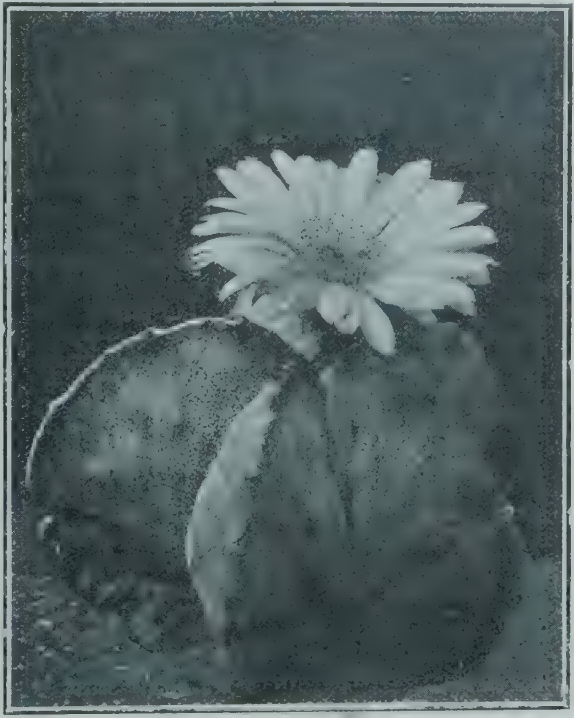


FIG. 103.—ECHINOCACTUS (ASTROPHYTUM) MYRIOSTIGMA: FLOWERS STRAW-COLOURED.

DENDROBIUM SCHÜTZEI.

AMONGST the numerous Orchids exhibited at the last meeting of the Royal Horticultural Society none attracted such attention as the magnificent new species of Dendrobium from the Philippines (see fig. 102), and the Orchid Committee conferred the highest distinction in a First-class Certificate. The flowers have much the appearance of D. formosum giganteum, and in growth also the plant resembles this older species. It grows about 9 inches or 1 foot high; the flowers are shown in the figure natural size. They are white, with a small emerald-green disc to the lip, which has a ray of the same colour, with dark spots at the base. The plant was shown by Messrs. Sander & Sons, who introduced the species to cultivation.

NOTICES OF BOOKS.

FRENCH GARDENERS IN LONDON.

WE have received the *Bulletin** of the Society of French Gardeners in London. It is in the form of a double number, on account of the indisposition last year of the society's president, Mr. Geo. Schneider. In form and size the *Bulletin* does not differ materially from its predecessors, and the contents are arranged in much the same order. The record of the society's work for the past two years occupies 181 pages, and the *Bulletin* is neatly and clearly printed in good type. There are no illustrations save a portrait of Mr. H. B. May, which is given as the frontispiece, and of whom some appreciative remarks appear from the pen of Mr. Schneider. The literary matter is of peculiar interest to the members, especially those who are no longer able to take active part in the society's work on account of remoteness, for many of the members have either returned to France or have been called upon to fill posts in other parts of the world. At the monthly meetings papers are read on subjects of horticultural interest, and some of these are reproduced *in extenso.* The purely routine matter consists of the society's rules, lists of members, reports of monthly meetings, balance-sheet, library catalogue, and other matter of interest to members. There are also full reports of the society's annual dinners at the Café Royal in 1911 and 1912.

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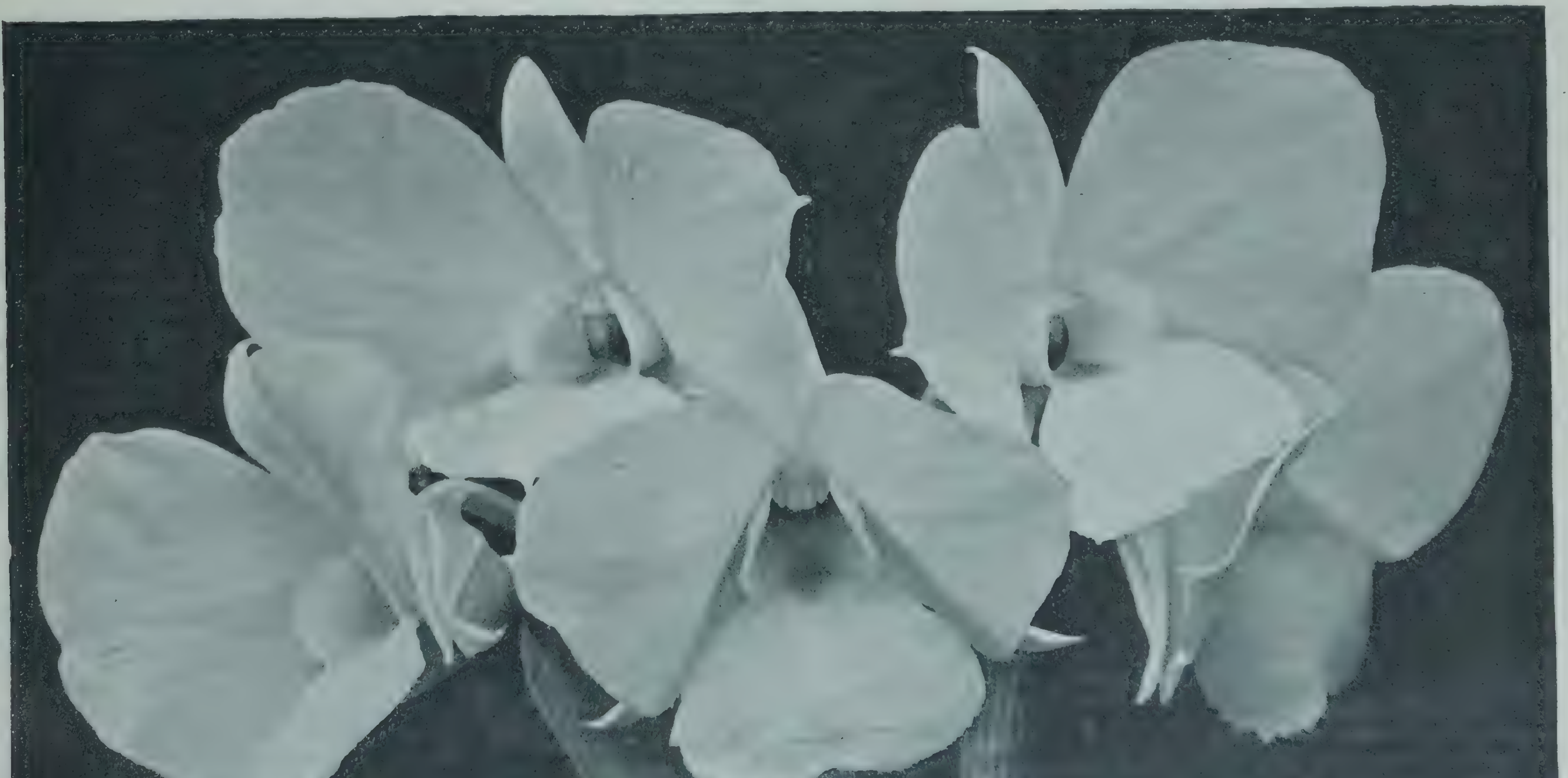
* *Bulletin de la Société Française d'Horticulture de Londres.*



[*Photograph by A. J. Campbell.*

FIG. 102.—DENDROBIUM SCHÜTZEI: A NEW SPECIES WITH WHITE FLOWERS.

(Received R.H.S. First-class Certificate on the 10th inst.)

The Week's Work.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote,
Eastwell Park, Kent.

Planting Carnation Layers. — If the work has not been commenced already no time should be lost before preparing the beds and borders for the reception of rooted layers of border Carnations. The ground should be trenched deeply; no animal manure should be incorporated with the soil, but if the latter is of poor quality, some good loam, or, failing this, a quantity of old soil from the potting shed, should be mixed with the top spit. When the trenching is finished, a layer of wood ashes and burnt earth should be spread over the surface, forking the materials lightly in, and making the ground firm again before planting. In most instances the layers are well rooted, and early planting on warm, well-drained soils is undoubtedly the best method of culture. If the soil is of a heavy, retentive nature many of the plants may die during the winter. In such cases it is better to pot the layers, or winter them in shallow boxes. If autumn planting is practised, a sufficient number of the layers should be reserved and potted, in order to fill up any blanks in the borders in the spring, as there are marked differences in the constitutions of the different varieties. If experience has taught that wintering the layers in pots and boxes under glass is the better plan for the district, the plants should be taken up when well rooted and placed in ordinary cutting boxes. Where large numbers of Carnations are grown, boxes, being more convenient to handle, are recommended in preference to pots. The compost may consist of three parts loam to one part of leaf-mould, and plenty of sand. The roots will grow freely in the new soil, and the plants will be in a condition for making a good start when set out in the spring. The layers should be shaded for a few days until they recover from the check caused by removal. Later they may be placed in full sunshine out-of-doors on a bed of ashes for as long as fine weather lasts. On the approach of bad weather, they should be placed in cold frames, where they can be protected from heavy rains. Draw the lights off on all favourable occasions, and ventilate freely even when the lights have to be placed on the frames in consequence of heavy rains. A moderate frost will not harm the plants, but rather will be beneficial, inasmuch as the layers being made the more hardy may be put out in their permanent quarters early in the spring.

Ceanothus.—The Ceanothus is one of the most beautiful of autumn-flowering shrubs, and there are numerous varieties, of which Gloire de Versailles is still one of the best. This variety is quite hardy in this district, and will grow in almost any position. In colder localities it is often planted against warm walls, where it thrives exceedingly and produces a charming effect. But the plant is seen at its best when grown in a clump or group in a large bed on the lawn, especially when planted thinly in bush form over a carpet of some other suitable flowering plant. Specimens grown in pots may be planted at almost any season, but the next few weeks is probably the very best time in the whole year in which to plant them. Select young, healthy specimens, as these start most kindly into growth. The ground may be trenched deeply, mixing in plenty of rich manure; if of poor quality, some good loam should be placed around the roots of the trees when planting, which should be done firmly. Secure the shoots to stout stakes directly the planting is finished. Young, healthy plants should be pruned hard in the following spring, and in the following years, to an inch or two above the previous place of pruning. The plants will flower splendidly and continuously under this treatment. Specimens in these gardens that were flowering well in July are still objects of great beauty, and will continue in bloom for some weeks to come.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs,
Aldenham House, Hertfordshire.

Carrots.—Young Carrots, even though not longer than one's finger, are much esteemed as a vegetable, and, provided there is sufficient accommodation for growing them, there is no reason why a supply of roots should not be maintained throughout the year. Varieties of the stump-rooted kind do best at this season, Inimitable being one of the best sorts, as it makes but little top growth, and matures quickly. Seeds sown now, either in frames or cold pits, will furnish good Carrots throughout the winter months. Roots that are large enough may be lifted and stored in sand, in which material they will keep good for some considerable time.

Cucumbers.—As the season advances more fire-heat will be necessary to keep the plants growing healthily. The atmosphere should always be kept moist, but discontinue syringing plants that are bearing fruit. Avoid over-cropping, and watch for the first traces of mildew, which should be checked as soon as detected.

Celery.—In these gardens the foliage of Celery is wonderfully free from attacks of the Celery-fly grub, the plants having been dusted frequently with soot, which is an excellent preventive of this pest. The earthing-up of the later batches requires attention. The day previous to doing this work the roots should receive a good soaking with water. Choose fine weather for the work, so that the foliage may be quite dry, otherwise the stalks may decay later. Before commencing to place the earth about the stems, examine the plants with a view to removing any split or otherwise damaged leaves, also side growths. Stretch lines on either side of the trench tightly, cut down the soil with a spade, break the particles of earth with a fork, and then place the soil around the stems. The work is best done by three men if they can be spared, one on either side to dig and break the soil, the other, walking backwards, to place it in position. The blanching should be done at intervals, and, in the case of the later batches, should not be carried out too early, as the stems are much hardier when they are green. A period of from six to eight weeks is required for blanching, the older plants requiring an even longer period. Plants of the earlier batches that were blanched with brown paper as recommended have furnished excellent Celery of good quality. Celery required for exhibition purposes should be examined occasionally to see that it is in good order.

Globe Artichokes.—In warm districts these plants will probably continue in bearing during the present month. Keep the plants as tidy as possible, and when they are injured by frost cut the growths to the ground level. Suckers should be taken off early for purposes of stock, and potted into 7-inch or 8-inch pots. They may be wintered into a cold frame, very freely ventilated. These plants will be useful for forming fresh beds in the spring, when the older plants may be discarded. The newer varieties are great improvements on the older sorts.

Seakale.—These plants should be kept free from weeds and decaying foliage. Stir the soil about them with the hoe, and cut out the flowering stems as soon as they appear.

Turnips.—Turnips have done well this season, and if the stock exceeds the demand the surplus roots may be lifted and stored before they become too large. Thin the seedlings of later sowings, and stir the ground frequently with the hoe. There is still time to make further sowings.

Beetroot.—The main crop of Beetroot needs more careful attention and lifting than the earlier Globe varieties, in order that the roots may keep well. Avoid bruising or breaking the latter, especially the tap roots, otherwise the Beets will be of an inferior colour when cooked. The outer leaves should be rubbed off when the plants are lifted. The roots should be stored in a cool shed, in fine soil, arranging them in layers. They should be kept moist and covered with straw during the winter. Beetroots for exhibition purposes should be of a moderate size, smooth of skin, of good shape, and tapering evenly. The rootlets should be trimmed off and the roots well washed before being placed on the exhibition stage, with the tips extending towards the face of the exhibit.

Seakale Beet.—This vegetable is not largely cultivated, but it is a very ornamental plant, and should be grown in gardens where there is plenty of space. The plants are now at their best condition, and the outer leaves may be pulled and sent to the kitchen. The mid-ribs are treated in the same way as Asparagus, the rest of the leaf being cooked like Spinach; hence the name Seakale or Spinach Beet.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq.,
Woburn Place, Addlestone, Surrey.

Housing Plants.—If time permits, all glass-houses that are to be used for wintering plants should have a thorough cleansing and the walls be limewashed, so that everything will be clean before the plants are brought indoors. Before housing winter-flowering Carnations the plants should be tied carefully to neat stakes and sprayed thoroughly or dipped in a solution of sulphide of potassium (½ ounce to each gallon of water). Besides being an efficient fungicide, this specific also helps to keep the plants free from red spider. Zonal Pelargoniums intended for winter-blooming should also be placed indoors. The rainy weather has caused the plants to make very sappy growth, but a week or two in a good airy house, with proper care in watering, will soon change this condition. Salvias also should be housed, but plants required for very late flowering may be placed under a temporary shelter to shield them from the rains, putting them in the plant-houses after an earlier batch has finished flowering. Salvias planted out in the open ground should be lifted and potted, and such subjects as Bouvardias, Libonias, and Solanums. In the event of warm weather after the plants are lifted it may be necessary to spray them overhead and keep them in a closed atmosphere for a few days, to prevent them from flagging and to encourage fresh root action. When it is safe to do so the plants should be exposed to all the air possible with a view to hardening the growth, which this season is unusually sappy.

Chrysanthemums. — By this time all disbudding should be finished in the case of the large flowering varieties. The plants should receive a little artificial manure about every ten days, either in the water or sprinkled on the surface of the soil during showery weather. A few of the very early plants of such varieties as White Queen and Mrs. A. T. Miller that may be showing colour should be housed at once. Also such early-flowering varieties as those of the Mme. Marie Massee family, Perle Chatillonaise, Carrie, Polly, and Hector. Well-furnished pots of these varieties are very useful for the decoration of the conservatory or the dwelling house. During late September and October, even after housing, these plants should be given a dressing of artificial manure.

Schizanthus, Mignonette and Clarkia.—The last autumn batch of these beautiful spring-flowering annuals should be sown at once, the two former plants in 60 size pots, from which the seedlings may be transferred into larger receptacles as soon as they require more room. The Clarkias may be sown in boxes or pans, pricking them off when about an inch high, either into boxes at about 2 inches apart or singly into 60 size pots. A cool frame is the best place to raise these plants, transferring them to a shelf near the glass in a greenhouse as the autumn advances.

Nerine.—Plants that have been turned on their sides during the past month or two to keep the soil in the pots dry should be placed in a light house before the flower spikes commence to form. Water will not be necessary until the spikes are a fair size, when the roots should receive just sufficient moisture to keep them damp. Nerines require very little water as compared with most bulbous plants.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Ripening of the Growths.—Owing to the unfavourable summer the growths of most tropical Orchids are much softer in texture than usual. Every effort should be made to induce the thorough ripening of the growths and pseudobulbs of plants in the East Indian, Cattleya and Mexican houses.

Shading.—It is impossible to give precise directions at this season on the subject of shading, for much depends on the kind of plant. In any case the reduction should be gradual, the object being to cause the foliage to become hardened, so that little shading will be necessary after the end of the present month. If, in addition to blinds, shading has been provided by stippling the glass with flour and water or other substance, the glass should be washed thoroughly as well as the woodwork. Previous to commencing the work stop up the pipes leading into the tanks to prevent any sediment passing in with the rain water. The permanent blinds should still be retained in position, as shading may be necessary during bright days, but they must be used with discretion; the plants should be exposed to all the light available whenever this is possible without causing damage by scorching.

Atmospheric Moisture.—The amount of moisture in the atmosphere must be regulated with extra care until after fire-heat is more extensively employed. The cooler houses will require damping the least, because there will be less evaporation in these structures. In the warmer houses sufficient atmospheric moisture must be promoted to counteract the effects of fire-heat. The East Indian, Cattleya and Mexican houses will require to be damped on mornings and afternoons, while the intermediate and cool houses in which very little fire-heat is employed at present should be damped only in the mornings, except on bright days, when the paths and stages should be sprinkled in the afternoon.

Watering.—The watering of the plants must be regulated according to their various stages of development. Those with pseudobulbs nearly completed should receive a gradually diminishing supply, but water must not be withheld to such an extent as to cause shrivelling. Plants that are completing their growths should still be afforded an adequate supply of moisture. As the nights become colder it will be necessary to provide extra fire-heat; on warm days the ventilators should be opened slightly to prevent scorching, but retaining as much sun heat as is practicable. The cool, damp summer has suited Odontoglossums, and the majority of the plants are developing vigorous growths. The ventilation of the house in which they are grown should be done very carefully at this season, air being admitted through the bottom ventilators at all times, regulating the degree in accordance with the outside temperature. During warm nights the top ventilators may be opened slightly to admit the autumn dews that are very beneficial to Odontoglossums, especially those that have been freshly potted.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Late Grapes.—Late Grapes can usually be ripened without the aid of much artificial heat, but this dull and cold season it has been necessary to keep the water pipes warm during the day and night. Even now late Grapes are much later than usual, and they will need every assistance to get the bunches perfectly finished by the end of the season. The temperature must be kept at a minimum of 60°, although there must be no excessive use of artificial heat, as this would probably cause the bunches to finish badly. The house should be ventilated with great care so as to keep the temperature as equable as possible, but it is necessary to have a circulation of air at all times, more or less according to the conditions prevailing out-of-doors. Laterals should be removed as they appear and a sharp look-out kept for mealy bug. The bunches must be protected from wasps by covering the ventilators of the house with hexagon netting. If the borders are confined inside the house the roots will need considerable water until the crop is ripe. Choose a fine morning for watering, when the ventilators can be thrown wide open, and see that the temperature of the water is not lower than 60°. Outside borders must be protected from heavy rains. Any mulching materials which may have been placed on them early in the season should be removed and the surface of the borders lightly pricked up with a fork. Remove the covering during fine weather so that the borders may get exposure to sunshine and air.

Mid-season Vines.—It will be safe now to prune away much of the growth from Vines that have yielded fruit. This will expose the remaining wood to the sunshine and help to plump up the buds at the base of the shoots. Healthy vines which have carried heavy crops of Grapes may be given a soaking of manure water from the farmyard before the leaves fall. Vines which are in need of renovation may be treated any time after this date. Any additions to the borders of young vines should be carried out at this time of year.

Young Vines.—Vines which were planted in permanent borders last spring have made good progress, and the chief consideration is now to get the wood thoroughly ripened by the end of the season. Maintain a free passage of air through the house at all times, and should there be any doubt as to the canes becoming well matured keep the water pipes slightly warmed. Syringing may now be discontinued, and less moisture thrown about the house. The roots will not need so much water as formerly, but they must not be allowed to get dry.

Melons.—These plants will require more attention to cultural details now than is the case earlier in the season. Plants carrying fruits approaching the ripening stage will need a minimum temperature of 70°. The plants require very careful watering, and stimulants must not be used so freely as hitherto, whilst syringing may be discontinued and the walls and paths in the house damped occasionally instead. When the fruits commence to ripen the water supply must be decreased gradually. The atmosphere must also be kept quite dry, leaving the top ventilators open just a little day and night.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Lifting and Root-pruning.—I have always emphasised the importance of checking gross growth by root restriction; but it is possible to carry the operation to excess, whilst the removal of nearly all the roots from young trees completely ruins the plants. Where space allows, young trees on the Paradise stock rarely require to be lifted more than once or twice, and this operation is performed more for the purpose of placing the roots that are growing in a downward direction to a more horizontal position than to check or retard their growth. In the cases of bush and low, pyramidal trees, lifting is the best operation, as the roots can be examined readily, and laid out regularly to within a short distance of the surface. In many instances the application of a rich top-dressing is more beneficial than root-pruning, especially in the case of older trees. Large trees should be root-pruned rather than lifted, whenever such operation is considered necessary. The work is best done as early in October as circumstances permit, while the trees still retain their foliage, so that advantage is taken of some slight root-action before the fall of the leaf. Loam of a medium nature is generally all that is necessary for mixing in the trench, but road scrapings, burnt refuse, lime rubble, and similar materials may be used with advantage. Here, again, the work may be much facilitated by the preparation of the compost in advance and storing it in a dry place. These operations may now be undertaken in the case of Peaches and Nectarines on walls. Commence by taking out a trench 2 or 4 feet distance from the tree, according to the size of the latter. Remove the soil towards the stem as far as is considered necessary, and sever with a clean cut any roots that are found growing in a downward direction. Trim any roots that have become damaged with the fork, and see that none of them cross each other. In filling in the trench, use a moderate quantity of fresh compost mixed with fine chalk or a dusting of fresh lime if the ground is deficient in this constituent. In the case of old trees growing in unsuitable soil, it is advisable to use all fresh compost. Place the roots near to the surface and tread the soil firmly. Apricots have a bad reputation through the branches dying back, but this is often because the roots are growing in too rich soil. Every effort should be made to favour a moderate growth by careful root pruning, and affording a porous compost. Young trees should be lifted with a ball of soil attached to the roots in proportion to the size of the tree. Trim the ends of all damaged roots, and, when the plant is placed in position again, arrange the roots near to the surface. When the work is completed, give the soil a good watering if it is dry, and syringe the branches occasionally if the weather is sunny. Opinions differ as to the best depth of soil for fruit tree borders; many maintain that 2 or 3 feet is necessary. But the soil, sub-soil and situation must be taken into account. Dwarf trees will grow in shallow ground if they are well cared for and the roots suitably mulched. In cold, heavy soils, it is better to plant on hillocks or ridges. Even then root pruning on one or two occasions during the early stages of the tree is necessary. In gardens where trees are grown extensively on walls, it is a good plan to purchase a few maiden trees annually to make good any failures that occur. If trees of suitable sizes and shapes are available the spaces may be furnished at once and the trees will grow away with very little check.

Strawberries.—The plants should be examined once more and all runners removed. The surface soil between the rows should be loosened with the hoe preparatory to placing a mulch of half-decayed manure over the roots. Mulches are best applied now as the autumn rains wash the manurial properties down to the roots. The litter also protects the crowns and foliage from injury during times of severe frost.

THE APIARY.

By Chloris.

The Care of Hives in Autumn.—Much is often said about thoroughly cleansing and overhauling the hives in spring, but few bee-keepers ever dream of doing the same needful work in the autumn. This autumn cleansing should be carried out as soon as possible, choosing fine weather for the work. Thoroughly examine the colonies to ascertain if there is sufficient food sealed, and, if not, rectify the matter without delay, for at the latest we can only feed on syrup until the middle of October; but, if the weather remain cold, syrup feeding will have to cease much earlier. Having seen that the larder is well supplied, next give attention to the floorboard; if possible, supply a clean one, but, where this cannot be done, then thoroughly scrape away all the collected filth of the season. Those floorboards which are removed should be scraped and afterwards thoroughly washed in a carbolic solution and exposed to the air for a short period. From this it will be seen what a great advantage it is to have hives of one pattern and size throughout an apiary, for one or two spare parts are sufficient to put a fair number of hives in a sanitary condition. Next see to the quilts, which should be clean, fitting exactly into the corners and covering all the frames. It will be a great advantage and save much bee life if passages are left, and these may be secured by laying a few sticks about half an inch thick on the top of the frames. Over the ordinary quilts it is wise to make cushions of some good, non-conducting material, which need not cause any great expense, because corkdust, sawdust, shavings or leaves will serve admirably, but whatever material is chosen, the cushion cover must be packed loosely. The roof should be closely examined, because the bad summer has tried the roofs of even well-made hives. All leakages should be stopped, first rubbing in some paint, and, when dry, filling in firmly with putty. To make doubly sure, some old calico may be tightly stretched across and tacked to the edges of the roof by means of thin laths, and then painted several times.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, SEPTEMBER 23—
Nat. Chrys. Soc. Floral and Executive Coms. meet.

TUESDAY, SEPTEMBER 24—Royal Hort. Soc. Coms. meet. Vegetable Sh. at R.H.S. Hall. (Lecture by Mr. C. Hermann Senn on "How to Cook Some of the Root Vegetables.")

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—55·2.

Actual Temperatures:—
London.—*Wednesday, September 18* (6 p.m.): Max. 62°; Min. 47°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, September 19* (10 a.m.): Bar. 30·2°; Temp. 56°; *Weather*—Fair.
Provinces.—*Wednesday, September 18:* Max. 59° Ireland N.W.; Min. 52° Shields.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10·30.

MONDAY, WEDNESDAY AND THURSDAY—
Sale of Bulbs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

WEDNESDAY—
Trade Sale of Bulbs, &c., at 1; Palms and Plants, at 4; at 67 & 63, Cheapside, E.C., by Protheroe & Morris.

The Origin of Life.

It was the result of a curious coincidence that the subject of the origin of life loomed so large at the Dundee meeting of the British Association. The president, Professor Schäfer, elected to treat of it in his address, and the zoologists and botanists, ignorant of Professor Schäfer's intention, agreed to hold a joint discussion of this matter. There are many who will incline to the opinion that a discussion on such a complex and baffling subject must be futile, and those who hold this view will point to the negative results which ensued from the debate.

This opinion, however, we do not share, and we think that, although the riddle of the universe—this origin of life—is as yet unread, it is useful for men of science who have expert knowledge of the recent advances made by biology, to endeavour to ascertain how these advances bear on the larger problems which vex the minds not only of scientists but of all thinking men. For another reason also we welcome this discussion. In olden times, before the advent of experiment as the instrument of scientific discovery, such a discussion could not, by the nature of the case, rest on any sound basis of discovered fact; it could only rest on the bosom of nothing. Now, if the discussion is to have any lasting influence on opinion or belief, it must be based on ascertained facts of life.

Let us, therefore, consider what are the facts brought forward by those who incline to the opinion that life originated automatically from non-living matter. The essential ideas put forward by the exponents of this view would seem to be as follow:—The evidence for the evolution of the higher forms of life from lower forms is, although not conclusive, very strong indeed: so strong, that it might almost be said of biologists that they are all evolutionists nowadays. The evolutionary hypothesis accepted, it would seem, at first sight, reasonable to extend that hypothesis to its logical conclusion, and to hold that the simplest forms of life had their origin in non-living matter.

A great difficulty, however, lies in the path of those who do thus extend the evolutionary hypothesis. The simplest forms of life with which we are at present acquainted are extraordinarily complex. Anatomically they may appear to be very simple, a semi-fluid mass of protoplasm in which but little structure is manifested; but these simplest forms of life are, physiologically, extremely complicated. They possess the powers of assimilation, of growth, of movement. They react by precise and purposeful methods to the various factors of their environment; in other words, they exhibit the most remarkable attribute of living things, that of sensitiveness. Such rudimentary forms of life are able to manufacture various kinds of complex agents—enzymes—which severally carry out in the cell the chemical changes which accompany life. Some of these changes are antagonistic to others, yet the simple cell controls them all in the interests of the organism.

Therefore, the advocates of a terrestrial origin of life are driven almost necessarily to imagine the existence of forms of life of a much lower order than that to which amœbæ and the like belong. Nor are they unjustified in making this assumption, for modern discovery has demonstrated the existence of organisms too small to be seen by the microscope and so minute that they are capable of passing through a Pasteur-Chamberland filter. Thus the organism responsible for the mosaic disease of Tobacco belongs to this class of infra-microscopic beings. Hence it is tempting to suppose that the simplest organism consisting of a single cell or mass of protoplasm is a complex body, formed by the aggregation of large numbers of infra-microscopic organisms, and those who take this view suggest that, by the coming together into a symbiosis of such minute living particles the simplest living organism, as we know, came into being.

Fascinating as this speculation is, it must be scrutinised more closely before it may be accepted. We must ask what evidence is there that the infra-microscopic organisms are less complex physiologically than those of larger size? Do they live, as it were, only a partial life and not the full life of the larger single cell? If their life is as complex as that of the amœba, then the existence of the infra-microscopic organism helps us nothing, for such organisms do nothing to bridge the gulf between the living and the dead. If it is less complex, then it behoves those who use the argument under consideration to show us wherein their simplicity lies. Are they incapable of assimilation, of growth, of movement, or of the manifestation of sensitiveness? So far as we are aware, this fundamental question has not been answered, and until an answer is forthcoming, the conception of the life of a unicellular organism, as the expression of the assembled activities of constituent symbionts, must remain but an interesting speculation. Even though the hypothesis were accepted, it would still remain to ask by what process are these constituent contributory infra-organisms assembled? How did they "live" alone, and how did they come together? These are problems which the advocates of a terrestrial origin must solve before this hypothesis may be regarded as a scientific theory.

To attempt to sum up justly the various theories which have been put forward to account for the origin of life would be almost as difficult as to attempt to define life itself. The manifestations of life are so complex that it is impossible to say whether the living substance is a chemical compound or mixture of such compounds, whether the living cell is to be likened to a cunningly-contrived piece of mechanism, which was created as such or "made itself," or arose out of a chance or designed meeting of contributory and complementary units of a lower order, or whether the living cell is best likened to a factory, in which are various apparatuses for the carrying on of different and often contradictory processes. If it is impossible to picture an image of life, it is yet more impossible to conceive of its origin. That all living organisms work in obedience to chemical and physical laws appears to be incontrovertible; but this by no means supplies an argument for the chance origin of life from dead matter. Nevertheless, we hold, as stated at the outset, that discussion on this high subject is right and useful. It diverts us from the smaller matters of the daily routine, it chastens us in our contemplation of achievement, and it brings to bear on the problem which now seems beyond solution facts which some day may enable us to say with the soothsayer: "In Nature's infinite secrecy a little can I read."

Supplementary Illustration.—Blush Rambler is certainly one of the best of the rambling Roses, for in addition to its beautiful and abundant trusses of flowers the plant is a vigorous grower, and soon covers a pillar or archway with growth. The specimens shown in the Supplementary Illustration were raised from cuttings, a method of increasing this class of Rose which is comparatively easy. Mr. Taylor, to whom we are indebted for the photograph, informs us that he planted two specimens, each not more than 1 foot high, in April, 1910. The trellis work is 7 feet high, and 1 foot 6 inches wide, and it is now completely covered with the Roses. During the past season the plants produced no fewer than 375 trusses of flowers, and many of the inflorescences were 11 inches in diameter. The colour of the flowers is indicated in the name. The variety was first distributed in 1903 by Messrs. B. R. Cant & Sons.

Royal Horticultural Society.—The next meeting of the Committees will take place on the 24th inst. in the Society's Hall, Vincent Square. At the 3 o'clock meeting in the Lecture Room, Mr. C. Hermann Senn will give an address on "How to Cook some of the Root Vegetables."

The National Sweet Pea Society will hold its London exhibition of 1913 at the Royal Horticultural Hall, Westminster, on July 17. It is hoped that a northern provincial exhibition may be arranged for the second week of August, 1913. The Society's annual meeting will be held this year on October 17 at the Hotel Windsor, Victoria Street, Westminster, and the business meeting will be followed by a conference.

Presentation to a Seedsman. — Mr. James Brand, manager of Messrs. Arthur S. Ritchie & Co., Belfast, will shortly proceed to Canada, where he intends to commence business on his own account. As a token of the high esteem in which he is held, Mr. Brand was entertained at dinner on the 9th inst. by the members of the staff and a few friends, who made him a suitable presentation and expressed their best wishes for his success in Canada.

Bequest to Botany.—The South London Botanical Institute at Herne Hill will benefit considerably under the will of Mr. Allan Octavian Hume, who left the sum of £15,000 to be spent on the advancement of the study of botany in South London. The South London Botanical Institute, writes a correspondent, was incorporated in July, 1911, and a series of public lectures explaining the work of the institute is about to be given. The institute has 40,000 botanical specimens mounted and enclosed in black japanned cases. It is hoped to acquire two acres of land, and to lay out a landscape garden and a water garden.

Visit of Mr. Edward White to Canada and Sweden.—Mr. Edward White has just returned from a visit to Canada and Sweden. He had been invited by the Canadian Government to advise them on the arrangement of departmental buildings at Ottawa about to be erected on an area of about 30 acres of land occupied at present by houses and streets. The site is on the cliff overhanging the Ottawa River and adjoining the Parliament buildings, and there is a sheer drop of nearly 200 feet to the river. The Government intend to make the buildings in every sense worthy of Canada. Mr. White's visit to Sweden was undertaken for the purpose of advising the authorities on the plans for restoring and improving the gardens of the Royal palaces at Stockholm and Drottningholm. The latter place is the "Windsor Castle" of Sweden, and it occupies a splendid position. Mr. White may be congratulated on having accomplished in five weeks a journey attended with so much important work.

Railway Station Gardens.—The directors of the Glasgow and South-Western Railway Company have decided to increase the total amount offered in prizes for the best-kept gardens at stations on their line, from £100 to £150, and they announce that in future there will be 47 prizes in five classes, the amounts ranging from £5 in the first class to £1 in the fifth. This year 30 prizes have been awarded. Of these six are in the first class, and the stations and station-masters are: Dalbeattie, Mr. W. B. Kirkpatrick; Ruthwell, Mr. Jas. Barr; Dalrymple, Mr. Robert Fisher; Dalmellington, Mr. William Taylor; Carronbridge, Mr. John Rae; Moniaive, Mr. George Macdonald

Culinary Peas as Pills.—With an ingenuity worthy of a better cause a man at Portsmouth has coated ordinary Peas and sold them as "tasteless kidney and liver pills." The police stated that when subjected to the warm temperature of the propagating house in the local park the "pill" grew.

Ernest Calvat.—The memorial subscribed for by Chrysanthemum growers all over the world, has now been erected on the tomb of the great French Chrysanthemum raiser in the cemetery at Grenoble where he lived. The French Chrysanthemum Society was represented by several of its members on the occasion of the inauguration of the monument, M. Ph. Rivoire making a suitable speech. M. Calvat's son-in-law replied on behalf of the family. Only a few members of the family and representatives of the horticultural societies to which Calvat belonged were present.

Agricultural Education in Canada.—Agricultural Colleges have been established at various points in the Dominion. One of those most recently established is that at Winnipeg, under the auspices of the provincial Government of Manitoba. The president of this college, Professor W. J. Black, is now on a short visit to Great Britain, and, while here, will study the emigration problem, more particularly in connection with its relation to his work at the Agricultural College. In the course of an interview Professor Black gave a very interesting account of the work of his college. This latter has only been in existence six years, yet in that time its work has grown to such an extent as to make the buildings originally erected quite inadequate to meet present demands. Consequently the Manitoba Government is spending a large sum of money on the erection of an entirely new set of buildings, which will be available towards the close of the present year. The college course is very comprehensive and extends over two winter sessions of five months each, and is designed to meet the requirements of the young farmer. A condition of entrance is that the students should have worked for at least two years on a farm. A young man who has worked on a British farm for two years may, without any further period of farm work, enter the college immediately on his arrival in Canada, and Professor Black will be glad to correspond with parents and others who are interested with a view to making arrangements for the reception of students on their arrival in Western Canada. Information regarding the college can be obtained from the Dominion Government Emigration Offices in Great Britain, or Professor Black may be addressed directly at Winnipeg.

Tobacco Cultivation in Hampshire.—On behalf of the Development Commissioners, Lord Basil Blackwood has written to Mr. A. J. Brandon, of Redfields, Church Crookham, Hampshire, a letter, in which he states:—"It is very improbable that the rebate will be continued in future years, but the Commissioners will be prepared to help approved growers to make a start. It is obviously desirable that the tobacco grown should be concentrated, so far as possible, at various centres. If 40 or 50 acres can be grown in one district the Commissioners will give the growers every assistance." A later letter reaffirmed that the rebate would not be continued, but said that the Commissioners were still considering the matter, and seemed most anxious to render assistance from the Development Fund. It was, however, unlikely that such aid would take the form of direct subsidy, but would rather help to form re-handling associations to buy the tobacco from the farmer on reasonable terms, and to prepare it for the market. *Times.*

A Rose Number.—Our Paris contemporary *La Vie à la Campagne*, in one of its recent issues, devotes considerable attention to Roses. The number is enclosed in a pretty cover having a reproduction in colour of one of Redouté's paintings. Several others from the same artist appear in the issue, besides about 130 illustrations of Rose gardens, views, and designs connected with Rose culture. Besides dealing with French Rosaries, such as the gardens at l'Hay and Bagatelle, the issue contains views and notes of Rose gardens at Downside, Aldenham House, Gatton Park, Hatfield, Knebworth, and other notable English gardens. There are numerous articles on many subjects relating to the flower.

Indian Forest Service.—The regulations for recruiting of probationers for the Indian Forest Service in 1913, show that the intention to lower the age limits has been so far modified that the limits will remain, for 1913, the same as hitherto, namely, 19 to 23 years on July 1, 1913.

High-level Plants in the Karakoram.—Under the title *Relazione sulle Piante raccolte nel Karakoram*, Prof. R. Pirotta and Dr. F. Cortesi have published a brief account of the botanical collection made by the Duke degli Abruzzi's expedition. It is extracted from the larger work on the expedition, and is interesting as giving the details of localities at high levels. Charming photographs are given of Saxifraga imbricata, Sedum Rhodiola and Potentilla pumila as growing on the rocks at about 16,500 feet to 18,300 feet. The Saxifrage was found at the higher level, and all the plants were flourishing in these elevated stations and highly floriferous.

Agricultural Returns, 1912.—The preliminary statement of the agricultural returns for England and Wales collected in June last shows an increase in the arable area of 36,071 acres and a decrease in the area under permanent grass of 115,432 acres. The areas of each of the four corn crops were substantially increased: Wheat by 20,824 acres, or one per cent., Barley by 32,205 acres, or two per cent., Oats by 25,221 acres, or one per cent., and Rye by 13,860 acres, the latter representing over a third of the previous year's total. The area under Beans shows a reduction of 24,437 acres, but there was an increase under Peas of 34,250 acres. Potatos show an increase of almost eight per cent., the total now being 463,007 acres almost equal to the 464,208 acres returned in 1905. The largest decline in any arable crop was a drop of 51,715 acres under Turnips and Swedes. Other fodder crops show increases, some of them considerable, such as Mangolds (35,575 acres), Kohl-rabi (7,074 acres), and Vetches (27,072 acres). Flax again nearly doubled its area, and the total is now 830 acres. Hops have increased by 1,775 acres, or more than five per cent. Clover and rotation grasses show a material diminution, chiefly in those reserved for Hay. The permanent grass reserved for hay shows an increase of 110,497 acres, while that for grazing decreased by 225,929 acres.

Publications Received.—***Enquire Within upon Poultry and Egg Production.*** Gratis and post free from Captain Ralph R. Allen, Sawbridgeworth, Hertfordshire.—***The British Fern Gazette.*** September. (Westmoreland: The British Pteridological Society.) — ***Imports and Exports of Corn, Live Stock, and other Agricultural Produce and Trade in Live Stock with Ireland.*** (London: Board of Agriculture and Fisheries.) Price 5½d.—***Index of Plants, 1912.*** (Singapore: Botanic Gardens.) Price $1.00. — ***Proceedings and Journal of the Agricultural and Horticultural Society of India.*** (Calcutta: Agri-Horticultural Society of India.)

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

BLACK CURRANTS.—In your last issue, p. 206, *A Southern Grower* attributes the reversion of Black Currants to their having been propagated from a faulty stock, but I can assure him that such was not the case in the instance referred to in my previous letter; the cuttings were taken from trees grown specially for the purpose and carefully looked over every season to see if they are all right, also a careful examination of young stock shows only about one plant per thousand which has reverted. Why then do they "revert" later on? It would seem that *A Southern Grower's* trees are also given to this, in some measure at least, as he speaks of treading down those affected. What we want to learn is why this reversion takes place at all. I find one or two observers have seen it so long ago as 20 years, but they say it was quite rare then and only an odd plant was noticed. They all agree that it has increased very much of late years, but cannot suggest why this should be. I always read *Southern Grower's* communications with interest, but I must disagree with his assertion about sun being essential to the production of high colour in Apples; this season Apples are better coloured than usual, and from July 26 onwards for five weeks we had only one day's sunshine (in this locality), so that they must have coloured in spite of these adverse conditions. *A. H. Pearson.*

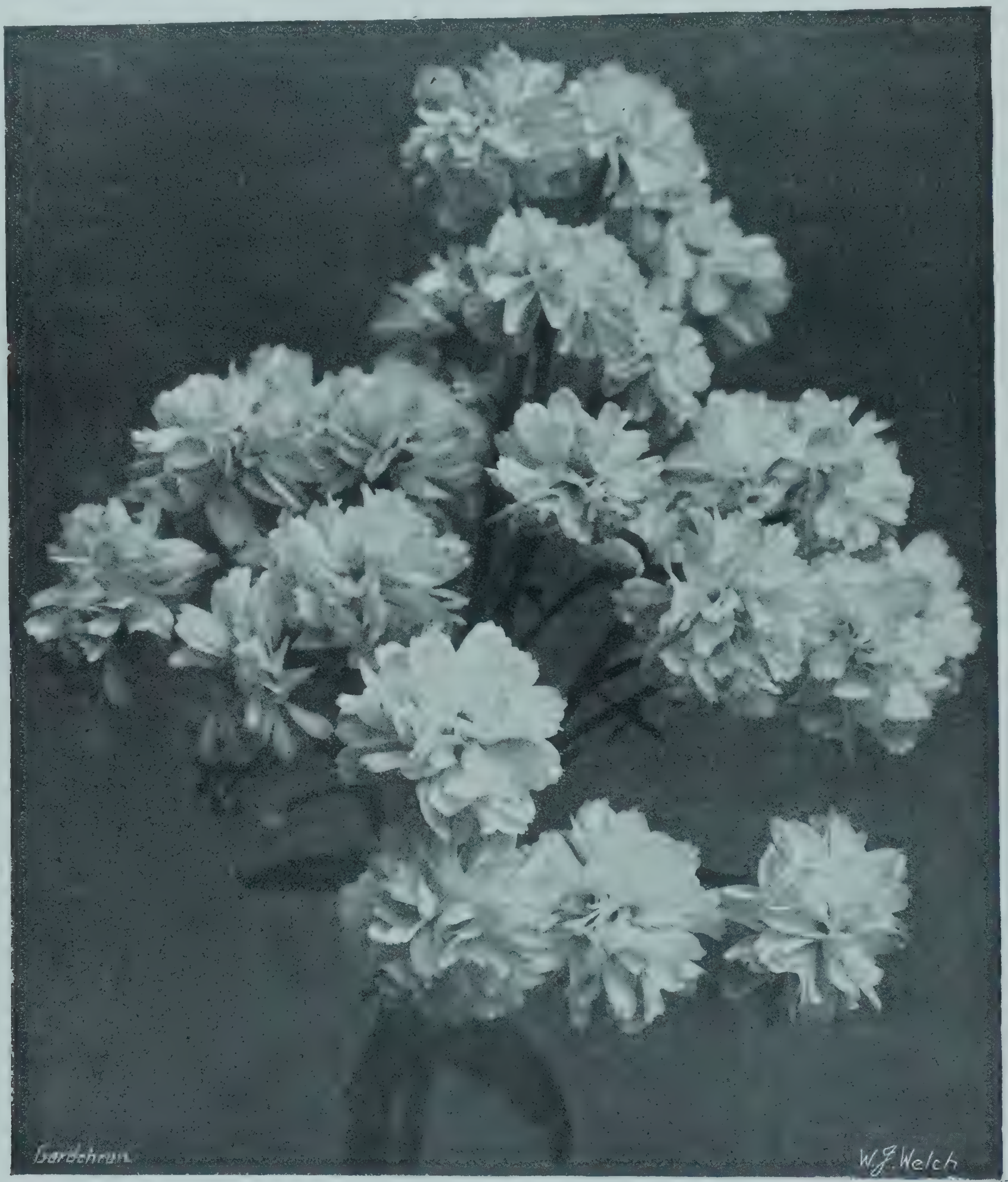


FIG. 104.—ACHILLEA PTARMICA "PERRY'S WHITE."
(Received R.H.S. Award of Merit on the 10th inst.)
(See p. 235.)

THE HISTORY OF THE JARGONELLE PEAR.—While I am not qualified to enter upon a philological discussion with the author of the above entitled article in your recent issue (see p. 198), I would venture to differ from him on the ground of pomological record as to the history of this Pear. The assumption that it is identical with the Cuisse Madame is quite unsupported by the evidence of Le Lectier, Quintinye, and more recent authors. The English Jargonelle is the Epargne of France, and first appears in Le Lectier's rare catalogue dated 1628, the only known copy of which exists in the Bibliothéque Nationale at Paris. This same list contains also the Cuisse Madame as a distinct variety. Later in the same century, Quintinye separates these two varieties, Cuisse Madame ripening in July, Epargne in August. An illustration of the two sorts side by side may be seen in Noisette's *Jardin Fruitier*, first edition, plate 27. Following the general rule in pomological nomenclature, it is probable that the Cuisse Madame was the better known, or earlier, of the two, and the larger size and somewhat similar appearance of Epargne caused it to be called Grosse Cuisse Madame. It will, I believe, always be found that the name of a fruit will exist in an unqualified form before it is qualified by adjectives such as Grosse, Petit, &c., &c. The true and original Jargonelle was also known to Le Lectier, and is perfectly distinct from either of the above, see Noisette's *Jardin Fruitier*, plate 38. This is the variety described by Merlet. The name seems then to have been used to designate a group of Pears, and it may be in this way that the Epargne has had this name attached to it in this country. If I may add my guess as to the origin of the word Jargonelle, I ask may it not be a corruption of the word Garzignole, a name used by Agostino Gallo for a group of Pears in his "*Vinti giornata dell agricoltura*?" These Pears were late varieties it is true, but the fifteenth century was not too particular as to small details of this sort, and the name may have persisted apart from the objects to which it was formerly attached. *E. A. Bunyard.*

ERODIUM CHRYSANTHUM.—For many years past I have had in my garden several plants of Erodium chrysanthum, but have never obtained any seed. In a Gloucestershire garden I saw seed in abundance, and seedlings coming up in the path. Seeds from this garden were given me, but so far I have not had any plant that yielded seed. When visiting a nursery garden on August 10 last

I was shown a plant which was named Erodium chrysanthum. I demurred, as the foliage was green instead of grey and the flower more white than yellow; it then occurred to me that a difference in the seed-bearing plant had been pointed out to me, and on examining the flower I found it had only a pistil. The owner kindly gave me the plant, and the next day I planted it close to a male plant and pollinated the flower. On September 12, 32 days afterwards, the seeds were ripe and on the point of scattering. Close to this Erodium is a plant of E. amanum. A friend, no mean authority, was surprised that the same plant bore both staminate and pistillate flowers. This made me look about among the self-sown seedlings, and among them I found several that had only pistillate flowers. E. macradenium and E. gruinum have, here, both sexes on the same plant, and it would be interesting to know the facts in connection with the other species commonly grown. *A. C. B.*

Birmingham Horticultural Society.—It is with very great pleasure that the committee is able to announce a highly satisfactory result from the recent show of the Birmingham Horticultural Society, as, notwithstanding the inclement weather, the profits amount to the sum of over £100. At a meeting of the General Committee held recently a resolution was passed according a vote of thanks to the exhibitors. It was also felt desirable that an explanation should be forthcoming regarding the shortage of tent accommodation, due to an error on the part of the contractors, and whose acknowledgment and apology have been received. The committee tenders its sympathy to any who were thereby unavoidably inconvenienced, and unhesitatingly state that this is a matter which will be remedied upon all future occasions, and no effort will be spared to ensure the comfort and convenience of exhibitors. *Wm. G. Carradine, Secretary.*

Tits in the Garden.—I was interested in the note on the bullfinch (see p. 197), and should like to know something about Tits, especially the Blue Tit. I have looked upon them as my friends in the garden, and have placed nesting boxes for them and fed them all last winter and spring. This summer they have rewarded me by destroying my buds of Sweet Peas. I cannot think the birds are after aphis, as they attack the buds as soon as they are formed, and seem very pleased with themselves, for they titter away and devour the next bud. Has any reader experienced anything similar with these birds? *John T. Graves, Burton Joyce, near Nottingham.*

Colour in Hardy Fruits (see pp. 201, 216).—We have more than 150 varieties of Apples, and the fruits in this district produce good colour, the soil being loam on chalk. After comparing the seasons 1911 and 1912 I have come to the conclusion that moisture plays an important part in colouration. During the season 1911, we had very little colour in our fruits. Worcester Pearmain and other early sorts compared unfavourably with fruits of the present season. As soon as there was dew in 1911 colour development was noticeable, and we had finely-coloured late varieties. This season early varieties of Apples are beautifully coloured, and I am in full hopes that the later sorts will develop colour up to my full expectation. Respecting Apples in the orchard house, trees that are allowed to stand on a damp ash bottom produce finer coloured fruits than those that are placed on a drier base and in full glare of the sun. *M. Nicholls, St. Clere Gardens, Kemsing, near Sevenoaks.*

———I read Mr. Gilthorpe's remarks on the colour of hardy fruits with great interest, and can confirm what he states. Our hardy fruits are as well coloured, and in some cases much brighter than last year. We need a lot of rain in these gardens, the soil being a fairly-light, good loam, with a hard, gravelly-clay subsoil. Varieties of Apples particularly bright this year are The Houblon, Bismarck, Peasgood's Nonesuch, Coronation, Ribston Pippin (a great favourite here), Worcester Pearmain, and Newtown Pippin, which, perhaps, is the most remarkable of all, for the variety has never before developed colour in these gardens; in fact, the fruits have never properly ripened, although left on the trees until very late in the season. All Apples are ripening very early, and will not be so large as usual. Pears are colouring well. Many varieties of Perry Pears on this estate and in the neighbourhood are a wonderful sight. Peaches and Nectarines were highly coloured, although the flavour was not extra good. White and black Grapes are of the average colour. *H. Prentice, Hartbury House Gardens, Gloucestershire.*

Lilium giganteum at Lochinch Castle, Wigtownshire.—I should perhaps have mentioned in my contribution on the Lily season in Scotland in your last issue (see p. 209) that the immense specimen of Lilium giganteum growing in Lady Dalrymple's "wild garden" in an extremely shady situation, besides reaching a height of nearly 13 feet, had no fewer than 16 enormous flowers. Its only rival that I have heard of, in Scotland at least, within the last decade was the plant which reached almost an equally commanding stature in Cavens Gardens, Kirkbean, Kirkcudbrightshire, about 10 years ago. It was 12 feet high, but had not, if I rightly remember, an equal number of flowers. *David R. Williamson, Wigtownshire, N.B.*

Mimulus Lewisii (see p. 191).—The *Index Kewensis* refers Mimulus roseus to M. Lewisii. The plant I have as M. roseus is a native of North-west America, and is generally hardy in Scotland, though not now much seen in gardens. It does not like too much dry weather, and I have seen it suffer greatly and even die in times of prolonged drought. If a mulching is not provided it should be planted in a moist place or be well supplied with water during the growing and flowering season. I have known the plant for many years, and I saw a good specimen in a Kirkcudbrightshire garden recently. It had come from Barskimming, in Ayrshire, where it is hardy. *S. Arnott.*

ACHILLEA "PERRY'S WHITE."

This fine novelty is a seedling variety of Achillea Ptarmica, raised at Perry's Hardy Plant Farms. It grows over 3 feet in height, and has stiff, rigid, much-branching stems, the laterals being 1 foot or more in length, and forming a pyramidal bush 3 feet through. The double, white flowers (see fig. 104) are produced in the wildest profusion, and each flower measures 1 inch in diameter. The plants flower from June to late autumn, and the variety is extremely valuable for cutting or for decorative purposes. Messrs. Perry exhibited the novelty at the R.H.S. meeting held on the 10th inst., and gained an Award of Merit for their novelty.

SOCIETIES.

ORSETT AND DISTRICT AGRICULTURAL AND HORTICULTURAL.

September 5.—The eighteenth annual exhibition of this society, held on this date in the beautiful grounds of Orsett Hall, was in every respect a great success, the number of entries, which amounted to 732, being a record. Several large growers of hardy fruit for market reside within the Orsett district, which, in respect to soil and situation, is admirably adapted for the production of first-rate produce. Consequently, Apples, Pears, and Plums of the best quality are always a great feature at the Orsett show.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

September 5.—*Committee present:* Rev. J. Crombleholme (in the Chair); Messrs. R. Ashworth, J. Bamber, J. C. Cowan, J. Evans, W. Hatcher, W. Holmes, A. J. Keeling, J. Lupton, D. McLeod, W. Morgan, C. Parker, H. Thorp, Z. A. Ward, A. Warburton, and H. Arthur (secretary).

Silver-gilt Medals were awarded to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), who showed an excellent group of well-grown plants of varieties of Cattleya "Iris"; and R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), for a miscellaneous group.

Large Silver Medals to J. McCartney, Esq., Bolton (gr. Mr. Holmes), for a group of Cattleyas and Odontoglossums; and Mr. E. F. Davidson, Twyford, Berkshire, who staged a group of very choice plants.

Silver Medals to Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), for a small group of Cattleyas, Cypripediums, and Miltonias; Mr. J. Evans, Congleton, for a group of Cattleyas; the Liverpool Orchid and Nursery Co., for a group comprising Lælias, Cypripediums, and Vandas; and Messrs. Stuart Low & Co., Middlesex, for a miscellaneous group.

Other exhibitors were Messrs. A. J. Keeling & Sons, Bradford, and Mr. W. Shackleton, Great Horton.

HANWELL AND GREENFORD HORTICULTURAL.

September 11.—The seventh annual show of this society was held at the Park Hall, Hanwell, on this date. Several fine non-competitive groups were exhibited. One, shown by Leopold de Rothschild, Esq., Gunnersbury Park, was composed of well-coloured Codiæums (Crotons), Palms, Begonias, Spiræas, and Lilies. G. L. Eastes, Esq., of Greenford Green, staged a group of plants grown from seed imported from China three years ago. Another fine group was exhibited by the president, A. W. Perkin, Esq. The 1st prize in the class for allotments was won by Mr. W. Jeffries, who was awarded 91 points, Mr. E. Daniels being placed 2nd with 78 points.

VEGETABLE SHOW AT MANCHESTER.

September 12, 13.—Messrs. Dickson & Robinson, Manchester, held their fourth annual show of vegetables on the above date in the large hall of the Coal Exchange. The entries numbered over 400. Onions were exceedingly numerous, and generally finer than at any preceding show.

The best exhibit of four bulbs of "Premier" Onion was entered by Mr. Avery, Loudwater House Gardens; 2nd, Mr. H. Folkes, Gaddesden; 3rd, Mr. Wheeler, Wenvoe Castle. There were 58 collections in this class, which was open to the United Kingdom. One bulb of Mr. Cobb's set was a perfect specimen; not before has such a fine bulb of this variety been shown in Manchester.

For four bulbs of Premier grown north of Birmingham over 30 entered, and most of the bulbs were of fine quality, size, and finish. Mr. T. Jones, Ruabon, won the 1st prize; Mr. Smith, Newtown, the 2nd prize; and Messrs. G. & T. Simpson the 3rd prize.

In Class 5 for one bunch of Moneymaker Tomato, Mr. E. Winchester, Rubery, easily won the 1st prize; 2nd, Mr. Wilkinson, Tyntesfield Gardens; 3rd, Mr. J. C. Reeves, Horsham.

Mr. H. Tysoe, Bedford, showed the best pods of Hercules Pea, and Rt. Hon. Lord Bishop of Bath and Wells (gr. Mr. Leakey), the best pods of Lancastrian Pea,

Mr. H. Tysoe won the 1st prize for "Exhibition" Runner Beans, and the Rt. Hon. Countess Cowper (gr. Mr. Stannard) the 1st prize for "Market Favourite" Beet.

The best Sugar Loaf Cabbages were shown by C. L. Blundell, Esq. (gr. Mr. Guy); the best "Perfection" Carrots by Mr. James White, Bampton; the best three heads of "Standwell" Cauliflower by Mr. Thos. Jones; three sticks of "Prize Pink" Celery by Mr. W. Hooper; six plants of Exhibition Leek by Mr. H. Tysoe; six roots of Hollow Crown Parsnip by Rt. Hon. James Round (gr. Mr. Bishop); three heads of "Early Favourite" Savoy by C. L. Blundell, Esq. (gr. Mr. Guy); and six roots of "Manchester Market" Turnip by Capt. H. Lonsdale (gr. Mr. Mills).

Mr. Ben Ashton gave a lecture on the evening of the 12th, and Mr. Tysoe, one of the most prominent of the prize-winners, delivered a lecture on the following evening on the culture of vegetables.

WATFORD HORTICULTURAL.

September 13.—At the meeting of this society held on the above date, the chairman, Mr. E. S. Theobald, presented Mr. G. W. Cuthbertson with a Rose bowl on behalf of the members as a token of their esteem, on his retirement from the office of treasurer, which he had held since the formation of the society. The latter part of the evening was devoted to a paper on "Fruit Gathering and Storing," by Mr. H. Barrow, of Rickmansworth Park.

ROYAL CALEDONIAN HORTICULTURAL.

September 11, 12.—Notwithstanding the wet, sunless season, the autumn show of this Society, which was held in the Waverley Market, Edinburgh on the above dates, compared favourably with earlier exhibitions. The number of entries was about equal to the average of the last three years, and the quality of most of the exhibits was good. The colour of the Apples was not up to the usual standard, and in cut flowers also the ill-effects of the season were to be seen. Roses were poor in colour generally, and Sweet Peas had none of the brilliance which they show in a good season. Vegetables were very good, and pot plants generally were quite up to the usual quality. The trade exhibits, though rather smaller in number than last year, made a good display, and altogether the spacious hall had a well-furnished appearance. The weather was fine, though cold.

FRUIT.

(Gardeners and Amateurs.)

There were three entries in the class for a table of dessert fruit, decorated with plants, flowers, or foliage, or any combination of these (Orchids excluded). The 1st prize was awarded to the Earl of Harrington, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre). The following fruits were shown in the exhibit, and the points awarded are appended :—

	Max.	Awarded.
Grape Madresfield Court ...	9	... 7
Grape Muscat of Alexandria	10	... 7½
Grape Black Hamburgh ...	9	... 6½
Grape Gros Maroc	8	... 7
Peach Golden Eagle	8	... 6½
Peach Princess of Wales ...	8	... 6
Nectarine Pineapple	8	... 6½
Fig Negro Largo	7	... 5
Fig Brown Turkey	7	... 4½
Plum Jefferson	6	... 4½
Pear Triomphe de Vienne ...	8	... 7½
Pear Marguérite Marillat ...	8	... 7
Apple Cox's Orange Pippin...	7	... 6
Apple Washington	7	... 5½
Melon Scarlet Seedling ...	8	... 7
Melon Conqueror	8	... 6½
Total for fruit	126	100½
Decoration :—		
Beauty of flower and foliage	6	... 5
Harmonious blending of colours	6	... 5
General arrangement for effect	6	... 4
Total for decoration ...	18	14

The Earl of Wemyss, Gosford (gr. Mr. Wm. Galloway), was placed 2nd. He was awarded 92½ points for fruit out of a possible 126, and 13 points for decoration. The American Ambassador, Wrest Park, Beds. (gr. Mr. G. McKinlay), was placed 3rd with 80½ points for fruit out of a possible 130, and 11 points for decoration.

In the class for a collection of 12 dishes of fruit, grown in Scotland, not more than two dishes of each of the following kinds:—Grapes, Peaches, Nectarines, Apples, Pears, and one dish of each of any other kind, the Marquis of Tweeddale, Yester, Haddington (gr. Mr. Wm. Hunter), was awarded the 1st prize; Lord Elphinstone, Carberry Tower, Musselburgh (gr. Mr. D. Kidd), was placed 2nd; and J. Neilson, Esq., Mollance, Castle Douglas (gr. Mr. J. M. Stewart), 3rd. Lord Tweeddale's fruits included two bunches of Grape Lady Downe's; two bunches Muscat of Alexandria (two bunches to a dish); Melon Royal Sovereign; Peaches Bellegarde and Stirling Castle; Nectarine Humboldt; Apricot Moor Park; Fig Brown Turkey; Plum Jefferson; Apples Emperor Alexander and Peasgood's Nonesuch; and Pear Pitmaston Duchess. For the collection of 12 dishes of fruit grown in an orchard house the American Ambassador was the only exhibitor, and he was awarded the 1st prize.

The Scottish Challenge Trophy, valued at 50 guineas, was offered for the best eight bunches of Grapes, not more than two bunches of any variety. Superior cultivation and finish to be considered of the greatest importance, and the collections to be decorated with foliage plants in pots, cut flowers, foliage, or any combination of these. The 1st prize, which included £6 in cash and a gold badge, was awarded to Lord Rowallan, Rowallan, Kilmarnock (gr. Mr. J. Dixon). The trophy having been won three times by this competitor now becomes his property. 2nd, The Earl of Harrington (gr. Mr. J. H. Goodacre); and 3rd, W. Mackay, Esq., Ascog, Bute (gr. Mr. D. Hallidey).

The following were the bunches shown in the 1st prize exhibit, with the points awarded :—

	Max.	Awarded.
Muscat of Alexandria ...	10	... 8
Muscat of Alexandria ...	10	... 7
Muscat Hamburgh	9	... 7½
Muscat Hamburgh	9	... 7
Madresfield Court	9	... 8
Madresfield Court	9	... 8
Black Hamburgh	9	... 6
Black Hamburgh	9	... 6
	74	57½

The Earl of Harrington obtained 55½ points out of a possible 74; Mr. Mackay 53 points out of a possible 71; and Mr. Holm Rigg 42½ out of a possible 74.

Lord Balfour of Burleigh, Alloa (gr. Mr. J. J. Wann), was successful in the class for four bunches of Grapes, distinct varieties. His varieties comprised Muscat of Alexandria, Muscat Hamburgh, Mrs. Pince, and Black Alicante. Sir Herbert Maxwell, Bart., Monreith (gr. Mr. S. Gordon), was a good 2nd, showing Muscat of Alexandria, Buckland Sweetwater, Mrs. Pince, and Alnwick Seedling. The Earl of Seaforth, Brahan Castle, Ross-shire (gr. Mr. W. Campbell), excelled in the class for two bunches of Muscat of Alexandria, and the Earl of Wemyss was successful in the class for two bunches of Black Hamburgh. In the single-bunch classes Mrs. Nisbet Hamilton, Archerfield, Dirleton (gr. Mr. Thos. McPhail), secured the premier award for Muscat of Alexandria; the Earl of Harrington excelled for Black Hamburgh; Wm. Forbes, Esq., of Callander, Falkirk (gr. Mr. J. Middleton), was awarded the 1st prize for Black Alicante; Sir Herbert Maxwell was successful for Alnwick Seedling; Miss Carse, Springbank, Musselburgh (gr. Mr. L. Moodie), won in the class for Gros Colman; Lord Elphinstone showed the best Lady Downe's; Arthur Jas. Balfour, Esq., M.P., Whittinghame, Prestonkirk (gr. Mr. G. Anderson), excelled for Appley Towers; Lord Rowallan, Madresfield Court; and Col. Stuart Richardson, Ballathie, Perthshire (gr. Mr. J. E. Davis), won in the class for any Grape introduced since 1900, with the variety Prince of Wales.

The Earl of Harrington was placed 1st for six Peaches, with "Princess of Wales"; 2nd, Mrs. Hamilton Ogilvy; and 3rd, J. Oswald, Esq., Dunnikier, Kirkcaldy (gr. Mr. J. K. Brown), who won the 1st prize for six Nectarines; 2nd, the Earl of Stair.

For 12 Apricots C. W. Cowan, Esq., showed the premier exhibit with "Large Early"; 2nd, the Marquis of Tweeddale.

There were three competitors for the collection of 12 varieties of Apples, and the 1st prize was awarded to Mr. R. Whiting, Credenhill, Hereford; 2nd, Mr. E. W. Caddick, Caradoc, Ross; and 3rd, the American Ambassador.

In the class for a collection of Apples grown in Scotland out-of-doors, for which there were four entries, Col. Gordon, Threave House, Castle Douglas (gr. Mr. J. Duff), was awarded the 1st prize and the Malcolm Dunn Memorial Medal.

J. Harriott Bell, Esq., Forgandenny (gr. Mr. D. Nicoll), was the 1st prizewinner for four dishes of Apples (pot grown or orchard house), with a splendid collection, the fruits including Gascoyne's Scarlet, Peasgood's Nonesuch, Emperor Alexander, and James Grieve. The American Ambassador was the only other competitor, and he was awarded the 2nd prize.

The Marquis of Lansdowne, K.T., Meikleour, Perthshire (gr. Mr. T. Chisholm), excelled in the class for six dessert Apples.

In the single dish classes (six fruits) Mr. R. M. Whiting was placed 1st for Charles Ross, Duchess of Oldenburg, Dumelow's Seedling, Stirling Castle, Lord Suffield, Beauty of Kent, Ecklinville; Col. Gordon, Threave House, for Gascoyne's Scarlet, Grenadier, and Golden Spire; the Earl of Wemyss for Irish Peach; Mr. Caddick for James Grieve, Lady Sudeley, Bismarck, Cellini, Emperor Alexander, Lane's Prince Albert, Lord Derby, Peasgood's Nonesuch, Potts's Seedling, and Warner's King; J. Neilson, Esq., for Worcester Pearmain; the American Ambassador for Lord Grosvenor; and Mrs. Manners for Bailie Neilson.

H. J. Younger, Esq., Benmore, Argyllshire (gr. Mr. R. Greenlaw), was successful in the class for a collection of 48 Pears of 12 varieties.

In the class for a collection of Pears grown in Scotland, six varieties, four of each, the Earl of Wemyss excelled; 2nd, the Marquis of Lansdowne, Meikleour; and 3rd, Miss Hamilton, Rozelle.

For pot or orchard house grown Pears, the 1st prize was secured by Miss Hamilton, Rozelle.

PLANTS.

In the classes open only to gardeners and amateurs, Major Thorburn, Craigerne, Peebles (gr. Mr. T. McNeill), was awarded the 1st prize for four stove or greenhouse plants; 2nd, Sir Robt. Usher, Bart., Norton, Ratho (gr. Mr. G. McKinna); and 3rd, the Earl of Home. Sir R. Usher was placed 1st for a single stove or greenhouse plant; R. Hindle, Esq., Edinburgh (gr. Mr. A. Jeffs), was successful for one Orchid; whilst for three Cypripediums A. Dryburgh, Esq., Gogar Park (gr. Mr. A. Findlay), was the 1st prizewinner.

Sir Wilfrid Lawson, Bart., Carlisle (gr. Mr. A. Knight), excelled in the classes for two Crotons and two Azaleas, and also for six table plants; Sir R. Usher for two Dracænas; the Earl of Home for six foliage plants (exclusive of Palms), and for the same kind of plants in pots not exceeding 9 inches; and the Rt. Hon. R. C. Munro Ferguson, M.P. (gr. Mr. D. McLean), for two Coleus. The Earl of Home was successful for four Palms, also for two Palms and one Palm; and Sir R. Usher showed the finest Cycad.

In the class for four exotic Ferns, distinct species, exclusive of all others for which prizes were offered, Major Thorburn secured the 1st award; 2nd, A. Dryburgh, Esq.; and 3rd, Sir R. Usher. Miss Carse, Musselburgh, was 1st for four Adiantums; J. Herdman, Esq., Hazelbank, Murrayfield (gr. Mr. J. Hermiston), was successful for a tree Fern; Alex. Cowan, Esq., Valleyfield, Penicuik (gr. Mr. J. Turnbull), for four British Ferns (excluding dwarf kinds) and for six Scolopendriums.

CUT FLOWERS.

Gardeners' and Amateurs' Classes.

Mr. Jas. Stewart, Junr., Alloa, secured the 1st award for 12 spikes of Gladioli with fine specimens; 2nd, Mr. J. C. Fordy, Warkworth. For six spikes of these flowers Mr. A. Brydon, Innerleithen, was placed 1st. Mr. A. Bennett, Tweedmouth, excelled for six spikes of Hollyhock. Mr. Chas. Shaw, Kippen Station, was successful in the classes for 12 Cactus Dahlias, six Pæony Dahlias, and six bunches of single Dahlias. Mr. R. Sutherland, Kirkintilloch, secured the 1st place for six bunches of Cactus Dahlias; and Mr. Jenkins, Cambuslang, excelled in the class for six bunches of Pompon Dahlias.

In the Sweet Pea classes, Mr. John Fletcher, Auchenleath, was successful in the classes for (a) 12 bunches, (b) six bunches, and (c) a single bunch.

In the class for 24 Roses in not fewer than 18 varieties, the Earl of Dalhousie, Panmure, Carnoustie (gr. Mr. John Simpson), excelled; 2nd, Mr. L. Black, Kinglassie. Mr. J. Craig, North Berwick (gr. Mr. J. Mathison), was awarded the 1st prizes for (a) 12 H.T. Roses and (b) any scarlet or crimson Rose. Mr. J. Simpson was placed 1st for 12 T. Roses. T. R. B. Elliott, Esq., Harwood House (gr. Mr. J. Darling), showed the best pink Rose in the variety Mrs. W. J. Grant, whilst the best white Rose was Frau Karl Druschki, shown by this exhibitor.

In the Carnation classes Major McNeill, Galashiels (gr. Mr. Jas. Cochrane), was placed 1st for three vases of mixed border or Picotee varieties; and Sir J. Gilmour, Montrave, Leven (gr. Mr. J. Wilson), for three vases of perpetual-flowering varieties.

C. W. Cowan, Esq., secured the 1st prize for six bunches of herbaceous perennials. For 12 vases of hardy or half-hardy annuals Mr. J. Cochrane excelled; and Mr. Wm. Young, Craighlaw, Kirkcowan, won the silver cup presented by Mr. J. Phillips, Edinburgh, for a collection of flowers cut from the open border. Major Thorburn had the best single and Mr. J. Paul the best double Asters, whilst Mr. J. Richardson showed the best Phloxes.

The 1st prizes in the classes for white and coloured hand bouquets were won by Mr. A. Knight, Brayton, and for six buttonhole bouquets by Mr. A. Johnstone, Edinburgh. Mr. R. McAndie was 1st for one spray for a lady's dress, and Mr. D. Kidd, Carberry, had the best basket and vases filled with flowers, fruits or foliage of hardy trees and shrubs, and Mr. J. C. Brown, Edinburgh, for nine dwarf hardy Ferns. In the class for six table Ferns, J. Neilson, Esq., was awarded the 1st prize. Mrs. Dewar, Drylaw House (gr. Mr. W. T. Galloway), was successful for six single-flowered varieties of tuberous-rooted Begonias and for three double-flowered varieties. Mr. Joseph Plant excelled with three plants of single-flowered tuberous-rooted Begonias.

VEGETABLES.

Open Classes.

In the class for a display of vegetables arranged on a space 6 feet by 4 feet, to comprise 18 dishes, in not fewer than 12 kinds, Mrs. Fleming Hamilton, Craighlaw, Kirkcowan (gr. Mr. W. Young), was placed 1st, and Col. Stewart Richardson (gr. Mr. J. E. Davis) 2nd. In the class for a smaller collection arranged on a space 4 feet by 4 feet, in 12 kinds, grown in Scotland, Stephen Mitchell, Esq., Kippen Station (gr. Mr. C. Shaw), was awarded the 1st prize; 2nd, the Earl of Home; and 3rd, the Earl of Lauderdale, Thirlestane Castle (gr. Mr. R. Stuart).

AWARDS TO NOVELTIES.

First-class Certificate.

Montbretia Star of the East, exhibited by Mr. George Davison, Westwick Gardens, Norwich.

Awards of Merit.

Seedling Apple Thomas Jeffrey, exhibited by Mr. D. W. Thomson.

Seedling Apple Miller's Red Victoria, exhibited by Mr. G. W. Miller, Wisbech.

Tomato Simpson's No. 1, exhibited by Messrs. G. N. Simpson.

Chrysanthemum Crimson Polly, exhibited by Messrs. Wells & Co.

Pentstemon Mrs. F. Fulford, exhibited by Mr. F. Fulford, Montgomerie Castle, Tarbolton.

Collerette Dahlias Prince John, Princess Louise, and *Frogmore,* exhibited by Messrs. Dobbie & Co.

Rose Mrs. Andrew Carnegie, exhibited by Messrs. Cocker & Sons.

Chrysanthemum Mrs. J. Mason, exhibited by Messrs. Mason & Co.

AWARDS TO NON-COMPETITIVE EXHIBITS.

Gold Medal.—This was awarded to Messrs. Dobbie & Co.

Silver-gilt Medals were awarded to Messrs. Webb & Sons, Little and Ballantyne, Thomas S. Ware, Ltd., Thyne & Son, Storrie & Storrie, Sander & Sons, W. Cutbush & Son, John Downie, Young & Co., Cunningham, Fraser & Co., Mr. David W. Thomson, Messrs. W. Thomson & Sons, Ltd., and the King's Acre Nurseries, Ltd.

Silver Medals were awarded to Messrs. R. Wallace & Co., Mr. Jones (Kilkenny), Messrs. Wm. Wells, Ltd., Bakers', L. R. Russell, T. Methven & Sons, Stuart Low & Co., John Forbes, Ltd., Mr. McLeod, Tillie, Whyte & Co., R. B. Laird & Sons, Jas. Cocker & Sons, G. Gibson & Co., and Mr. D. McOmish (Crieff).

Bronze Medals to Mr. Robert Bolton, Messrs. G. Fairbairn & Sons, E. F. Fairbairn and Sons, Mr. G. W. Miller, Messrs. J. Mason & Co., Thomas Kennedy & Co., Mr. H. N. Ellison, Messrs. Gunn & Sons, and the Edinburgh and East of Scotland College of Agriculture.

NATIONAL ROSE.

September 12.—The National Rose Society has every reason to be well satisfied with their autumn show, which was held on the above date at the Royal Horticultural Hall, Vincent Square, Westminster. The weather was fine, and within a few minutes of the opening hour the hall was filled with visitors. The entries were more numerous than last year, and in nearly every class the competition was keen. It was interesting to note the effect of the unseasonable weather—in many instances the exceptional coldness had been responsible for an increase of colour, which gave the blooms a glorious appearance, but the lovely colour was not accompanied by much perfume. Many varieties which, even in autumn, usually have a delicious fragrance were almost scentless, but their appearance was charming. As usual the arrangements worked smoothly, and members of the Press were much helped by the excellent official lists of awards published by the secretary's department.

Classes for Nurserymen.

There were 12 entries in the class for 36 blooms, and a great many fresh, well-coloured blooms were shown. There seemed, however, to be a tendency to overdress the blooms, which had in some instances a very formal appearance. Mr. Hugh Dickson, Belfast, won the 1st prize with exceedingly fine blooms; the very best were: Mr. John Jameson, Mrs. Foley Hobbs, Caroline Testout, Leslie Holland, Earl of Warwick, Hugh Dickson, and King George. 2nd, Messrs. J. Jeffries & Son, Cirencester, whose stand included splendid blooms of Mrs. R. G. Crawford, Hugh Dickson, and Captain Christy. 3rd, Messrs. J. Cocker & Sons, Aberdeen.

The competition in Class 2 was not so strong, but most of the Tea and Noisette blooms were of great merit. The 1st prize was awarded to Mr. Hy. Drew, Longworth, who exhibited especially good blooms of Maman Cochet, Mme. Constance Soupert, Mrs. Edward Mawley, and Auguste Comte. 2nd, Mr. Geo. Prince, Longworth, who showed Mrs. Foley Hobbs, Mme. Dupuy, and Mrs. E. Mawley especially well. 3rd, Mr. John Pigg, Royston.

The exhibits in the class for nine baskets of cut Roses were arranged in a very pleasing manner. Mr. John Mattock, who was awarded the 1st prize, showed Mrs. David McKee, Mrs. Sharman Crawford, Bessie Brown, and Caroline Testout in his collection.

White Roses were shown extensively in Class 4, which provides for 12 blooms of any Rose to be shown in a handleless basket. Messrs. F. Cant & Co. won the 1st prize with a fine set of Frau Karl Druschki. Messrs. Hugh Dickson, Ltd., were awarded the 2nd prize for a good basket of their variety Hugh Dickson. 3rd, Messrs. J. McGredy & Son, Portadown, who showed Mrs. Herbert Stevens.

The best 18 vases of distinct varieties was shown by Mr. John Mattock, Headington, who had excellent examples of Irish Glory, Orléans Rose, General MacArthur, Mrs. Aaron Ward and Dorothy Page Roberts. 2nd, Messrs. F. Cant & Co., Braiswick, Colchester, whose best flowers were of the varieties Peace, Gustave Nabonnand, and Ecarlate.

The exhibits in the class for nine varieties were unusually good. The 1st prize was awarded to Mr. E. J. Hicks, Twyford, Berks. for a splendid collection, in which the varieties Rayon d'Or, Pharisaer, La Tosca, and Mrs. Wakefield Christie-Miller were splendid. 2nd, Mr. Will Tayler, Hampton, whose best vase was that of Marie Pavie. 3rd, Messrs. G. & H. Burch, Peterborough.

In the class for nine baskets of cut Roses there were six competitors. The baskets were mostly arranged in a stiff manner, and in many cases the tubes which contained the stalks were too much exposed. The blooms were very meritorious, and the baskets of Dorothy Page Roberts, Lady Pirrie, Reine Mère d'Italie, and General MacArthur, which won the 1st prize for Mr. Hugh Dickson, were particularly good. 2nd, Mr. John Mattock, whose best baskets contained Marie Van Houtte, Mme. Abel Chatenay, and Countess of Gosford. 3rd, Messrs. S. Bide & Sons, Farnham.

The class for five baskets of cut Roses also contained very fine blooms. Messrs. Wm. Spooner & Son won the 1st prize, their best varieties being La Tosca, Joseph Hill, and Orléans Rose. 2nd, Mr. J. Crossling, Penarth, who showed very good baskets of Marie Van Houtte and Mme. Jean Dupuy. 3rd, Mr. Hy. Drew.

Mr. John Mattock, New Headington, Oxford, who won the 1st prize offered for 24 vases of decorative Roses, included splendid sets of Gustav Grünerwald, Mons. Paul Lédé, Lady Pirrie, Mme. Jean Dupuy, and A. R. Goodwin. 2nd, Messrs. F. Cant & Co., whose best vases contained Gottfried Keller and Lady Wenlock. 3rd, Mr. John Pigg.

The competition in the class for 12 varieties was equally good, and the collection which won the 1st prize for Messrs. W. Spooner & Son, and which included splendid examples of Arthur R. Goodwin, General MacArthur, La Tosca, Trier, and Miss Dorothy Mocatta, was a very fine effort.

The 12 varieties of dwarf Polyantha Roses made a charming display. The best collection was shown by Mr. Geo. Prince, from whose stand we select Rosalind, Phyllis, and Mrs. Cutbush as being of great merit.

Groups of Roses.

There were only two representative groups of Roses placed on the floor, and, although each contained a large number of good blooms, neither was arranged to the best advantage. The group shown by Messrs. Hobbies, Ltd., Dereham, which received the 1st prize and Gold Medal, was decidedly the better, and the corner of the hall allotted to them was well filled, but the pots, and especially those of the bordering of Maidenhair Ferns, were too much in evidence. A large rustic basket of the dwarf Polyantha Rose "Jessie" was exceedingly pretty. The principal varieties displayed were the seedling pillar Rose "Lemon Queen" (Frau Karl Druschki × Mme. Ravary), Lady Ursula, Lyon, Hugh Dickson, and Mildred Grant. The 2nd prize and Silver-gilt Medal was awarded to Messrs. Paul & Son, Cheshunt. The standard Roses in this exhibit were not so good as those in the former, but there were vases containing good cut blooms of such varieties as Caroline Testout, Gustave Régis, Mrs. W. J. Grant, Mrs. R. G. Crawford, and Mme. A. Mari.

The groups of cut Roses arranged on the staging were decidedly the feature of the show. A very great amount of time, skill and taste had evidently been expended on the arrangement of these beautiful collections. The quantity of splendid Roses employed in them was astounding, and many of the individual blooms were as good as the average at the summer shows. The 1st prize and Gold Medal group arranged by Messrs. Gunn & Sons, Olton, Birmingham, was particularly charming. The background was exceedingly well arranged, and the system of arches entirely successful. The Silver Medal group, exhibited by Messrs. W. & J. Brown, Peterborough, was a very good 2nd indeed; the front of this group was decidedly the better of the two, the former group excelled in the quality of the blooms and the more tasteful background. 3rd, Mr. Geo. Prince, Longworth, whose outstanding feature was a splendid stand of Rayon d'Or. An extra prize was awarded to Messrs. B. R. Cant & Son.

In the smaller class for a representative collection of cut Rose blooms the 1st prize was awarded to Messrs. R. Harkness & Co., Hitchin. The ornamental basket of Irish Elegance and the pillars of Lady Hillingdon and Mme. Abel Chatenay were especially good. The low arch of Lyon and Irish Elegance which occupied most of the front of Mr. F. M. Bradley's group was particularly well done, and the group fully deserved the 2nd prize.

The class for 36 varieties was responsible for a beautiful display. The 1st prize was awarded to Messrs. Frank Cant & Co., who had excellent vases of Marquise de Sinety, Comtesse du Cayla, Gottfried Keller, Mrs. Herbert Stevens, Gruss an Teplitz, Hugh Dickson, Mme. Ravary, Hugo Roller, &c. 2nd, Mr. John Mattock, whose outstanding varieties were Lady Hillingdon, Betty Berkeley, Bessie Brown, Countess of Gosford, and Lady Battersea. 3rd, Messrs. J. Jeferies & Sons.

The 1st prize exhibit of Messrs. B. R. Cant & Sons, in the class for the hips of nine distinct species or varieties of Rose illustrated the decorative value of Rose hips in an admirable manner. Those of the Rugosa varieties, namely, alba, rubra, Le Cid, and especially of atropurpurea, were very attractive. 2nd, Messrs. Paul & Sons, Cheshunt, who showed R. microphylla, which if berried freely would be exceedingly ornamental. 3rd, Mr. George Prince.

Amateurs' Classes.

The competition in this section of the show amply indicates that the interest in Roses is not confined to the trade growers, and the quality of the blooms compared very favourably with those in the nurserymen's classes.

The best 18 blooms in Class 19, which is open to all amateurs, were shown by Mr. Conway Jones, Hucclecote, Gloucester. The blooms of Mme. Constance Soupert, Lyon, Caroline Testout, and Florence Pemberton were magnificent. 2nd, Mr. F. Dennison, Cranford, Leamington. 3rd, Mr. W. Boyes, Middleton-on-the-Wolds.

In the class for 12 blooms, which is restricted to growers of fewer than 2,000 plants, the 1st prize was awarded to Mr. Gulliver Speight, Market Harboro, who had fine blooms of Souvenir de P. Notting and Mme. Wagram. 2nd, Rev. J. Page Roberts, Strathfieldsaye Rectory, Mortimer.

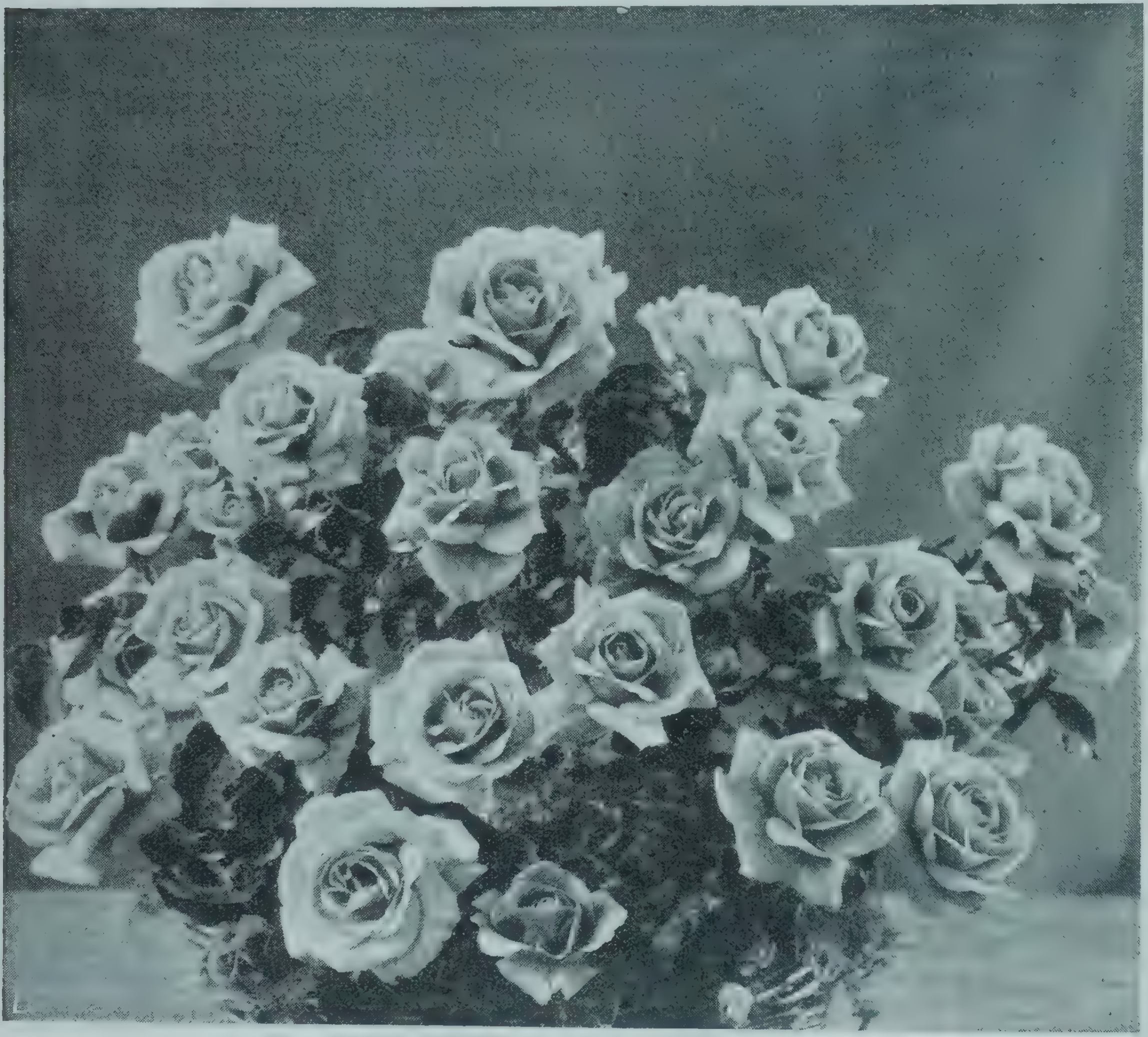


Fig. 105.—H.T. Rose Mrs. Charles E. Pearson.

(Awarded the National Rose Society's Gold Medal on the 12th inst.)

Mr. G. Moules, Hitchin, was the most successful exhibitor amongst the growers of fewer than 1,000 plants, and the 2nd prize was awarded to Mr. G. B. Lehman, Crawley.

Mr. W. P. Panckridge, Petersfield, was awarded the 1st prize in the class for growers of fewer than 500 plants. 2nd, Rev. L. Chalmers Hunt, Willian Rectory, Hitchin.

In the class for growers of fewer than 200 plants Mr. L. P. Roberts, Westcott, Dorking, was placed 1st.

Mr. Conway Jones, whose stand contained the premier Tea-scented bloom, won the 1st prize in the strongly-contested class for nine distinct Tea or Noisette Roses. 2nd, Mr. F. Slaughter, Steyning.

As in the nurserymen's classes, the vases of Roses provided many graceful exhibits. Class 25, which requires seven stems of seven distinct varieties, was open to all amateurs, and Mr. Conway Jones was the most successful exhibitor. 2nd, Rev. J. H. Pemberton.

Class 26 induced the best competition, and in the beautiful exhibit shown by Mr. W. P. Panckridge, Petersfield, there were delightful vases of Medea and Florence Pemberton. 2nd, Rev. F. R. Burnside, Gt. Stambridge Rectory, Essex.

On the whole the baskets of cut Roses were not quite so good as in the section for nurserymen, but they possessed much merit. The best three baskets were shown by Mr. Conway Jones. 2nd, Mr. G. A. Hammond, Burgess Hill. 3rd, Rev. J. H. Pemberton, who employed the varieties White Maman Cochet, Hugh Dickson, and Auguste Comte.

Mr. S. W. Burgess, Old Bank House, Tonbridge, showed the best single basket.

Mr. Conway Jones had a charming collection of 12 varieties in vases, and those of Hugh Dickson, Souvenir de Pierre Notting, and Mons. Joseph Hill were exceedingly fine. 2nd, Rev. J. H. Pemberton, who had a splendid vase of Rosette de la Légion d'Honneur. 3rd, Mr. H. R. Darlington.

The best five vases of Rose hips shown with their foliage were exhibited by H. R. Darlington, Esq., Potters Bar. The vase of the variety Nitida, with deep crimson leaves and scarlet hips, was very attractive. 2nd, Rev. J. H. Pemberton, Havering-atte-Bower, Essex. 3rd, Mr. E. B. Lindsell, Bearton, Hitchin.

Mr. Conway Jones (1st prize) showed a fine collection of Roses in Class 31, and those of the Rev. J. H. Pemberton were only slightly inferior.

Decorations.

The dinner tables decorated with cut Roses and any kind of foliage, which were laid out in the Lecture Room, attracted a large number of the visitors. There were no novel effects, but the 14 tables provided a very pretty spectacle. As at the summer show, the beautiful single-flowered Rose Irish Elegance demonstrated its superiority for decorative purposes, and each of the three winning tables were arranged wholly or in part with this variety. Unless the schedule-framers provide against it by dividing the competition into two sections —for single and for double-flowered varieties— there is a great danger that, influenced by the recent awards, the great majority of future exhibitors will employ Irish Elegance Rose, and the sameness of the exhibits will then destroy the interest in this class. The 1st prize was awarded Mrs. Robinson, Park Hill, Carshalton, whose table was beautifully arranged, but the centre was disproportionately large.

The baskets of Roses arranged with any kind of foliage were very beautiful, and the awarding of the prizes must have caused the judges a deal of anxiety. Mrs. J. W. Smith was placed 1st, and Mrs. E. Williamson, Wilstead, Canterbury, 2nd, and Mrs. Hale 3rd.

The bowls of Roses also commanded admiration, and in this class the prizes were awarded to Mrs. C. Page, Enfield; Mrs. Burnett, Holly Lodge, Southampton; and Mrs. J. W. Smith, in the order named.

New Roses.

It was not to be expected that Section 8 would, at this season, bring to light many new varieties of superlative merit. There were not many new Roses in the two classes, but of these the judges considered three to be worthy of Gold Medals, and a Silver-gilt and Silver Medal were also awarded to meritorious Roses.

Gold Medal Roses.

Mrs. Charles E. Pearson (see fig. 105).—A very beautiful H.T. variety; said to have a good constitution, and to be very free-flowering. It may be described as being a slightly more globular Lyon Rose without the salmon shade in its colouring.

British Queen.—An exceedingly fine, white H.T. Rose. It has much the shape of White Maman Cochet with the substance of Frau Karl Druschki. Both of these varieties were shown by Messrs. S. McGredy & Son.

Sunburst.—This now well-known variety was shown by Mr. G. Beckwith.

Silver-gilt Medal.

Little Dorrit.—A charming little H.T. Rose. The pale pinkish colour of the centre merges into red or reddish-purple as the petals mature. Shown by Messrs. G. Paul & Son.

Silver Medal.

Queen of the Musks.—A very floriferous pale purple-coloured hybrid musk Rose. Shown by Messrs. G. Paul & Son.

Premier Blooms.

A Silver Medal was awarded to each of the following as being the best representative in the show of their respective types:—

Amateurs.

H.T.: Mme. Wagram, shown by Mr. Conway Jones. *T.*: Maman Cochet, from Mr. Conway Jones. *H.P.*: Frau Karl Druschki, from Mr. F. Slaughter.

Nurserymen.

H.T.: Miss Cynthia Ford, shown by Mr. Hugh Dickson. *T.*: Mrs. Foley Hobbs, from Mr. Geo. Prince. *H.P.* and Gloire de Chédane Guinnoisseau, Mr. Hugh Dickson.

NATIONAL DAHLIA.

September 17, 18.—The National Dahlia Society have decided to hold only one exhibition this season, and this show was held at the Crystal Palace on the above dates. The entries were more numerous than last year, but despite the more favourable climatic conditions the exhibits on the present occasion were scarcely so good as usual. The dainty little Pompon Dahlias are an exception, for this year many of the blooms were very near to perfection. There was a great falling off in the exhibits of single Dahlias, and it was interesting to notice that in the classes for Cactus varieties the prizes were usually awarded to those exhibits which included the most varieties with incurving florets.

Seedling Dahlias.

The gold medal offered as a special prize for the best new seedling Show, Fancy or Cactus Dahlias was awarded to Messrs. J. Stredwick & Son for the variety Gigantic. The name suitably indicates the size of this splendid variety. The florets are very long and incurved, and their colour is "old gold" shaded with buff on a few of the older florets. The undeveloped centre florets are nearly pure yellow.

Awards to Novelties.

First-class Certificates were awarded to the following novelties:—

George Scowfield.—A medium-sized Cactus variety with bright salmon-coloured, incurving florets which are paler at the tips. Shown by Messrs. J. Stredwick & Son.

Johnnie.—A Pompon Dahlia of perfect form, in which the deep maroon of the centre florets shades to crimson. Shown by Mr. J. T. West.

Mrs. A. Brown.—This single, yellow variety was shown as *Yellow Prince*, but as there was already a Dahlia of this name it had to be re-named. Shown by Mr. A. Brown, Grange Road, Leagrave, Bedfordshire.

Autocrat.—A very fine yellow show Dahlia. Shown by Messrs. Keynes, Williams & Co.

Kathleen.—A very free-flowering, purplish-mauve coloured, "Miniature Cactus" variety. Shown by Mr. J. T. West.

Nurserymen's Classes.

Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, was the only exhibitor of 48 Show Dahlias, and his collection deservedly received the 1st prize.

There were five entries in the class for 24 Show Dahlias, and Mr. Chas. Turner, Royal Nurseries, Slough, was awarded the 1st prize for an excellent collection of blooms. The outstanding varieties were Perfection (orange-buff), Standard (deep crimson), T. Girdlestone (a very fine bloom), Ed. Mawley (crimson self), Chieftain (lilac-purple), and Mrs. Chas. Noyes. The 2nd prize was won by Messrs. J. Cheal & Sons, Crawley, Sussex, whose collection was not nearly so even, but the blooms of Wm. Powell (yellow) and Margery (lemon-shaded amber) were excellent. 3rd, Messrs. W. Treseder, Ltd., The Nurseries, Cardiff.

There was only one exhibit (that of Mr. S. Mortimer, which received the 1st prize) of 18 blooms of Fancy Dahlias, and these were of unequal quality to the foregoing.

Of the four collections of 12 blooms of Fancy Dahlias, that shown by Mr. Chas. Turner was decidedly the best. His blooms of Nansen, Mrs. Saunders and Goldsmith were very fine; 2nd, Messrs. W. Treseder, Ltd.; 3rd, Mr. M. V. Seale, Sevenoaks.

The three collections of 18 varieties of Cactus Dahlias in bunches of six blooms of each made a very attractive display. Messrs. J. Stredwick & Son, Silverhill Park, St. Leonards-on-Sea, again won the silver challenge cup and 1st prize. This splendid exhibit included very fine blooms of F. W. Fellowes (orange scarlet), Rev. A. Lowe (yellow flushed with pale pink at the tips), Gigantic and John Riding, which received an Award of Merit at the last exhibition of the R.H.S. The 2nd prize exhibit (Messrs. J. Cheal & Son) contained meritorious blooms of Frederick Wenham (very pale pink with yellow centre) and Iolanthe. 3rd, Messrs. J. Burrell & Co., Cambridge.

The 1st prize for 12 blooms similarly arranged was awarded to Mr. M. V. Seale, who showed good vases of Daisy Easton (yellow) and Snowdon (white).

The collections of 48 Cactus blooms caused the judges considerable trouble, two of the exhibits being of remarkably even quality. The 1st prize was awarded to Messrs. Keynes, Williams & Co., Salisbury, who included Gwendoline Tucker, Flossie Redout, Kingfisher, Glory of Wilts, Golden Crown and Irresistible. 2nd, Messrs. J. Stredwick & Son, who showed splendid blooms of Scout, H. L. Brousson, Rosary, Golden Crown, Gigantic, and others. 3rd, Messrs. J. Burrell & Co.

The best exhibit of 24 blooms of Cactus Dahlias was shown by Messrs. Wm. Treseder Ltd. This was an exceptionally good collection, nearly all the blooms being very fine. 2nd, Mr. M. V. Seale, whose stands contained especially good blooms of Mrs. Pourrier (bright red) and Snowdon.

The collections of 12 varieties of Cactus blooms arranged in vases of six flowering stems with hardy foliage were displayed on separate tables. Messrs. J. Cheal & Sons, who won the 1st prize, made an attractive display with such varieties as Coral and Salmon Queen.

The exhibits in the large class for Pompon Dahlias were exceedingly good. The best collection of 24 varieties was shown by Mr. Chas. Turner, and his charming exhibit included such dainty varieties as Glow, Mephisto, Nelly Broomhead, Cyril, Nerissa, Adelaide, Bacchus and Jessica. The 2nd prize was awarded to Messrs. J. Cheal & Sons, whose blooms were but little inferior.

Messrs. J. Burrell & Co. were awarded the 1st prize for 12 varieties of Pompon Dahlias.

In point of numbers the single-flowered Dahlias were poorly represented in the nurserymen's classes. There were only two competitors in Class 12 (24 varieties), and the class for 12 varieties drew no entry. The best collection was shown by Messrs. J. Cheal & Sons.

Many of the blooms shown in Class 14, which was for six varieties of Pæony-flowered Dahlias, six blooms of each, arranged in a vase with any suitable hardy foliage, were very fine, but the exhibits possessed very little decorative value. Mr. Chas. Turner, who won the 1st prize, showed very large blooms; 2nd, Mrs. J. Cheal & Sons.

Mr. Chas. Turner also showed the best collection of Collerette Dahlias in 12 varieties, 10 blooms of each, in separate vases.

Amateurs' Classes.

The collections of "Show and Fancy or intermixed" Dahlias in these classes were of very even quality, and contained many good blooms. The best exhibit of 24 blooms, for which the Silver Challenge Cup was awarded, was shown by Mr. S. H. Cooper, The Hamlet, Chippenham.

In the class for 12 blooms, the 1st prize was awarded to the collection shown by Mr. H. Tysoe on behalf of the Misses Fitzpatrick.

The only exhibit of six varieties of Cactus Dahlias, shown on six stems in vases, with any appropriate foliage, was that of the Rev. A. Bridge, Worth Rectory, Three Bridges, Sussex, which was awarded the Silver Challenge Cup.

The collection of nine varieties of Cactus Dahlias, in bunches of three of each, which won the Silver Challenge Cup offered in Class 19 was very fresh and attractive. The exhibitor was Mr. F. W. Fellowes, King's Walden, Hitchin. The blooms of Ivernia, Glory of Wilts, and Richard Box were of more than average merit. 2nd, Rev. A. Bridge.

Mr. H. Peerman, Glencross, Nantwich, showed the best collection of 24 blooms of Cactus Dahlias; and the 1st prize for 12 blooms of Cactus Dahlias was won by Mr. F. W. Fellowes The outstanding varieties were Iolanthe, H. H. Thomas, and Mrs. Douglas Fleming.

The Silver Challenge Bowl presented by the Crystal Palace Co. for the best 12 Pompon Dahlias, shown in bunches of 6 blooms of each variety, was won by Mr. H. Brown, Havelock Road, Luton.

The best single Dahlias were shown by the Rev. A. Bridge; 2nd, Rev. C. S. Pearce, Coombe Vicarage, Oxfordshire.

In the classes for amateurs who have not previously won a prize at a N.D.S. show, Mr. A. Jeffries, Langley Burrell, Chippenham, was the most successful exhibitor of 6 blooms of Show or Fancy Dahlias, and was also awarded the 1st prize for 6 varieties of Cactus Dahlias.

The Crystal Palace Co.'s Silver Medal and the 1st prize for the best vase of 12 Dahlia blooms of any kind, arranged with suitable foliage, were won by Mr. H. Edwards, Norton Priory Gardens, Chichester, who exhibited a large and imposing vase, which was attractively arranged.

Open Classes.

Messrs. J. Burrell & Co. made a very good display with their 1st prize collection of 12 miniature Cactus Dahlias; 2nd, Mr. M. V. Seale.

The 1st prize for six blooms of any Cactus Dahlia was awarded to Mr. C. Luckin, who showed excellent examples of the white variety Snowdon. The 2nd prize was awarded to Messrs. J. Stredwick & Son, who showed splendid blooms of F. W. Fellowes.

Messrs. J. Cheal & Sons showed the best 12 varieties of Fancy Single Dahlias; the 1st prize collection of Fancy Cactus Dahlias was exhibited by Messrs. J. Stredwick & Son, and Mr. Chas. Turner arranged the best vases of Decorative Dahlias, with hardy foliage.

Non-competitive Exhibits.

Messrs. H. Cannell & Sons, Swanley, Kent, displayed a very choice collection of splendid cut blooms, very tastefully arranged. (Large Gold Medal.)

Messrs. S. Spooner & Sons, Hounslow, exhibited a very large collection of Apples and a few dishes of Pears. (Large Gold Medal.)

Mr. J. B. Riding, Chingford, Essex, displayed a very fine collection of the various sorts of Dahlias. (Gold Medal.)

Mr. J. T. West, Tower Hill, Brentwood, arranged a group of cut Dahlia blooms. (Gold Medal.)

Messrs. J. Carter & Co., Raynes Park, displayed on a circular stand Dahlia blooms with small pots of Ferns, edged with pots of "China" Asters. (Large Silver-gilt Medal.)

Mr. J. Emberson, Hoe Street, Walthamstow, arranged a very comprehensive collection of Dahlia blooms with fronds of Bracken and Michaelmas Daisies. (Silver-gilt, Medal.)

Messrs. T. S. Ware, Ltd., Feltham, displayed many very good double-tuberous Begonias and various hardy border flowers at the end of their collection of Dahlias. (Large Silver-gilt Medal.)

Messrs. Hobbies, Ltd., Dereham, arranged many Dahlias and two large rustic baskets filled with good Rose blooms. (Large Silver-gilt Medal.)

Messrs. Dowel & Son, Hammersmith, London, exhibited garden requisites. (Silver-gilt Medal.)

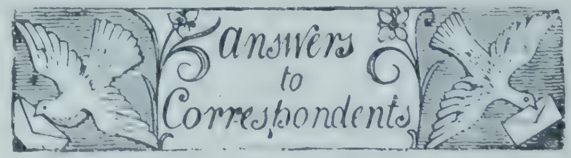
BRITISH GARDENERS' ASSOCIATION.

September 11.—A meeting of this association was held in the Goold Hall, Edinburgh, on this date. Mr. W. H. Morland occupied the chair, and addresses on the work and aims of the society were delivered by Mr. J. Harris and the secretary, Mr. Cyril Harding. A resolution pledging the meeting to form a branch of the association in Edinburgh was carried unanimously. A provisional committee was formed. Mr. J. Harris, Demonstration Garden, Liberton, was elected branch secretary pro tem.

Obituary.

William Baylor Hartland.—As these pages go to press we hear with regret of the death of Mr. William Baylor Hartland, proprietor of the Ard Cairn Nurseries, Cork, at the age of 76, which occurred on the 15th inst.

Joseph M. Cole.—Mr. Joseph M. Cole, florist, died at Peroria, U.S.A., on August 9. According to *Horticulture*, Mr. Cole opened the first store for the sale of cut flowers in Peroria, about 58 years ago. He was born in London, and settled in America with his parents at a very early age.



Answers to Correspondents

⁂ *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

Abnormal Arum: *F. E. S.* A specimen of Richardia with three spathes is not unusual; we frequently receive similar examples.

Abnormal Begonia: *W. G.* The abnormal flower is not due to fasciation, but to a duplication of parts.

Celery Diseased: *A. B.* The fungus causing the disease attacking the Celery is Septoria petroselini. All diseased foliage should be removed and burned or deeply buried. In future spray the Celery in the spring with the Bordeaux mixture at half the usual strength in anticipation of the disease. If Celery or Parsley is to be planted on the same ground treat the soil with kainit.

Abnormal Heleniums: *B. & Sons.* The specimens you kindly send show an interesting series of proliferation of flower heads (see fig. 106). Certain of the buds of the capitulum, instead of forming ray florets, have grown out to form secondary inflorescence stalks. The abnormality is of interest, as also is the fact that the ray florets show all stages from green to yellow, these having taken on a petaloid appearance. Although we have had an occasional example of virescent Helenium, we do not remember having seen such a remarkable series of "sporting" malformations.

Covent Garden Measures: *C. R.* The number of Cucumbers contained in a "flat" depends entirely upon the size of the graded fruit, and varies from 24, 30, 36, 42, 48, to 60 fruits. Early in the season, say, in February and March, the flats generally contain 3 dozen Cucumbers. Later on, when the plants have increased in vigour, occasionally flats consisting of 24 and 30 fruits are included in each consignment. Flats containing 24 and 30 Cucumbers are generally sent to the Continental markets from Covent Garden, those containing from 3 to 4 dozen fruits each being more in demand in the home markets. The number of Parsnips and Carrots contained in a market bag depends on the size of the individual roots. English Carrots, Turnips, and Beetroots are sold in dozen bunches, the latter consisting of from 6 to 12 roots, according as the roots are large or small. A market bundle of Asparagus consists of 100 sticks. Parsley, Mint, and Sage should be made into good-sized bunches for marketing, putting in each bunch as many sprigs of the respective kinds as the hand can span when the stems are pressed tightly together. Bunches of cut flowers and Fern generally consist of 12 sprays or spikes; these include Bouvardias, Marguerites, Myosotis, Lily of the Valley, Lilacs, Violets, Gypsophila paniculata grandiflora, and Carnations. Richardias (Arums) are sold at per dozen spikes. However, we know from practical experience that bunches of the above-mentioned flowers, consisting of from 18 to 24 individual sprays (Arums excepted), find a more ready and profitable sale in the market than the stereotyped dozen sprays command. Bunches of the annual Gypsophila elegans grandiflora alba should consist of good handfuls. Bunches of Asters, Chrysanthemums, yellow and white Marguerites, and Gaillardias should be arranged in a "faced" spray, to present the individual flowers to advantage.

Gooseberry and Rose Shoots for South Africa: *E. M. M.* Make the cuttings into bundles and bind them tightly. Have them of equal length, and then dip the cut ends in hot sealing wax. Dispatch them in a tin-lined box in damp Moss. You might insert the ends in Potatos instead of using the sealing wax, the object being to retain the moisture in the shoots.

Manure for Chrysanthemums: *A. W. C.* When the plants have filled the final pots with roots, liquid manure may be given freely until the flower buds commence to expand, but not afterwards. It has been found that sulphate of ammonia hastens the development of the buds, and gives brighter and richer colour to the blooms. A little nitrate of soda applied early in the season has the effect of hastening the growth, but this manure should be used with great caution. The compost employed at the final potting of Chrysanthemums should be of a rich nature, and room should be left in the pots for applying rich top-dressings as growth advances.

Names of Flowers, Fruits, and Plants.—We are anxious to oblige correspondents as far as we consistently can, but they must bear in mind that it is no part of our duty to our subscribers to name either flowers or fruits. Such work entails considerable outlay, both of time and money, and cannot be allowed to disorganise the preparations for the weekly issue, or to encroach upon time required for the conduct of the paper. Correspondents should never send more than six plants or fruits at one time: they should be very careful to pack and label them properly, to give every information as to the county the fruits are grown in, and to send ripe, or nearly ripe, specimens which show the character of the variety. By neglecting these precautions correspondents add greatly to our labour, and run the risk of delay and incorrect determinations. *Correspondents not answered in one issue are requested to be so good as to consult the following numbers.*

Fruits: *H. Elliott.* 12, A very fine fruit of Williams's Bon Chrétien.—*J. O. D.* You send more than the proper number. A small donation to the R.G.O.F. box would be appropriate. Apple and Plum stocks cannot be named with certainty unless the plants are seen growing. We do not recognise the insects. The Grapes are badly shanked and infested with mealy-bug. Shanking is caused generally by unsatisfactory conditions of the border. The single berry is "scalded," caused by neglect to ventilate the vinery early in the morning. 1, Baron de Melor; 2, Knight's Monarch; 3, Williams's Bon Chrétien; 4 and 7, Marie Louise; 5, Beurré Diel; 6, Beurré Hardy; 8, Comte de Lamy; 9, Dumelow's Seedling (Wellington); 10 and 11, Hawthornden; 12, Worcester Pearmain; 13, Blenheim Pippin; 14, Uvedale's St. Germain; 15, Gilliflower (not Cornish Gilliflower); 16, Beauty of Kent; 17, most likely a local variety; 18, not recognised; 19, Magnum Bonum; 20, Brownlees's Russet; 21, White Nonpareil; 22, Emperor Alexander; 23, Dean's Codlin.—*A. F.* 1, Towers Glory; 2, Northern Spy; 3, Striped Leadington; 4, Duke of Devonshire; 5, Old Hawthornden; 6, Castle Major.

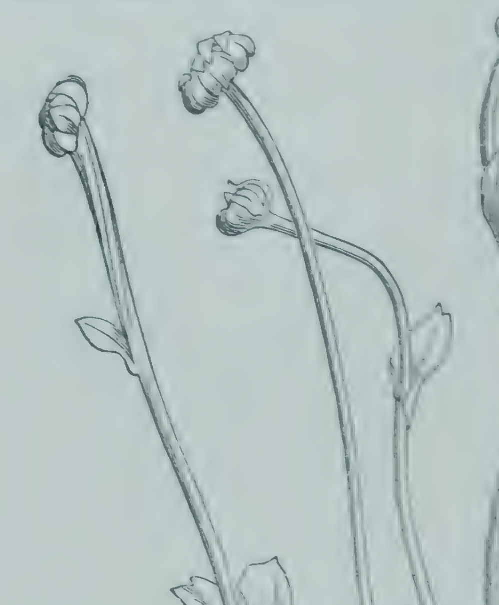


Fig. 106.—A proliferous helenium.

Plants: *G. G.* 1, Chrysanthemum lacustre; 2, Lobelia hybrida; 3, Tanacetum vulgare; 4, Heliopsis lævis; 5, Achillea millefolium roseum; 6, Œnothera fruticosa; 7, Erigeron philadelphicus.—*J. H.* 1, Ononis spinosa; 2, Alchemilla alpina; 3, Solidago virgaurea; 4, Hieracium aurantiacum; 5, Geranium nodosum; 6, Solidago sp. (too scrappy to identify).—*W. H. M.* 1, Delphinium Belladonna; 2, not recognised, the flowers had fallen; 3, Phlox Eugénie Danzanvilliers. Delphiniums at this season of the year are not in character, and cannot be named with any degree of certainty.—*A. C. D.* Dimorphotheca Ecklonis.—*H. V.* You send more than the proper number (six specimens). 1, Thuya orientalis var.; 2, Cupressus Lawsoniana var. globosa; 3, C. pisifera aurea; 4, Phillyrea decora; 5, Picea nigra; 6, Cupressus pisifera var. filifera; 7, Thuya plicata; 8, Pinus excelsa; 9, P. Strobus; 10, Cupressus thyoides var nana; 11, Picea excelsa nana; 12, Pyrus arbutifolia.—*O. W.* (Not more than six specimens should be forwarded at one time.) 1, Cupressus nootkatensis variegata; 2, C. Lawsoniana albo-maculata; 3, C. obtusa; 4, C. Lawsoniana; 5, C. Lawsoniana erecta; 6, Juniperus communis; 7, Cryptomeria japonica; 8, C. japonica; 9, Cupressus obtusa; 10, C. Lawsoniana erecta viridis; 11, Juniperus chinensis; 12, Cupressus Lawsoniana var.; 13, Pseudotsuga Douglasii; 14, P. Douglasii, glaucous form; 15, Cupressus Lawsoniana; 16, C. Lawsoniana glauca; 17, Thuya occidentalis var.; 18, Picea orientalis.—*J. P. Garth.* Phygelius capensis (Cape Figwort).—*W. T. Windsor.* Melilotus officinalis, a British plant sometimes cultivated by those who keep bees.—*W. C. B.* 1, Aspidium (Polystichum) pungens; 2, Onoclea sensibilis; 3, Selaginella viticulosa; 4, Salvia chamædryoides.—*A. J. E.* Dendrobium chrysanthum.—*E. Y.* Nicandra physaloides.—*R. E. F.* 1, Lantana, garden variety; 2, send flowers, leaf not sufficient; 3, Sedum Sieboldii variegata.—*H. H.* 1, Epidendrum patens; 2, Neobenthamia gracilis; 3, Davallia pyxidata; 4, Masdevallia Barlaeana.—*Constant Reader.* 4, not recognised, send when in flower; 6, Arbutus Unedo; 7, Euonymus europæus.—*C. E. T.* 1, Achillea Eupatorium; 2, Helenium autumnale; 3, (Conifer) Taxodium distichum.

Nectarines Splitting: *H. W.* No disease of any kind is present. The splitting has been caused by too much moisture at the roots. Certain varieties are more prone to splitting than others.

Pelargonium: *E. M.* The variety of bedding Pelargonium at present furnishing the flower-beds in front of Buckingham Palace is Paul Crampel.

Poisoning by Primula obconica: *F. B.* It is recommended to rinse the hands well in spirits of wine (methylated spirits) and then wash them under a running tap, using plenty of soap.

Red Spider on Vines: *G. S. W.* This pest thrives in a dry atmosphere and excessive artificial heat, and these conditions should be prevented by syringing the vines well and frequently. Until the berries are thinned out the surface of the border and paths should always be damped, and the evaporating troughs on the water pipes filled with water or liquid manure. An attack of red spider very often follows upon drought at the roots. The leaves affected with this pest should be sponged with soapy water, or the house fumigated with a nicotine vaporising compound. If these means fail the sulphur treatment should be employed. Some limewash should be placed in a vessel, and this should be stirred into a few handfuls of flowers of sulphur. Then in the meantime, and choosing the dusk of evening for the operation, heat the water pipes, and apply the liquid over the pipes with a brush. Keep the water pipes hot for two hours, and during this time make the house as airtight as possible, and take care that the atmospheric temperature does not rise much beyond 80° Fahr. When two hours have elapsed, the fires may be slackened gradually, and the sulphurous atmosphere may be allowed to escape by means of the top ventilators, which should be opened a very little. If necessary, this treatment may be repeated on alternative evenings, and it is better to repeat it several times than overdo the operation on the first occasion.

White Fly: *S. H.* The small white fly which you say is so troublesome on Melianthus major and Fuchsias is probably the Snowy Fly (Aleyrodes proletella). Spray the plants with tobacco and soft soapy water, and if any flies are to be found alive after this spraying, dust the plants with a little soot.

Communications Received.—A. G. I.—W. S.—F. V.—W. H. M.—H. F.—M. N.—R. S.—Gardener—J. N. S.—Cestrian—S. B.—J. R.—C. N.—J. A.—T. N.—[illegible]—J. D.—W. A.—H. G. B.—G. W. F.—E. W. K.—Constant Reader—W. J. F.—J. E. H.—G. W. F., Bromley—Enquirer—D. R. W.—R. D.—G. W. W.—R. S. T.—T. D.

THE
Gardeners' Chronicle

No. 1,344.—SATURDAY, Sept. 28, 1912.

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DESTRUCTIVE INSECTS AND PESTS

SCHEDULED BY THE BOARD OF AGRICULTURE AND FISHERIES.

It may safely be said that at no period in the history of British horticulture has so much attention been devoted to the protection of crops from the depredations of insect and fungous pests as now, though good work was being done in elucidating the life histories of such pests more than a century ago. For sound information on insects and for a powerful impetus to the popular study of insect life we are not a little indebted to the old writers Kirby and Spence, whose invaluable *Entomology*, the first edition of which was published in 1815, and a "people's edition" in 1870, is unique of its kind. Curtis was another indefatigable investigator of a later period, and his monumental *Farm Insects*, with numerous figures and coloured plates, is very full and thoroughly trustworthy. Later came Miss Eleanor Ormerod, whose work in connection with economic entomology was of a most complete character. The degree LL.D. (Edinburgh) which was conferred on Miss Ormerod shortly before her death marked a somewhat tardy recognition of her great services to economic science. At the present day many investigators are engaged in working out the life histories of pests, and at the same time striving to discover satisfactory means of preserving crops from attack.

Side by side with the study of insect life, the investigation of parasitic fungi has been carried on by large numbers of workers, who have made valuable contributions to the general knowledge of parasitic fungi which infest cultivated plants.

It is doubtless not easy to form an accurate idea as to the actual monetary losses due to insect and fungous pests in the United Kingdom, but it is quite clear that the damage done is enormous—farm and garden crops, fruit, flowers and live stock being alike attacked. Two examples may be mentioned which afford some idea of what the estimated losses are, even though these may be exaggerated. It was originally computed by correspondents of Dr. Eleanor Ormerod that the losses in Britain due to the ox warble fly amounted to from £2,000,000 to £7,000,000 annually. Though these figures are doubtless too high, the losses from this one pest are nevertheless very heavy indeed. The loss due to forest insects in the United States is immense, and it is stated that over a 10-year period the amount of timber killed and reduced in value by insects represents an average loss of some £12,500,000 per annum. It is, therefore, clear that any insect or fungus which is known to attack crops may, if imported into a country in which it was previously unknown, prove a real source of danger to the successful cultivation of those crops.

It is unnecessary to emphasise the fact that a very great deal is now known about the commoner insect and fungous pests, while it is well known that the knowledge gained has led to the regular practice of certain measures calculated to keep such pests within bounds. The practices of spraying fruit trees, Hop-washing, Potato-spraying, steeping cereal grains before sowing to prevent attack by fungi, the use of insect poisons, fumigation, and in general the attacking of the pests at the weakest point in their life history, have all arisen gradually, and have become more effective owing to a better knowledge of the pests against which they are directed.

More, however, is being done. So long ago as 1877, this country was alarmed by the advent of the Colorado beetle, and as this pest proves a great scourge of Potatos in the United States of America, it was felt that its possible establishment in Great Britain was a menace to our own crop. Provision was at once made by the Colorado Beetle Order, 1877, to stamp out the infestation, and its eradication was successfully accomplished by the Agricultural Department of the Privy Council now the Board of Agriculture and Fisheries. This beetle, therefore, has never become established, though it again entered the country in 1901, when it was found near Tilbury, but was dealt with quickly and satisfactorily.

The widespread damage done by insect and fungous pests has of late years assumed such significance that it has been more and more realised that official action is necessary to cope with such pests and to control their distribution. The question came before Parliament in 1907, when the old Act of 1877 was extended, and the Destructive Insects and Pests Acts, 1877-1907, now enable the Board of Agriculture and Fisheries to deal drastically with these problems. In the past five years the Board have made several Orders, making the presence of certain pests on the farm and in the garden notifiable, with penalties for non-compliance. Further, the Orders render certain action compulsory in the case of the scheduled insects and pests.

At the present time four main Orders are in force.

(A) Under the Destructive Insects and Pests Order, 1910, are scheduled:—

The Narcissus Fly (Merodon equestris, Fabricius).

Wart Disease or Black Scab of Potatos (Synchytrium endobioticum, Percival). (See below.)

The Vine Louse (Phylloxera, vastatrix, Planchon).

The San José Scale (Aspidiotus perniciosus, Comstock).

The Mediterranean Fruit Fly (Ceratitis capitata, Wiedemann).

The Colorado Beetle (Doryphora decemlineata, Say).

The Large Larch Sawfly (Nematus erichsonii, Hartig).

The Potato Moth (Lita solanella, Boisduval).

The Gipsy Moth (Liparis [Ocneria] dispar, Linné).

The Brown Tail Moth (Euproctis chrysorrhæa, Linné).

The Nun Moth (Lisparis monacha, Linné).

The Cherry Fly (Rhagoletis cerasi, Linné).

Black Knot (Plowrightia morbosa, Saccardo).

Tomato Leaf Spot (Septoria lycopersici, Spegazzini).

Melon or Cucumber Canker (Mycosphærella citrullina, Grossenbacher).

American Pear Blight (Micrococcus amylovorus, Burrell).

(B) Under the American Gooseberry-mildew Order of 1911 is scheduled:—

The American Gooseberry-mildew (Sphærotheca mors-uvæ).

(C) Under the Wart Disease of Potatos Order of 1912 Wart Disease of Potatos (Synchytrium endobioticum, Percival) is removed from the Order of 1910 (see above) and given an Order to itself.

(D) The American Gooseberry-mildew (Fruit) Order of 1912 regulates the sale and importation of Gooseberries. Seventeen destructive insects and pests are mentioned in these Orders, the main provisions of which, as they affect gardeners, may here be given for convenience.

(A) The Order of 1910 states:—

"1.—(1) The occupier of any premises on which an insect or pest mentioned in the Schedule to this Order exists, shall forthwith notify the fact, with particulars of the time and place of discovery, to the officer appointed by the Local Authority to receive such notices, or, if no such officer has been appointed, to the Board; and, where practicable, a specimen of the insect or pest shall accompany the notice.

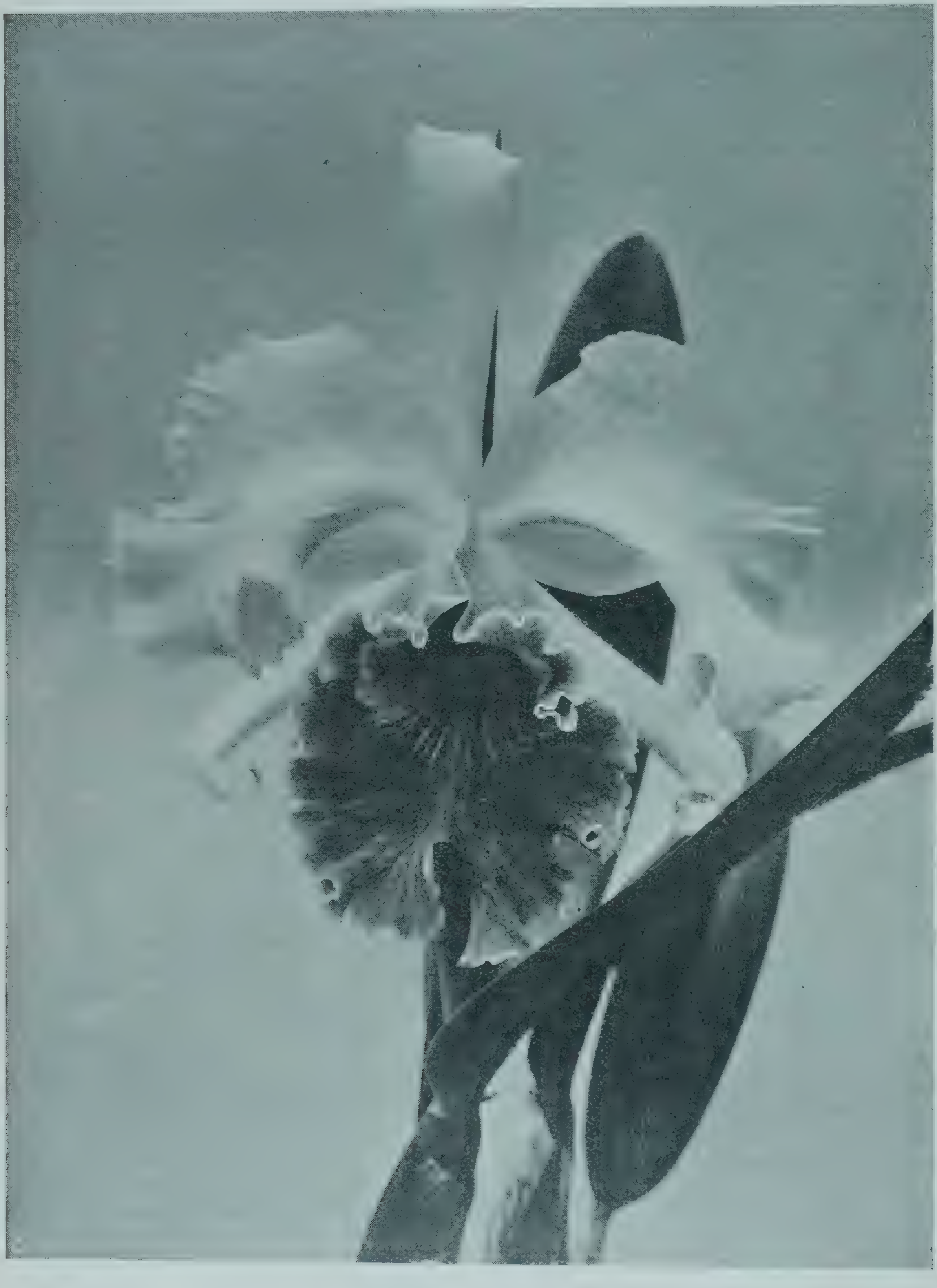

Fig. 107.—Lælio-Cattleya Memoria H. A. Tracy.

"2. An inspector or other officer appointed in that behalf by the Local Authority and any inspector of the Board may, upon production if so required of his appointment or authority, enter any premises on which he has reason to believe that an insect or pest mentioned in the schedule to this Order exists or has recently existed, and examine any plant, fruit, crop, seeds, tubers, bulbs, layers or cuttings on such premises.

"4. Every person who shall knowingly use, or sell for use, for planting any plant, seed, tuber, bulb, layer or cutting attacked by an insect or pest mentioned in the schedule to this Order, or any seed, tuber, bulb, layer or cutting which has been derived from a plant so attacked and is capable of spreading the insect or pest, shall be liable on conviction to a penalty not exceeding £10.

"5. It shall not be lawful, except with the written permission of the Board, to import, sell, or offer for sale a living specimen of any insect or pest mentioned in the schedule to this Order."

(B) The Order of 1911 specifies as follows:—

"3. The occupier of any premises on which there is a bush* which is, or appears to be, diseased shall forthwith notify the fact by post or otherwise to the Board, or to the clerk to the Local Authority, or to an Inspector of the Board or of the Local Authority, and where practicable a specimen showing the disease shall accompany the notice."

This Order further requires that no bush shall be moved from any garden in which disease exists or appears to exist until after an investigation by the Local Authority, who may at any time and from time to time, by a notice served on an occupier of infected premises require him to adopt such measures for prevention of the spread of the disease as are also authorised by the article and specified in the notice.

"The landing in Great Britain of any bush brought from any place out of Great Britain (except the Channel Islands) is prohibited, except that this provision does not apply to the landing of any Currant bush under the authority of a licence authorising such landing previously obtained from the Board of Agriculture and Fisheries."

(C) The Wart Disease of Potatos Order of 1912 provides in the same way as the other two for notification of the existence of the disease, and orders that no tubers shall be removed from any premises on which the disease exists or appears to exist until after investigation by the Local Authority, who are empowered to prohibit the planting of Potatos in the infected premises except under prescribed conditions. It is further provided:—

"8. It shall not be lawful to use any diseased tubers for planting, or to sell or offer for sale diseased tubers for that purpose, and an inspector of the Local Authority acting under their directions may, by a notice served on the occupier of any infected premises, prohibit the removal of any tubers from the infected premises except under such conditions as the inspector acting under such directions may consider necessary to prevent any diseased tubers being so used or sold or otherwise disposed of for planting."

(D) The American Gooseberry-mildew (Fruit) Order of 1912 prohibits the sale or exposure for sale of diseased Gooseberries, and further prohibits the importation of Gooseberries from any place outside Great Britain (except the Channel Islands), except when the package is labelled "Imported Gooseberries," and bears the name of the consignor and the country and district of origin. Cleansing of packages which have contained diseased Gooseberries is also provided for.

The Orders cannot be further quoted here, but it may be noted that all provide a penalty not exceeding £10 in the case of persons convicted of an offence under the Orders. It would be well for all those who are interested to make themselves fully acquainted with the provisions of the Orders.

In subsequent articles it is proposed to deal separately with the 17 destructive insects and pests mentioned above, the presence of which in any garden is notifiable under the Orders outlined. *H. C. Long.*

LÆLIO-CATTLEYA "MEMORIA H. A. TRACY."

Our illustration (fig. 107) represents this handsome hybrid, which obtained a First-class Certificate at the Royal Horticultural Society's meeting on the 10th inst., when it was shown by H. S. Goodson, Esq., Fairlawn, West Hill, Putney (gr. Mr. G. E. Day). The sepals are white, tinged and veined with rosy-lilac and the broad petals bright rose, with a silver veining at the edge. The lip is an intense purplish-crimson with gold lines extending from the base. It is interesting to note the similarity of this hybrid, both in the form of the flower and the growth of the plant, to typical Cattleya.

The plant was purchased from the late Mr. H. A. Tracy just before his death, and Mr. Goodson has named it after that well-known orchidist.

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* "Bush" is defined as a Gooseberry bush or Currant bush, and includes a cutting, stock, or seedling, and any part of a bush except the fruit.

TREES AND SHRUBS.

BERBERIS DICTOPHYLLA.

This Barberry was introduced from Yunnan many years ago, but it is not common, nor grown to the extent it deserves. It forms a medium-sized shrub some 4 feet or so in height, and is somewhat broad in proportion. The branches are erect when young, but become semi-arching with age. The ovate leaves are borne in clusters of five at each node, each leaf being about ½ inch long and having a few irregular teeth on the edges. They are bright, grass-green above, and intensely glaucous beneath. This glaucescence is also present on the stems, more especially the younger ones, the blue-whiteness of the whole plant being especially striking in summer. The usual three spines found in most of the Barberries are present beneath the leaves at each node, each spine being somewhat less than one inch in length, and sharply-pointed. The flowers are small, pale yellow in colour, and are succeeded by oval berries, which are red when ripe. Neither the flowers nor the fruits are very striking, the chief beauty of the plant being the peculiar glaucescence of the stems and the undersides of the leaves. It is easily propagated by seeds or by layering.

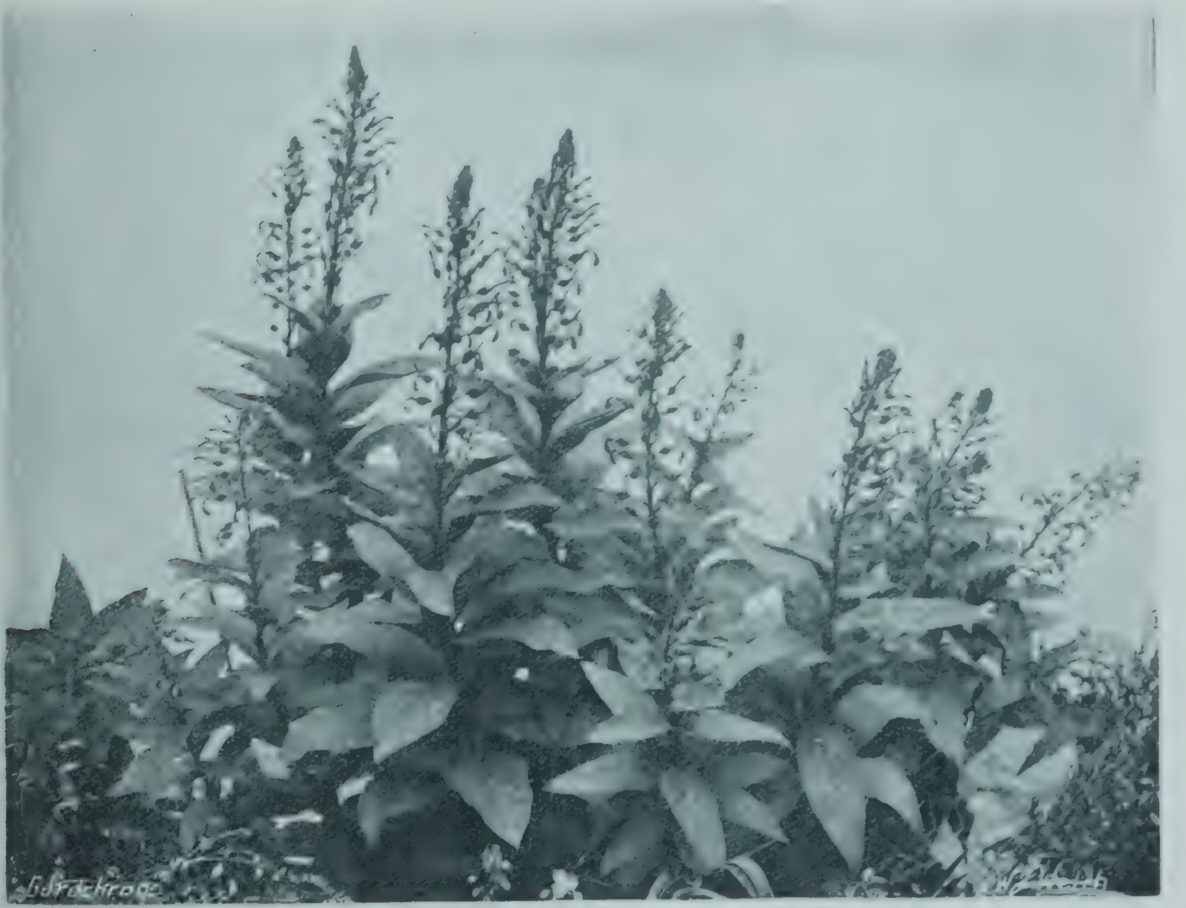


Fig. 108.—Lobelia Tupa at Benchil, Broughty Ferry.

COTONEASTER RUGOSA HENRYI.

This variety is a comparatively recent introduction from China, and from present appearances will be a popular garden-plant when it becomes better known. It forms a somewhat spreading shrub, with the branches springing from opposite sides of the main stem, giving the plant a somewhat flattened appearance, and making it a good subject for a wall. The reddish stems are covered with a greyish felt or tomentum, and clothed with linear-ovate leaves about 3 inches long by somewhat less than 1 inch wide. They are rugose and woolly on the upper surface, and covered beneath with a thick, grey tomentum. The white flowers appear in May, and are borne in small corymbs on nearly every part of the wood of the previous year, being followed by clusters of small, oval berries which turn a bright-red in the autumn. The leaves develop a crimson-scarlet before they fall, and the autumn foliage, in conjunction with the brightly-coloured fruits, renders the plant a brilliant autumn subject for the garden. Plants growing in Messrs. J. Waterer & Sons nursery here, in a somewhat wet position, succeed only moderately well. A dry, sunny wall is the best place for this plant, and in such a dry situation the fruits and foliage colour to perfection. The stock may be readily increased from cuttings or seeds, the latter being freely produced in most seasons. *J. Clark, Bagshot, Surrey.*

RECLAIMING SAND DUNES IN BELGIUM.

Large areas of shifting sands have been successfully planted along the Belgian seaboard, and the method is so simple and inexpensive that an account of it may be interesting to those who live near the coast and to whom the fixing of drifting sands is a matter of importance.

Near the beautiful summer resort of Knocke miles of the coast on either side of the town have been successfully dealt with, the plantation extending inwards to, in some instances, a couple of miles from the sea. These sandy wastes along the Belgian coast are not of the flat character usually met with in some parts of England, but may well be described as of the hill and dale type, many of the dunes rising abruptly to over 200 feet in height and then as rapidly falling to almost sea level; indeed, in viewing the irregular, sharply-rising dune hills behind the town of Duinbergen, they may readily be taken for a rocky formation rather than for vast mounds of sand.

Not in all cases has success crowned the enterprise of the planter, for I noticed several instances where the almost constantly-shifting sands had baffled the best efforts of those who had undertaken their reclamation. However, failures were few and successes far greater than could be expected on so exposed a coast and on such treacherous sands. The method adopted is simple in the extreme; first a fence of brushwood is erected to seaward, and behind this shelter the Marram or Sea Matweed, Sea Buckthorn and Dwarf Willow (Salix repens) become quickly established, and by their creeping rootstocks soon spread about and firmly fix these drifting sands.

Owing to the exposed situation, trees are planted but sparsely next the coast, but inland I saw thriving plantations of the Cluster Pine (Pinus pinaster and its variety maritima), Scots Pine, Poplar, Willow and other trees which had been planted by the State some 20 years ago.

The Sea Matweed is planted in small tufts about 2 feet between each and in lines about a yard apart. It is a most accommodating and hardy plant, and in pure sand the four running roots soon form an anchorage that even the most severe storms are unable to dislodge.

I was surprised to see the Dwarf Willow succeeding so well in pure sand; in many instances several acres of the dunes were completely carpeted by the refreshing green of this useful plant. The Sea Buckthorn, with its silvery foliage and masses of orange-coloured berries, was also quite at home, and covered vast areas of the dunes. After these shrubs have become established, numerous other plants put in an appearance, including the Rest Harrow (Ononis), with its freely-produced, deep-red flowers, Wild Geranium, Violets in abundance, Sedums, and many kinds of maritime grasses. The plantations of the Cluster Pine, or rather its variety maritima, which are inland about a mile, show how well suited this tree is for doing battle with the keen winds of the sea coast, as do also those of the Scots Pine and mixed woods of Poplar, Mountain Elm, Maple, and several kinds of Willow. Here, for the first time, I noticed that the Cluster Pine was attacked by the Pine beetle (Hylurgus piniperda), but not to any serious extent. Beneath many of the Pines and throughout the wood generally I was delighted to renew acquaintance with the red-flowered Helleborine (Epipactis rubiginosa). Nowhere have I found it so prolific, and beneath a single Pine tree I counted more than 50 specimens, and many of the tufts had over 40 flower-heads.

The White Poplar (Salix alba) seems to be peculiarly suitable for planting on sandy soils by the sea coast, as it sends up shoots freely around the stem, and owing to the white undersides of the leaves has a decidedly ornamental appearance when agitated by the wind. Both the White Poplar and the Aspens are pollarded, the tops being annually cut off at about 10 feet from the ground level owing to the exposed situation and winds which blow almost incessantly from seawards.

The reclamation of these dunes show what can be done to convert dreary, treeless, sandy wastes into thriving forests and shrubberies. *A. D. Webster.*

LOBELIA TUPA.

The illustration (fig. 108) shows a plant of Lobelia Tupa growing in the gardens of Mrs. F. Stewart Sandeman, at Benchil, Broughty Ferry, N.B. Though this handsome species was introduced from Chili as long ago as 1824, a really good specimen is rarely seen in gardens. When well grown it is a striking object in the herbaceous border, and a plant that at once attracts attention. Mrs. Stewart Sandeman's plant has occupied its present position for about seven years, and has developed into a huge specimen, carrying this year 27 flower-spikes, the tallest of which is 5½ feet high. During the summer of 1911 the plant ripened a quantity of seed, a portion of which was kindly sent to the writer and it has germinated freely. Lobelia Tupa seems to thrive best in gardens near the sea, in a free, sandy soil. In such a position it is perfectly hardy without protection, whilst on heavy or wet soils the plant can be brought safely through the winter if given a moderate protection. The foliage, which is broad and handsome, is of a pale green covered with whitish down; the flowers are reddish-scarlet in colour, and on well-established plants very showy. In recent years this species has been somewhat scarce, yet it is a subject worthy of a place in the most select collections of plants. *T. Hay, Greenwich Park.*

THE ROSARY.

IRISH ROSES.

I HAVE duties which give me the opportunity of visiting Ulster each year in connection with the Monaghan County agricultural show, a gathering and exhibition of the most comprehensive character.

But my desire at the moment is to convey a few impressions to my old rosarian friends of the Irish-raised seedling Roses that I saw during a recent visit. These Roses were raised by Dr. Campbell Hall, Monaghan; Messrs. Alex. Dickson & Sons, Newtownards; Messrs. S. McGredy & Son, Portadown; and Messrs. Hugh Dickson & Son, Belmont. Dr. Campbell Hall's fine seedlings I saw in his own garden, Messrs. McGredy's I also saw at Portadown, whilst the flowers of both the Messrs. Dicksons were displayed in their fine stands at the show.

I was particularly struck with the blooms shown by Messrs. Alex. Dickson & Sons of their grand dark seedling Rose "George Dickson," also with varieties raised and exhibited by Messrs. Hugh Dickson & Son, Belmont. In Dr. Hall's garden I had the enjoyment of seeing "Annie Crawford," and not for the first time, as an exhibition Rose of the finest type, a beautiful silvery pink with a full, pointed centre and great, deep petals, in every sense a Hybrid Perpetual that has come to stay. Another H.P. Rose, "Mrs. George Wilson," a dark crimson, of which there was at least half-a-dozen perfect flowers that would give added size and form, combined with perfume, to the finest stand of Roses I have ever seen staged. I mention the names of two Roses that I can remember in this garden, but there were others, named and unnamed, of equal merit to many new Roses which have been awarded the Gold Medal of the National Rose Society.

At Portadown, Messrs. McGredy's large plantation of seedling Roses, although it was September 13, was a sight to cheer a Rose-lover's heart. Teas, Hybrid Teas, and Hybrid Perpetuals in every form, type, and shade of colour were growing there in perfect health. That is the place where they can best be judged and a definite conclusion arrived at as to their constitution, freedom of flowering, resistance to mildew, adaptability for exhibition, for decorating the garden, cutting for the house, for florist's purposes, and last, but not least, for the perfume so dearly loved in the old days. In walking through and admiring the beautiful collection of seedling Roses, I was brought to a full stop when I reached the corner, where what I should consider to be a pure Tea Rose was growing. It was almost pure white, and in form and shape a glorified form of Catherine Mermet, but much larger. After admiring the Rose and noticing that there were a hundred or more perfectly-formed flowers fit for either the exhibition stand or the drawing-room, I was told with pride by the Rose grower that this sweet-scented Rose was "British Queen," and had been awarded the National Rose Society's Gold Medal the previous day at the Society's autumn show in London, a just and well-deserved award, for if Messrs. McGredy never raised or sent out another Rose, those who love our national flower will, for all time, treasure this one.

I am now still more strongly convinced, from what I saw in the two gardens of gentlemen who are devoting time and great interest to the raising of Roses, that the present system adopted by the National Rose Society of awarding its medals or commendations for seedling Roses should be changed entirely. At the four meetings of the Society, raisers are requested to put up a specimen plant of the new seedling Rose with six blooms, upon which the award of the judges or jurors is to be decided. How many of the awards that these gentlemen have made would they now confirm after they have grown the Roses over which they went into such raptures when they adjudicated upon the plants placed before them upon the show bench, deciding at the same time whether the Rose was to be considered a Tea or Hybrid Tea, a point which, with due respect, should be decided by the raiser. The time has arrived when the final awards should not be made at the shows of the National Rose Society, but the seedling or sport should be seen in its own home when in a fit condition for inspection and criticism by, say, three gentlemen, whose award would be confirmed by the council of the National Rose Society, it being distinctly understood that the names of the gentlemen who made the award would be given in the usual way. If a practical course like this were adopted, many excellent Roses that could not be shown or exhibited at or on certain dates could be inspected where they were raised, and thus receive that token of merit they deserve. Had such a plan been practised in the past, I venture to think that some Roses would not have received the high honours that have been conferred upon them. *W. J. Grant.*

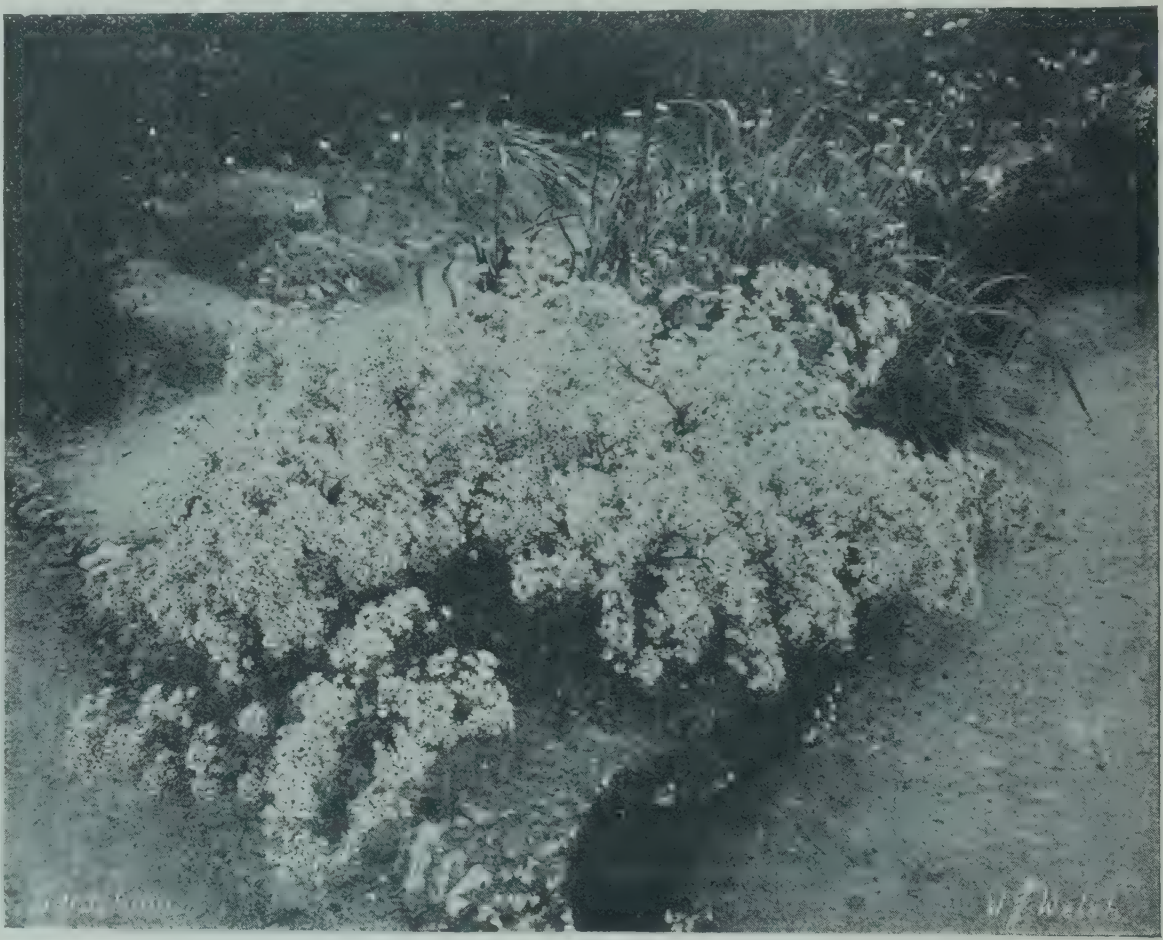


FIG. 109.—SAXIFRAGA LONGIFOLIA IN A DEVONSHIRE GARDEN.

(See p. 245.)

CULTURAL NOTES FOR OCTOBER.

THE end of October is the best time for procuring, from the hedgerows, wild Roses intended for budding as standards the following season. This is fully a month earlier than the majority of growers procure these stocks, but planting early has many advantages. The roots of these strong briars are usually very few in number and exceedingly coarse, but if they are planted early, the soil settles about the roots, and the stems retain their moisture. Another advantage is that the plant has time to develop a few new roots before the winter arrives.

For several seasons I have made careful observation, and invariably found the best results are obtained from stocks which have little, if any, of the older portions of the roots left upon them at the time of planting. If a plant is lifted after a couple of years it will be found that the major portion of the thick root-stock is decayed and covered with a white fungus. There are two reasons for the early transplanting of the budded briars. First, the stock is generally planted deeper than it should be permanently, in order to conserve the moisture in the stem and prevent the stock dying from this cause, which often happens, especially in the case of the taller ones. Lifting allows transplanting at a proper depth. Secondly, suckers may be removed even when in a very young stage.

Stocks do not require richly-manured ground, but the Roses, when worked, need good soil, and shifting allows of this being supplied at the right time. I may appear to have said more upon this matter than is necessary, but experience has convinced me that much of the prejudice against standards is due to their careless or thoughtless preparation, and selecting varieties unsuited for the purpose.

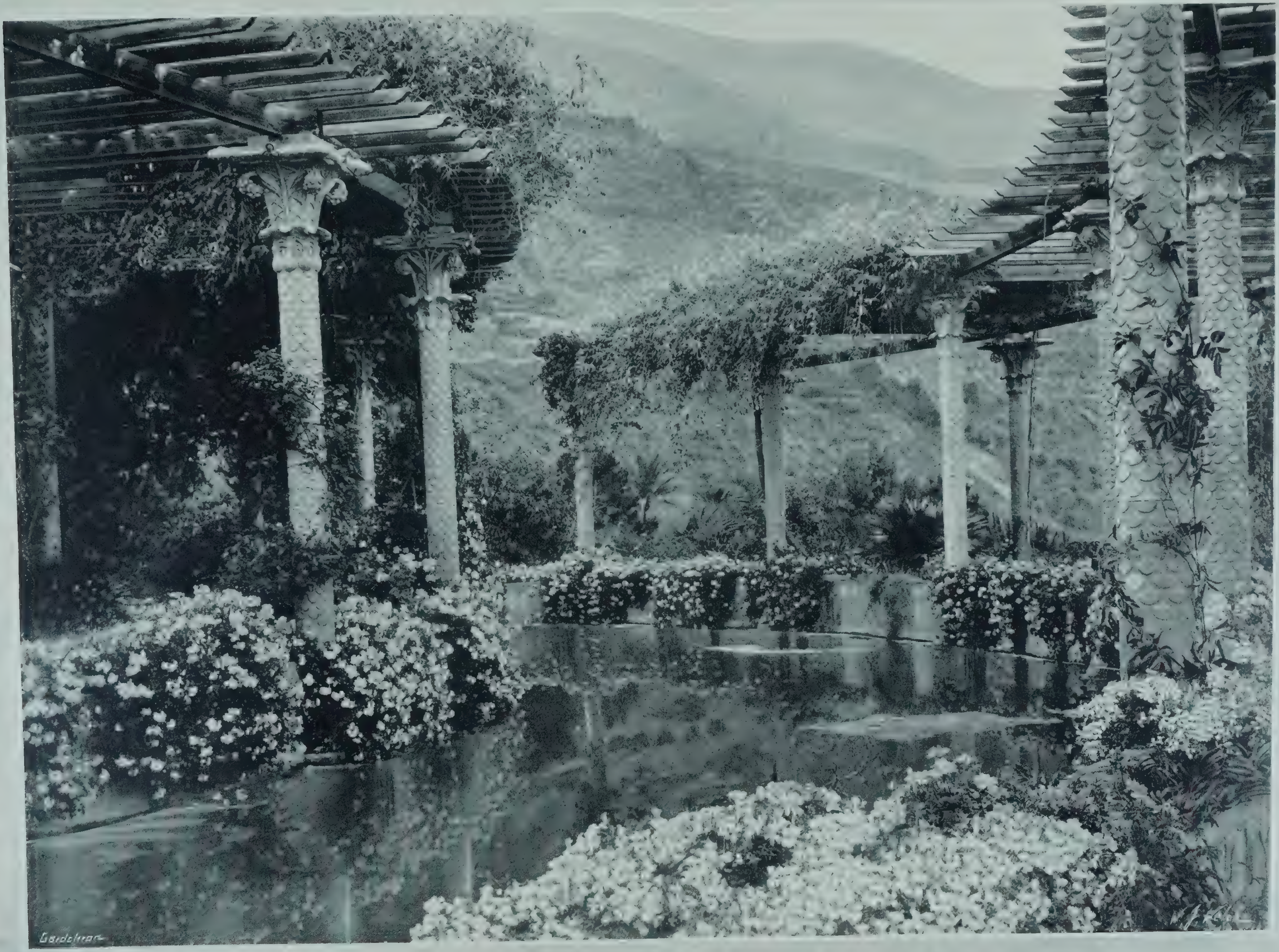
Provided the ground is in a suitable condition and the plants not too much in growth, I prefer to plant Roses by the end of this month. Having made several experiments, I find that early-transplanted plants suffer much less from shrivelled wood, except, perhaps, just at the first, when shrivelling may be prevented by overhead sprayings during dry weather.

In the majority of instances Roses are not planted firmly enough. I do not suggest that the soil should be rammed hard, but it should be trodden firm. Upon no consideration should the roots be set in animal manures. Rather than have too rich a soil around the roots at the time of planting, I recommend mixing a special compost for the purpose and placing a few handfuls of it amongst the roots, previous to filling in the hole with the ordinary soil. When Roses that have been placed in excessively rich soil are lifted, it will be found that the rootlets have a brown or burnt appearance, suggesting an unsuitable medium.

One can scarcely take too much care in spreading out the roots and adding a little of the soil at one time, so that the whole may be well trodden together. In the case of "maiden" or one-year-old plants (dwarfs), the junction of Rose and stock should be placed about 3 inches below the soil when the planting is completed.

Standards should not be planted quite so deeply as when they were maidens, and the stems should

Supplement to the "Gardeners' Chronicle."



THE PERGOLA IN ITALY.

A view in Mr. Winter's "Giardino Madonna," Bordighera.

be secured at once to stakes. Attention to staking is of greater importance than many imagine, for the wind has much more effect upon standards than dwarf plants, which will scarcely sway at all if planted properly. Towards the end of the month a few stocks raised from cuttings intended for winter grafting may be lifted and potted. It is well to plunge the pots in cocoanut fibre and sand, as the bark will be softer and lift better. If a few of these stocks are potted now they will be in a good condition for grafting by the end of November. Some of the seedling Briars may be treated in the same manner; these are much more frequently used now than are the cuttings of Briar and Manetti. Any fairly-sheltered place outside is suitable to plunge them in, and one good watering should suffice.

Roses Under Glass.

Pot Roses should not remain entirely unprotected after the end of October. They do not require heat, but merely protection from excessive wet and frost. I have frequently traced failures to the wood having been frozen, and we sometimes get frost enough after this date to do harm. The wood must not be frozen if the plants are to be forced successfully early in the winter. Another small batch of the ripest plants may be brought indoors for forcing. *Practice.*

SAXIFRAGA LONGIFOLIA.

This Saxifraga (see figs. 109 and 110), whether in a large or small state, is a most delightful plant. Its rarity makes it valuable in the eyes of growers, as in few collections can really handsome, well-grown tufts of this superb plant be found. It is a true Alpine, and always does best in rock-fissures which are almost or quite perpendicular, where the roots can run down to something cool and rich. During the growing season it appreciates abundant moisture. It is the noblest of the silvery Saxifrages, and a most satisfactory plant in all stages. It is interesting to watch the gradual increase of the young rosette of stiff, symmetrical foliage for two or even three years, and finally the growth of the great flower-spike, when, after due ripening of the seed, the plant dies. Unlike other Saxifrages of this section, it produces no offsets, and young plants can only be obtained from seed. The plumes of flower are often nearly 2 feet in length and a foot wide at the base. The characteristic beauty of its huge rosettes of silver-crusted foliage, its immense plumes of innumerable snowy-white flowers, and, above all, the ease with which it may be grown, mark it at once as a most desirable plant for every rock-garden. Even where the conditions cannot be considered as favourable, it is by no means unusual to see the individual rosettes over a foot in diameter, and many of the leaves close on 7 inches or 8 inches in length. Its headquarters are in the Pyrenees, where it may be seen in great numbers effectively veiling the surface of almost perpendicular rocks. This fact has given rise to many of the failures experienced in its culture. The rosettes, where they can be collected, are pulled roughly from the rocks and sent home with instructions to plant them in a wall. They naturally fail, both because the greater part of the roots have been destroyed, and because there is nothing in common between a natural rock-face and a wall. If the roots of these Saxifrages could have been followed, they would have been found feet, perhaps yards away, in the crevices of the rocks, cool and moist, while the rosette on the surface was quite dry. These are the conditions that suit Saxifraga longifolia, and it may be easily grown, even in small rockeries, with layers of stones. Seeds can be raised in a cold frame, and the seedlings either kept in pans or boxes, or planted out in suitable spots in the rock-garden. The more exposure they are given, the better they will thrive. *Wyndham Fitzherbert.*

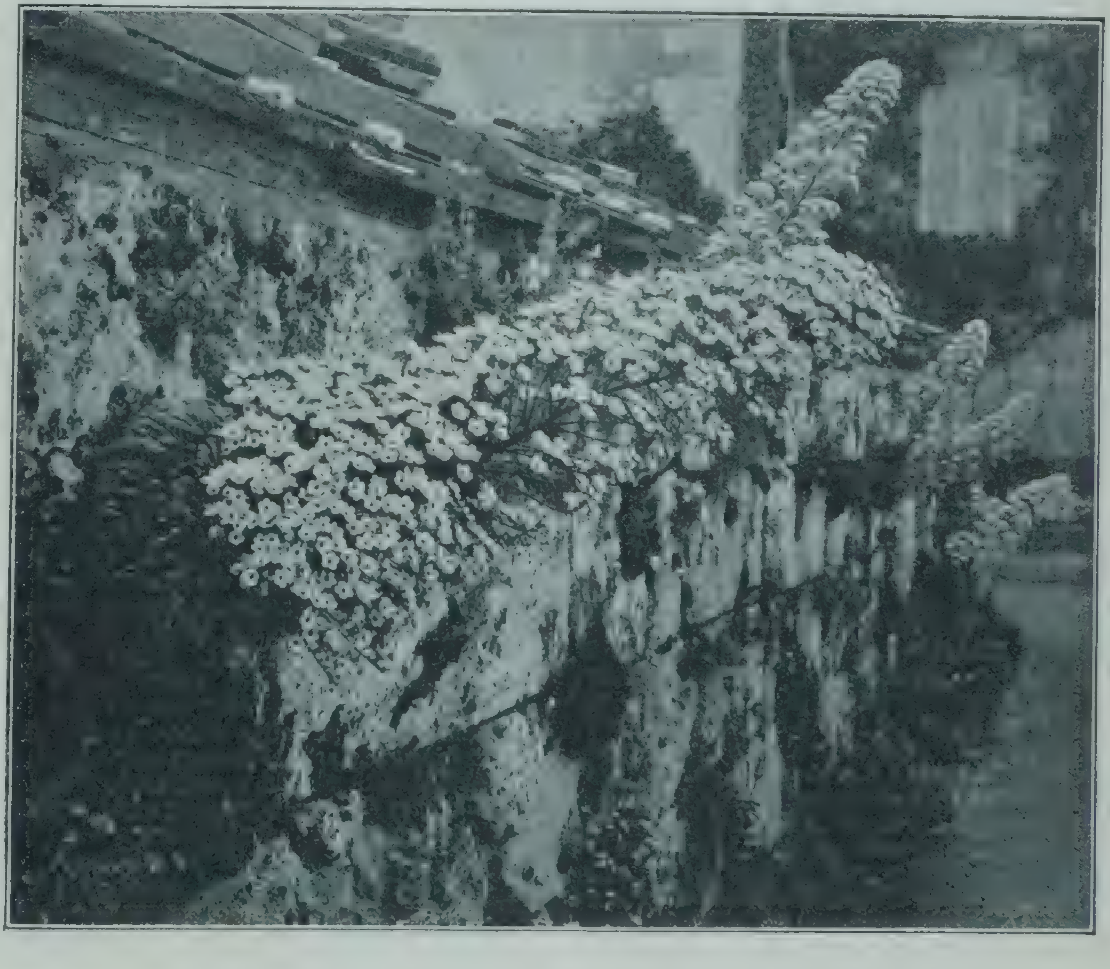


Fig. 110.—Saxifraga longifolia in the Jardin d'Acclimatation, Geneva.

HARDY FLOWER BORDER.

HERBACEOUS PÆONIES.

There have been more complaints this season than usual of the failure of these plants to flower. The cause is not far to seek, for it is primarily if not entirely due to the great heat and drought of 1911. The plants remained at a standstill at a time when leaf-growth should have been most active. The successful flowering of the herbaceous Pæony largely depends on the growth made in the previous year, for good crown buds are necessary. Hence it is important that the plants are kept growing in their season. As the direct result of the long-continued heat and drought of last year, the plants acquired a debilitated condition, and the crown buds were much weakened. Thus the leaf-growth this season was of diminished vigour. The Pæony, in its method of root production, the shortness of its season of growth, and the storing up of the embryo flower in the crown bud of the plant, differs from many other hardy herbaceous subjects. In these circumstances, attention should be paid to the fullest development of the leaf-growth by providing moisture and the requisite food supplies. Blindness has been seen in the case of recently-planted as well as established specimens this season, whilst those plants that have escaped have not borne flowers of average quality. Exceptions have been seen in some of the single Japanese varieties, such as General Nogi and Nymph, the latter, side by side with good varieties of P. sinensis, having flowered splendidly. The old-fashioned double crimson P. officinalis fl. pl. has, however, suffered as much as any variety, more particularly in very light or very heavy soils.

In the case of recently-planted examples, I have advised that the plants should be allowed to remain in their positions, and be mulched or encouraged with liquid manure from September onwards, when the period of root activity in the Pæony begins afresh. In the case of old-established clumps growing in exhausted soil, I recommend lifting, dividing and replanting early in September. Those who do their Pæony planting when a few inches of new growth is apparent in early spring are doubtless among those who complain that this subject is "impatient of disturbance," and it certainly is—if disturbed at the wrong time. In spring, the main root-fibres have been produced, and once broken or checked by lifting they do not recover. Like the Daffodil, the Pæony should be replanted during its dormant period, so that its rooting may be begun, continued and ended in the soil. It is because of its peculiarities in root production that I place the Pæony in a small group which I style "periodical" rooting as opposed to many others which produce root-fibres perpetually or nearly so. By dividing the plants in August and September, and replanting them, they soon recover from the check.

Pæonies should never be transplanted in big clumps intact. They either root feebly or not at all from the broken tap roots and trunk; the best roots issue from the base of the crown bud, or around it. In a big clump the majority of the buds are not in contact with the soil. The great majority of the tap roots are of no further use to the plant in such circumstances, and may be cut away. This done, take a large clump, place it on its side on the potting bench, and selecting two strong hand-forks, place these back to back, and thrust or drive them with a mallet into the trunk or root-stock of the plant 2 inches or so below the base of the crown buds. By wrenching in an opposite outward direction the trunk is severed, and if need arises the operation may be repeated. Good planting specimens should possess three or four well-developed crown buds. In the Pæony the roots cross and recross each other, and by cutting straight through with a sharp instrument much loss is experienced, but by wrenching the roots asunder this loss is reduced to a minimum. Where handsome groups of plants are required, these may be obtained by arranging several specimens close together, say, at 2 feet or 2½ feet apart each way. In planting, it should be recognised that the Pæony is a deep-rooting and gross-feeding plant, hence a deep, rich soil is essential to permanent success. In the light soils of this portion of the Thames Valley, in addition to ample waterings at other times, I have often supplied the roots liberally with liquid manure in winter time, with the best results. *E. H. Jenkins, Hampton Hill, Middlesex.*

The Week's Work.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Hertfordshire.

CARROTS.—The operation of lifting the main crop of Carrots intended for use during the winter should be performed on a fine day. They should be carefully dug up with a long-pronged fork and sorted over, the best-shaped specimens being set apart. The tops should then be removed, and the Carrots stored away as soon as possible, either in the pit or in the root store, as the case may be. Another alternative is to keep them under a north wall, plunged in sand or dry soil; but the root store, if well built and in a suitable position, is probably the best place for them. A very good store can easily be constructed in the form of a lean-to shed against a north wall, with earthen floor and partitions of plain four-and-a-half brickwork. A trellis of wattle hurdles can be laid against the partitions for the storing of Onions.

CAULIFLOWERS.—One more sowing may be made, for wintering in a cold frame, at about the end of this month. The seed bed should be protected by means of a frame. As soon as the seedlings of the previous sowing are large enough, they should be planted out in poor soil in a cold frame, with a distance of 4 inches between each plant. They should not be coddled—even during the winter they should have as much fresh air as possible, though they must be protected from actual frost.

LATE PEAS.—The dull weather and chilly nights which have been experienced lately have been most unfavourable to the growth of Peas, and many of the flowers have failed to set. However, an improvement has taken place during the last few days, and, if this continues, an occasional soaking with manure water may be given on bright days. Birds have been very troublesome of late, and it will be well to protect the pods with netting. The growths should be thinned out, if necessary, and if the late flowers appear too numerous these may be thinned also.

FRENCH BEANS.—Special attention should now be paid to French Beans growing in cold frames, as they will continue to give a supply of pods after the Scarlet Runners have all been cut out-of-doors. The plants should be well supported with stakes and kept moist; while the crops are swelling, manure water may be given with good results. On frosty nights it will be well to allow a very little heat. When the weather is bright, the foliage should be syringed; this, and an occasional stirring of the soil between the rows, will tend to keep the plants in a healthy fruiting condition. If there is a warm house available, the earliest sowings may now be made for the following season; but unless a brisk heat can be obtained, it will be well to defer sowing for a time. If, however, it is decided to sow now, care should be taken that the pots are not too large: 8 inches is a suitable size. A compost of turfy loam should be used, and some horse-droppings added, such as are used for the formation of Mushroom beds. A little leaf-mould may also be used, and the mixture kept in a loose condition. Until the seeds germinate, the pots should stand close together; the surroundings should be kept damp by means of syringing.

TOMATOS.—Plants for winter-fruiting should now be well established in pots, and strong growth—not gross—should be encouraged. The plants should stand in a fairly light place in a house with a south or south-west aspect, and they must be watered carefully. On bright, warm days, ventilation may be freely given, but in foggy, damp weather air must be admitted with caution, and a little heat supplied to maintain a temperature of 50° to 60°. Side growths should be removed, and a slight sprinkling of finely-sifted loam, with a liberal addition of artificial manure on the surface, will tend to keep the roots active. Successional plants, intended for fruiting in the early spring, must be shifted, in order to prevent their becoming pot-bound; they should be kept in a light position—such as a shallow pit—where a little heat is available when required. They will fruit well in forcing houses if sufficient light can be obtained; Winter Beauty and Sunrise are two varieties which will do particularly well under this treatment. The pots should not be more than 9 inches across.

THE FLOWER GARDEN.

By J. G. WESTON, Gardener to Lady NORTHCOTE, Eastwell Park, Kent.

PLANTING VIOLETS IN FRAMES. — Plants which have been growing in the open ground all the summer will now be ready to be transferred to frames or pots. The transfer should be completed, if possible, by the end of the month, so that the plants may be established before the winter begins. Owing to the dull, wet weather, Violets have made more foliage than usual, and there has been so little sunshine that it is to be feared that the crowns will not be so well ripened as one would wish for winter flowering. Before the actual lifting is begun, the frames should be prepared and everything be in readiness, as there must be no delay in planting when once the roots are out of the ground. The greatest care should be taken in lifting the plants; the ball of earth round the roots must be kept perfectly intact, and if any plants do not fulfil this condition they cannot be relied on to thrive in the frame. They must also be strong and healthy, or it is useless to transfer them. Methods of cultivation vary considerably. We ourselves find it the best plan to plant the Violets in a frame facing due south, so as to ensure their obtaining the full benefit of the sunshine. The bottom of the frame must be very firm; it is often found desirable to utilise frames which have been used for growing Cucumbers or Melons. The compost for planting should consist of two parts turfy loam to one part of leaf-soil, and one part of spent Mushroom-bed or well-rotted manure. To this, some crushed mortar rubble should be added, and plenty of sharp sand. The soil should slope down towards the front of the frame, and the foliage of the plants should be at least 12-18 inches away from the glass at the top. This latter point is important, as there should always be space for air between the plants and the glass. During severe weather it is often necessary to close the frame altogether, in which case, ventilation from outside being impossible, a supply of air space inside is essential. The plants should be put in firmly, and well watered when finished. They should be shaded from bright sunshine for the first few days, and the frame may be kept fairly close. If the plants seem inclined to flag, the foliage may be damped at intervals. Air should be admitted gradually, at first only in the evening and at night, but after a few days abundant ventilation may be admitted during favourable weather. Draughts and cold winds should be avoided, and some finely-sifted leaf-soil or Cocoanut fibre refuse may be laid on the surface of the soil. All decaying leaves should be picked off and the glass kept clean.

VIOLETS IN POTS.—Flowering Violets are often grown in pots, and all plants intended for this purpose should be potted at once and placed in conditions similar to those recommended for frame plants. The advantage of the potting method lies in the fact that the plants can be moved at will into the conservatory or the dwelling-house.

HELENIUM. — These plants are among the brightest of the herbaceous perennials, and some of the taller varieties are now conspicuous in the borders. The dwarf varieties, such as H. pumilum and Bolanderi, flower profusely earlier in the season over a long period. At the present time, H. grandicephalum, H. striatum, and H. cupreum are noticeable, and the newer H. Riverton Gem is much admired for its bright colouring —a happy combination of terra-cotta and old gold. H. autumnale grandiflorum and H. a. superbum are both capital plants for autumn flowering.

DAHLIA.—The Dahlia plants are now at their best, and every effort should be made to keep them in flower as long as possible. In view of the prospect of autumnal storms, all ties should be well secured. After a rough wind it is a good plan to examine the stakes and replace any broken ones, cutting off, at the same time, any old blooms and damaged growths. By means of constant attention, the Dahlias may still prove attractive for some weeks.

SUB-TROPICAL BEDS.—The growth of the plants in these beds usually becomes somewhat rampant late in the season, and the strong-growing, rather weedy subjects are apt to encroach on their weaker neighbours. Special attention must be given to the permanent plants which will be taken back to the greenhouse after the summer spent out-of-doors. For the sake of the more tender plants, the approach of frosts should be carefully watched for, and adequate protection given in order to prevent any injury.

THE ORCHID HOUSES.

By J. COLLIER, Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey.

CATTLEYA.—Plants of C. gigas, C. Hardyana, and C. Warneri that have passed out of flower will soon begin to produce roots from the pseudo-bulbs, and any which require to be repotted or resurfaced should be attended to without delay, as also should such Lælias as L. tenebrosa, L. purpurata, and their numerous varieties, which will, by this time, have commenced their new growth, and will be pushing new roots from the base of the young shoots. When the plant has been removed from the pot, the old, useless pseudo-bulbs, especially those that have no leaves, should be cut away. The plants should then be placed into receptacles of sufficient size to accommodate them for the next two seasons. Ample drainage must be afforded, and pots which are to contain moderate-sized plants should be filled to about half their depth with clean crocks, whilst for larger specimens a greater depth of drainage should be used, and less potting material. When potting, keep the rhizome of the plants just level with the rim of the pot, and press the compost firmly among the roots.

LÆLIA ELEGANS.—The plants of this species which have recently passed out of bloom will be producing fresh roots from the youngest pseudo-bulbs, and should also be repotted at this period. When repotting any of these species with long bulbs, it is important that the plant is made thoroughly firm by tying a few of the bulbs to neat, strong stakes. Any plants of such Cattleyas as C. Mendelii, C. Mossiæ, C. Trianæ, C. guttata and C. Leopoldii that have grown too large for their pots may safely be repotted at this season. If they are pushing new roots from the base of the youngest pseudo-bulbs, do not pull the plants from the old pots, but break them and carefully remove the pieces of pots, and, without disturbing the drainage or roots, place the whole into a pot of suitable size, filling in around with some new compost. The rooting medium for all the above-mentioned plants should be similar to that mentioned for Cattleyas in the calendar for April 6. After being repotted, the plants should be exposed gradually to more light and air, only afforded sufficient water at the roots to prevent shrivelling, because if the compost is kept continually damp at this season, the plants will commence to make growth instead of taking their proper season of rest. I do not advocate unnecessary repotting of Cattleyas, Lælias, or their hybrids at this season, but it is generally known that where numbers of these plants are grown they are not all ready to be dealt with at the same time. Repotting should be done when it is seen that new roots are emerging from the new pseudo-bulbs or leading growths. The Cattleyas which flower in the autumn (C. labiata, C. Bowringiana, and many Cattleya and Lælio-Cattleya hybrids) have finished their season's growth, and are pushing up their flower-spikes. These plants should be staged in the cooler part of the Cattleya house, where plenty of fresh air will reach them, and where they will be exposed fully to the light, so that the new pseudo-bulbs and leaves will become hardened. Only sufficient water to keep the roots moist until the flowers are fully developed should be afforded, when the supply must be lessened gradually. Many species and hybrids of Cattleya and Lælia are finishing their growths, and during dull, damp weather it will probably be found that the outer sheath which encircles the new bulb has become soft and sappy, and, clinging tightly to the bulb, excludes the air. As this condition often causes the bulb to rot, the sheath should be slit open from top to bottom, keeping the plant dry for a few days and reducing the atmospheric moisture

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Violets.—There should be no delay in transferring Violets to frames from the open ground, and, provided they are lifted with good balls of soil, the plants will receive very little check at this season. Brick frames are undoubtedly the best structures, as they keep out more frost than those made of wood, though these latter may be used in districts where frost is not severe. If a daily supply of Violets is required during the winter, a portion of the stock should be planted in frames where heat may be provided during very cold weather. As a rule, the plants are not fastidious in respect to soil, provided it is of a fairly open texture and sweet; but, wherever possible, a little fresh loam should be provided. The frames should be filled to within about 9 inches of the glass, except for the larger-growing, single varieties, when at least 1 foot should be allowed between the soil and the glass. In planting, press the soil moderately firm, and place the crowns fairly well out of the soil, so as to obviate, as far as possible, any danger from damping. Give the roots a good watering, and keep the lights off until protection from wet or cold weather is necessary. To prevent the foliage from flagging during bright sunshine, syringe the plants overhead with very weak soot-water; but this should only be done when absolutely necessary.

Housing Chrysanthemums.—By this date large-flowering Chrysanthemums should be ready for placing indoors, as frost may occur at any time. So far as possible, plants in different stages of development should be housed separately. Those that are already opening their flowers should be placed in a cool, dry house, where, if necessary, they may be shaded to retard the blooming. The very late varieties may be placed together in a house, where, later on, fire-heat may be provided. These late plants may be given manure for some time to come; by placing them together feeding will be done much more easily than if housed in a haphazard manner. The early and mid-season decorative and single varieties should also be housed, giving the plants as much room as possible to ensure the growths keeping stocky. Late varieties, such as Winter Cheer, White, Yellow, Bronze and Pink Victoria, A. J. Balfour, and J. W. Crossley, may still remain out-of-doors, but they should be arranged together, so that, in the event of frost, they may be either covered with lights or some protecting material. In such a position they may, with advantage, remain for three or four weeks. For the present, all the air possible should be allowed the plants. After they are brought under glass, the plants will require a fair amount of water, for there will not be much atmospheric moisture, and dryness at the root would cause a severe check. Liquid manure may be given in all instances till the blooms are about half developed, when clear water only should be used.

Watering and Syringing.—The majority of plants do not require so much water at this season as during the period of more active growth, and overwatering must be guarded against. An excess of water during autumn would result in a sappy growth, which is not easily rectified. Syringe the plants in the stove houses overhead on bright mornings only; where much fire-heat is employed, keep the stages and paths damp, as even at this season, red spider and thrip soon make their appearance if the atmosphere becomes too dry.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Strawberries in Pots.—In order that the crowns may be well ripened by the end of the season, every chance must be given for sunshine and air to move freely about them. If necessary the plants should be thinned out, as overcrowding must be avoided. Weeds must be removed regularly, also side growths and runners. Thoroughly syringe the foliage on hot days, for this will tend to keep the plants free from attacks of red spider. Mildew will sometimes affect the leaves at this time of the year, but this may be prevented by spraying the plants occasionally with a solution of soft soap and sulphur. The pots being now full of roots, water will be required much more frequently than formerly. Liquid manure and soot-water should also be afforded with increased strength as the crowns develop.

Early Pot Vines.—Those vines which will be required for starting at the beginning of November, should soon be perfectly matured. If the wood is well ripened the canes may be shortened to the desired length in the first week in October. They may then be placed in an exposed position till the time arrives for placing them into the forcing house. In selecting the vines for very early forcing, preference must be given to those which have made short-jointed growths of medium strength. These will be more thoroughly matured than the stronger ones. The vines will require a little preparation before placing them in the forcing house. The rods must be thoroughly scrubbed with a fairly strong mixture of soft soap and sulphur, taking care not to damage the buds in the process. Remove some of the soil from the surface of the pots to make room for a top-dressing of rich loam mixed with crushed bones, wood-ashes, and a little concentrated manure. If there is no room for the top-dressing material, zinc collars may be placed round the pots. Ram the soil firmly with a wooden rammer. The most suitable house for forcing early pot vines is a three-quarter span having a southern aspect. The house must be well provided with hot-water pipes, so that the temperatures may be easily kept up without heating the pipes to excess. A house which is not too large should also be preferred.

Early Permanent Vines.—The wood on these vines should be sufficiently matured to admit of the pruning being done early next month. In pruning very old vines it is not always prudent to cut the wood too hard back. To ensure an even crop of good bunches it may be necessary in some cases to lay in some young shoots where there is room to tie these to the main rods. In all cases it will be wise to leave two or three good prominent buds on each shoot. The vines may not present such a neat appearance by this treatment as they would if the shoots were cut hard back, but the crop should not be sacrificed for the sake of appearance. When pruning is finished, give the house a thorough cleansing, and if painting is necessary the present is the best time for this to be done. The rods should then be given attention. If mealy bug has been troublesome all loose bark must be removed, which should be caught on a sheet of canvas and burnt. Afterwards well scrub the rods with strong soft-soapy water or Gishurst compound, using a stiff brush for the purpose. If painting is not done the trellis and all iron work should be well saturated with paraffin. All brickwork should also be given a good coating of lime-wash. The borders then must be carefully forked over, removing sufficient of the surface soil to make room for a good top-dressing of loam, lime rubble, wood-ashes, and artificial manure. Before starting the vines into growth, examine the border, and if water is required let the roots be given a good soaking. They will not require watering again till the vines have burst into growth.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Gathering Fruit.—Fair weather should be chosen for the gathering of all kinds of fruits, it being necessary for them to be harvested in a dry condition. They should be sorted carefully, and imperfect specimens selected for present consumption. The season is a backward one, and some fruits are still immature; if the situation is somewhat sheltered, allow such fruits to hang for as long as possible, as they always keep better when ripened properly. Late Pears on walls should be allowed to hang for some time to come; being protected from damage by winds, they will keep and ripen better than fruits on exposed trees, and are also of much better flavour. Late varieties of Plums should be gathered earlier than usual this season if damp weather continues, as many of the fruits will split through the wet and be spoiled for dessert purposes. It should be constantly borne in mind that those fruits which are stored properly will increase in value as the weeks pass; it is only in autumn that a temporary glut is liable to cause the cultivator to under-estimate the worth of his crop.

THE APIARY.

By Chloris.

Diseases and Beekeeping.—Owing to the losses which beekeepers have sustained from diseased bees, there is a tendency to give up beekeeping; in other cases to continue, but to neglect the bees. Both cases are wrong, and the latter especially so, because they are endangering the health of the bees of their neighbours who take beekeeping seriously. No agricultural or horticultural pursuit is free of bad seasons, and beekeepers must expect to share the common lot of those who are dependent to some extent on the character of the weather.

Bee Legislation.—On July 26, Mr. Runciman introduced a Bill in the House of Commons to deal with bee diseases, so every beekeeper should now make it his business to inform members of Parliament upon the difficulties surrounding the art of beekeeping, and the dangers to which we are subjected without the hope of redress through the ignorance and carelessness of neighbours.

The principal clauses of the suggested measure are:—

1. That the Board of Agriculture may make such orders as they think expedient for preventing the introduction into England and Wales of any pest or disease affecting bees, and for that purpose any such order may prohibit and regulate the introduction or admission by post of bees and any articles or appliances used in connection with beekeeping, and any other thing whereby any such pest or disease may be introduced, and any such order may direct or authorise the seizure, detention, destruction or disposal of any bees or things introduced or admitted in contravention of such order.

2. The Board may authorise the destruction by the Local Authority of any colony of bees affected and any receptacle (other than a movable comb hive) in which there are or have been affected bees, and may authorise the local authority to pay compensation of the value of the thing destroyed, of bees, or any other thing, which, in their opinion may spread the pest or disease.

3. (a) An order under this Act may impose fines recoverable on summary conviction for offences against the order, not exceeding ten pounds for one offence. (b) An order under the Act may direct or authorise the local authority to carry into effect and enforce the order within the district of the local authority, and if the local authority fails to carry into effect the order or provisions, the Board shall have the power of executing and enforcing the order, and recovering the expenses incurred, such as are conferred on the Board by Section 34 of the Diseases of Animals Act, 1894. (c) In proceedings under the Act no proof shall be required of the appointment or handwriting of an inspector, etc.

4. (a) The Local Authorities under the Diseases of Animals Act shall be the local authorities for this Act. (b) Every local authority shall appoint so many inspectors and other officers as they may think necessary for the execution and enforcement of orders under the Act. (c) Local authorities and officers shall make such reports, etc., as the Board require.

5. (a) The inspector of the Board or local authority may, if he desire, be accompanied by an expert adviser, enter any building or place wherein he has reasonable ground for supposing that there are or have been bees affected by any pest or disease, or that any order under the Act has not been, or is not being complied with, and examine any bees on such premises and anything thereon used for or in connection with bees. (b) Any person obstructing an officer from entering such building or place shall be deemed guilty of an offence under the Act, and be liable to a penalty of ten pounds.

6. The Act shall apply to Scotland.

Flora of the Malayan Peninsula.—In 1889, the late Sir George King published the first part of his "Materials for a Flora of the Malayan Peninsula" in the *Journal* of the Asiatic Society of Bengal, and each succeeding part has also been issued separately. This work has now reached the 22nd part under the editorship of Mr. J. Sykes Gamble, who was a contributor during Sir George King's lifetime. It contains the families Nyctaginaceæ, Amarantacæ, Polygonaceæ, Aristolochiaceæ, Chloranthaceæ, Lauraceæ and Hernandiaceæ, all except the Polygonaceæ worked out by Mr. Gamble. These seven families contain 33 genera and 189 species, of which 1 genus and 78 species were previously undescribed. Most important of these families is, of course, the Lauraceæ, of which 156 species, belonging to 16 genera, are described. Litsæa alone numbers 55 species, many of them doubtless valuable timber trees, but on this point no information is given. Many interesting points must come to light in the course of examining so much material, and a few additional pages devoted to their record would be of service, to say nothing of saving them from oblivion and relieving the monotony of descriptions. However, a plan is a plan. Mr. Gamble estimates the number of species of Cinnamomum at about 140, unless that be a misprint, of which only 15 are recorded from the Peninsula. The new genus, Stemmatodaphne, is a monotype allied to Phœbe.

APPOINTMENTS FOR OCTOBER.

TUESDAY, OCTOBER 1 – Scottish Hort. Assoc. meet.

WEDNESDAY, OCTOBER 2–
Nat. Chrys. Soc. Exh. at Crystal Palace (2 days). Nat. Vegetable Soc. Exh. at Watford. Co. Clare Hort. Soc. Fruit and Farm Produce Exh.

SATURDAY, OCTOBER 5–
Soc. Française d'Hort. de Londres meet.

TUESDAY, OCTOBER 8–
Royal Hort. Soc. Coms. meet. (Lecture at 3 p.m. by Dr. Charles Crowther on "The Influence of Atmospheric Impurities on Vegetation.") Hort. Club Meet.

THURSDAY, OCTOBER 10–
Royal Hort. Soc. Autumn Sh. of British-grown Fruits (2 days).

FRIDAY, OCTOBER 11–
Ann. Conference of Affiliated Mutual Improvement Societies at R.H.S. Hall, Westminster.

MONDAY, OCTOBER 14–
United Hort. Benefit and Prov. Soc. Com. meet.

WEDNESDAY, OCTOBER 16–
North of England Hort. Soc. meet. at Leeds. (Lecture by Rev. J. B. Hall on "Apple Culture.")

MONDAY, OCTOBER 21–
Nat. Chrys. Soc. Executive and Floral Com. meet.

TUESDAY, OCTOBER 22–
Royal Hort. Soc. Coms. meet. (Lecture at 3 p.m. by the Rev. Prof. G. Henslow on "The Senses of Plants.")

WEDNESDAY, OCTOBER 23–
Hertfordshire Fruit, Root and Chrys. Soc. Sh. (2 days). Women's Agric. and Hort. International Union's Sale and Exh. at R.H.S. Hall. Nat. Poultry Diploma Exam. at Hall.

TUESDAY, OCTOBER 29–
Nat. Chrys. Soc. Sh. at Crystal Palace (3 days). Kent Commercial Fruit Sh. (2 days).

WEDNESDAY, OCTOBER 30–
Kent. County Chrys. Soc. Sh. (2 days). Borough of Croydon Chrys. Sh. (2 days.)

THURSDAY, OCTOBER 31–
Torquay Dist. Gard. Chrys. Sh.

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—51·1.

Actual Temperatures:—
London.—*Wednesday, September 25* (6 p.m.): Max. 57°; Min. 48°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, September 26* (10 a.m.): Bar. 30·1°; Temp. 56°; *Weather*—Fine.
Provinces.—*Wednesday, September 25:* Max. 57° Ireland S.W.; Min. 48° Aberdeen.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY–
Dutch Bulbs at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY, WEDNESDAY AND THURSDAY–
Sale of Dutch Bulbs at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

TUESDAY AND WEDNESDAY–
38th Annual Sale of Nursery Stock at Sunningdale Nurseries, Windlesham, Surrey, by Protheroe & Morris, at 12.

WEDNESDAY–
Trade Sale of Bulbs, at 1; Palms and Plants, at 4; at Protheroe & Morris's rooms.

THURSDAY–
Clearance Sale of Nursery Stock at Marden Park Nurseries, Woldingham, by Protheroe & Morris, at 12.
Leasehold Fruit Farm and Nurseries at Eynsford and Swanley, Kent, at the Mart, London, E.C., by Protheroe and Morris, at 2.
Freehold Market Nursery, Park Lane, Cheshunt, Herts, at the Mart, London, E.C., by Protheroe & Morris, at 2.

FRIDAY–
Orchids, at Protheroe & Morris's rooms, at 12.45.

Soil Conditions and Plant Growth. No one, with reason, could require a commander on active service to employ the intervals between his engagements in writing a history of the campaign. All that is expected is that he should dispatch reports from time to time showing the progress which his army is making. Later on, when peace broods again over the land, the historian will tell the story and apportion praise and blame with the cold and cruel justice of the student. So, also, whilst the arduous work of building up a science is in progress, it is not reasonable to expect anyone engaged in that service to write a finished and final account of the operations which are bringing the campaign slowly to a successful issue.

Hence, in taking up Dr. Russell's new volume on "Soil Conditions and Plant Growth,"* though we may expect it to contain luminous reports of the progress of the army of biochemists in their work, we must not look for a finished story nor for final statements. We shall be content if we learn from headquarters that the operations are proceeding smoothly, and that steady advance is being made.

Looked at from this standpoint, there can be no doubt that Dr. Russell's monograph is eminently successful. It shows that he and his fellow-workers in the Old and New World are beginning to evoke scientific order out of the chaos of observed facts.

No horticulturist requires to be reminded that the soil is a material of extreme complexity, that it is the seat of complex chemical operations, and that it is the natural home of vast numbers of micro-organisms all drawing nourishment therefrom and adding waste substances thereto. Hence it is not necessary to emphasise the difficulty which attaches to investigation into the science of the soil and into the relations between the soil and the crops which it bears. What is worth while perhaps is to note that the agricultural chemist has also, and at last, realised the complexity of the problems presented by the soil. In consequence of his having learned this lesson, agricultural chemistry is passing through a transition stage.

Gone is the curt confidence which marked its earlier manner. It no longer attempts to apply off-hand the chemistry of the laboratory to the field. It recognises that the chemistry of the soil is not that of dead things only, but is the chemistry of the living, of the dying, and of the dead. So profound has been the effect of this discovery, that agricultural chemistry has joined hands with biology, and has even gone so far as to change its name. It is now a branch of the great science of biochemistry.

Though changed in name, its purpose is still the same—a high and splendid purpose—though vastly difficult of achievement. That purpose is no less than to discover the laws which lie at the foundation of all good practice.

In its early, confident days, agricultural science sought to accomplish this object by seeking in the plant or soil for the "Principle of Vegetation." Successive pioneers announced, in the not-uncertain tones which science is apt to use, their several discoveries. Van Helmont, who grew a Willow twig in water in a pot of earth, found that in the course of five years it had gained several hundreds of pounds in weight, though the earth in the pot weighed only 2 ounces less at the end of the experiment than at the beginning. Hence he was able, by neglecting the 2 ounces of lost soil, to proclaim that in water he had discovered the principle of vegetation. Another 17th century agricultural chemist, Glauber, announced that saltpetre constitutes this principle. Others preferred the claims of humus, and Jethro Tull, the great Oxford husbandman, insisted that the particles of soil themselves, if only small enough, were the principles; that the roots of plants had mouths—albeit very little ones—and the end of all good practice was to prepare the plant's pabulum by breaking up the soil as finely as possible. Thus, through many vicissitudes of speculation, agricultural chemistry toiled after agricultural practice—which had had a start of countless centuries—intent on explaining to the grower the mysteries of the soil and its relation with the plant. The slow growth of this scientific knowledge is traced in detail by Dr. Russell in an admirable introductory chapter, to which the curious reader may be referred. This youthful, sanguine phase of agricultural chemistry endured even until our own times, for we ourselves have known chemists who thought that to present a soil analysis to an inquirer was to solve his problems as to soil treatment. That phase, however, is over, and Dr. Russell's work marks the second transitional phase between the simple naïveté of ignorance and the simple certainty of assured knowledge. Agricultural science in this second phase may be likened to one of those puzzles—popular among children—in which a finished picture must be formed by the fitting together, piece by piece, of many small portions which, as they lie pell-mell, present no obvious relations one with another.

This being the state of the science—so many scattered pieces of fact awaiting the fitting together—it is no disparagement of Dr. Russell's work to say that it fails to complete the picture. Nevertheless, by assembling the scattered pieces of the soil puzzle, and by showing that they are susceptible of association into a finished whole, the author has made a noteworthy contribution to the progress of the science. It is apparent, from what has been said already, that Dr. Russell's work must be studied piece by piece, section by section, rather than as a whole.

Studied in this way the work will prove of great assistance, not only to the agricultural chemist, but also to the gardener. To the latter it will prove by no means easy reading, and this because the narrative is, perforce, interrupted at every stage by the introduction of the evidence in support of the statements of the narrative. Far from suggesting that this is a defect, we hold that it is such a merit as to make the volume specially to be commended to the young gardener. For not only is it full of useful information, but it offers exercises—of which many of us stand in need—in the estimation of the value of evidence. The ordinary text book tells you facts, but Dr. Russell's monograph adopts the harder, wiser method of giving you the evidence for the facts.

To give but one illustration, namely, that which deals with the influence of water supply on the effectiveness of manures; every gardener knows in a general way that if a plant receives insufficient water it is unable to derive full profit from manure. But the evidence which Dr. Russell offers shows this in striking and exact measure. Thus, if soils containing different amounts of water are treated with small doses of nitrogenous manure, the plant in the drier soil is not able to make any use of the manure; that in the somewhat moister soil is able to use the first dose, but gets no advantage from the second; whereas the plant in the well-moistened soil is able to use with advantage all the nitrogen supplied.

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* *Soil Conditions and Plant Growth,* by E. J. Russell (Longmans, Green & Co.) Price 5s.

We have cited the example, not so much because of its intrinsic importance, but because we know that many a young gardener learns but slowly and with difficulty the art of using artificial manures. A failure or two, due to an insufficiently considered use of this or that artificial manure, is apt to bring him into the ranks of the "disbelievers in artificials," whereas if he will but devote himself to mastering the essential facts and to realising the complexity of relations which obtain between plants and the soil, he will discover that the discriminating use of artificials is one of the secrets of successful practice.

Nelumbium speciosum. — Our issue for August 10 contained an illustration of Nelumbium speciosum growing in the Water Lily house at Kew, and it is in botanic gardens that this magnificent Eastern flower is usually cultivated. Nevertheless, the species is sometimes to be found in private gardens, and Colonel Lockwood, M.P., sends us a photograph showing a very fine group of Nelumbiums in one of the plant houses at his residence at Bishops Hall, Romford. The plants are 6 feet high, with leaves 26 inches in diameter, and flowers 12½ inches across, showing how well they respond to the cultivation afforded them.

The Farrer Cup for Rock Plants.—The Council of the R.H.S. offer at the Spring Show, May 20-22, 1913, a Silver Cup presented to them by Mr. Reginald Farrer. This will be awarded for six new or rare dwarf rock plants, naturally about 9 inches in height, and not fewer than six or more than 12 specimens of each. New colour forms of well-known plants admissible, double flowers excluded. Variety, novelty, interest, and correctness of name to rank above size of specimens. It is not essential that all, or even more than one, of any species should be in bloom, e.g., it is scarcely to be expected that an exhibitor would have six Saxifraga florulenta in bloom simultaneously, but a group with a flower-spike should take precedence of another in which the spike is lacking. Every exhibitor must attach a card giving in print or in very clear writing the history of each set of plants (e.g., whence he obtained the plant, or through whom and when, its habitat, &c.), and observation remarks (e.g., case of difficulty of cultivation, suitable soil, positions and uses, methods of propagation, pecularities, &c). Points: Novelty and interest, 20; beauty, 20; garden value, 15; culture, 10; correctness of name, history, quality of observation remarks, 20; rarity, 15. The Council will award suitable medals according to merit, at their discretion, to the exhibitor adjudged 2nd, and possibly to the 3rd. *W. Wilks, Secretary.*

Gentian Cup Competition for March 4 and 5, 1913.—The Council of the Royal Horticultural Society offer a silver cup presented to them by Messrs. R. Wallace & Co. for the best exhibit by an amateur of Alpine plants, including suitable bulbs and dwarf shrubs, in a space not exceeding 5 by 3 feet. The use of stone is not absolutely necessary, but the judges will be instructed to favour its correct use, and the natural arrangement of the plants in connection therewith. The plants may be shown either in pots or as lifted from the ground.

North of England Horticultural Society.—The committee of the Leeds Workpeople's Hospital Fund have offered an 80 guinea Challenge Cup for the best exhibit in the show to be held at Leeds on October 17 and 18 next. The committee also offer a 15 guinea Challenge Cup for the best exhibit in the show (the trade excluded). Lady Barran will open the show at 2 p.m. on Thursday, October 17. All profits from the show will be given to the hospital fund.

Flowers in Season. — Mr. Frederick Roemer, Quedlinburg, Germany, has sent us a white-flowered form of Statice sylvestris and a variety of Statice sinuata named Prince Chamois, with flowers of very pale rose-buff colour. Mr. Roemer informs us that the varieties come true from seed.

Congress on Electroculture. — On October 24 an International Congress on Electroculture will be opened at Rheims. A programme of subjects to be dealt with may be obtained of the Secretary, 58, Boulevard Voltaire, Paris.

International Horticultural Exhibition at St. Petersburg.—Preparations are in progress for the Imperial International Horticultural Exhibition, which is to take place in St. Petersburg at the end of April next year. The schedule includes about 160 classes. The jury will be composed of equal numbers of Russian and foreign judges. Anyone wishing for further particulars can obtain them on application to the offices of the exhibition, 32, Quai de la Cour, St. Petersburg.

"Horticultural Directory" for 1913.—We are desired by the Editor of this work to ask head gardeners if they will kindly notify him at 10, Essex Street, Strand, of any change of proprietorship or address that may have occurred since last October.

M. George Gibault.—We are informed that M. G. Gibault, the Librarian of the National Horticultural Society of France, has recently been made a corresponding member of the Royal Horticultural Society. M. Gibault is an authority on botanical and horticultural literature; his new work *Histoire des Legumes* will perpetuate his name in the annals of horticulture.

"Botanical Magazine."—The issue of the *Botanical Magazine* for September contains plates and descriptions of the following plants:—

Dendrobium (Ceratobium) Imthurnii, tab. 8452.—This species, which is one of the tallest-growing of the genus, was found by Sir Everard im Thurn, when he was Governor of Fiji and High Commissioner of the Western Pacific, in the island of Efate, one of the New Hebrides group. Dendrobiun Imthurnii is nearly allied to D. antennatum, Lindl., but differs from that species in having longer, stouter, pseudo-bulbs, broader, thick and rigid leaves, and in the shorter petals. The flowers are of medium size, white, with lilac streaks on the lateral lobes of the labellum.

Columnea glabra, tab. 8453.—This is at once the most beautiful and the most common species of the genus which occur in Costa Rica. It grows on the cool mountain tracts at altitudes of from 5,000 to 6,000 feet above sea-level. Dr. Wercklé, in *La Subregion Fitographica Costaricense*, divides the Costa Rica Columneas into pseudo-epiphytic species, which have large leaves and small flowers, and true epiphytes, with small leaves and large flowers. In the latter group there are a few species with stems which creep along the branches of trees and attach themselves to the bark by their roots. A greater number have free stems, which, as with C. microcalyx, are pendulous from the supporting branches, or, as in the case with C. glabra, quite erect. The plant from which the illustration in the *Botanical Magazine* was taken was sent to Kew by M. Lemoine, in 1907, and has been grown in an open compost, rich in humus, in a moist atmosphere of a temperature of 50° to 60° Fahr. Under these conditions it has become 2 feet high, and in spring is covered with brilliant scarlet flowers. Propagation may be effected by the minute seeds, or by cuttings, which root freely in sandy peat; but as the seedlings grow slowly and are difficult to raise, the latter method is the better, and plants raised from cuttings flower at an earlier age.

Berberis verruculosa, tab. 8454.—This species was found by Mr. E. H. Wilson on the mountains around Tatien-lu, in Western Szechuan, in 1904. It differs from B. pruinosa in having verruculose branches, and in its fewer and larger flowers. B. verruculosa becomes a low, dense bush, and, as growth is comparatively slow, it is a useful shrub for the rock-garden. The flowers are clear yellow in colour, and are succeeded by oblong, blue-purple, Prune-like fruits.

Chironia laxa, tab. 8455.—Of the 34 known species of Chironia 25 are natives of South Africa, and, although many of them have been at, one time or another, introduced to this country, only two are in general cultivation: these are C. linoides and C. floribunda. Seeds of the species now figured (C. laxa) were sent from Tembuland by Canon Mason to his brother, Canon Mason, Master of Pembroke College, who gave them to Mr. R. I. Lynch, the Curator of the Cambridge Botanic Gardens, where a plant flowered in 1911. The greatest difficulty attendant in its cultivation is the Begonia mite, for which a suitable insecticide must be used. Mr. Lynch found that when care is exercised the plants grow well in a sandy loam. If seeds are sown early the plants may flower during the first year, but stronger plants are obtained from later sowing, when the plants flower during the next year. C. laxa has a weak habit, so that three or four plants should be grown together in a 4½-inch pot. The plants become about 15 inches high, and have slightly spreading branches. The entire, opposite, lanceolate leaves are about ¾ to 1 inch long, and 1 to 1½ lines broad. The relatively large 5 partite flowers are pale magenta in colour.

Primula Wattii, tab. 8456.—This dainty little Primula (see illustration in *Gardeners' Chronicle*, April 27, 1912) which was exhibited at the meeting of the R.H.S. on April 2, 1912, by Messrs. R. Gill & Son, Falmouth, under the provisional name of P. Gillii, is a native of Sikkim, and whilst under cultivation in this country it flowers during April or a little later; in its native state the plants usually flower from about the middle of July, at which season the plants experience daily rain or heavy mist. Unfortunately, like so many other Primulas, this species is practically monocarpic, and after the plants have flowered when about a year old they either die or are too weak to flower a second time. So these species have to be treated as annuals, but, unfortunately, they do not always ripen their seeds under cultivation. The green flower scape of P. Wattii is about 4 inches high, and bears a many-flowered head of rounded, pendulous flowers. The calyx is green with longitudinal brown streaks, and the petals of the white, mealy-eyed corolla are deep violet in colour.

Edinburgh Show. — Mr. H. N. Ellison, West Bromwich, informs us that he was awarded a Silver Medal for his collection of Ferns at the Edinburgh Show, not a Bronze Medal as stated in our report.

GHENT INTERNATIONAL HORTICULTURAL EXHIBITION, 19 3.—We have received the complete syllabus and list of classes for the Ghent Quinquennial Exhibition of 1913. On this occasion the "Quinquennial" will coincide with, and form a part of, the Universal International Exhibition, to be held in Ghent next spring. The horticultural exhibition will open on April 26 and continue until May 4. Class 1, as usual, is arranged for collections of 12 new plants not in commerce; this is always the most interesting and important class at the Belgian shows. Then follow a few smaller classes for plants entirely new or that have not been exhibited previously at Ghent. There are 90 classes for Orchids, and his Majesty the KING of the BELGIANS is offering a gold medal for the best and most varied collection exhibited by an amateur. Hot-house plants are given the same important position in the schedule as at previous shows, and those who may visit Ghent next spring for the first time will have a grand opportunity of seeing the splendid stove plants, both flowering and ornamental-leaved species habitually cultivated by Belgian horticulturists. The fifth group, that of the Palms, is headed by a class for 100 plants; the 1st prize for this is a work of art, specially presented by the Committee of the Exhibition, who are giving similar valuable prizes in many of the most notable sections. The LOUIS DE SMET prize, provided for by a fund instituted in memory of the late M. DE SMET in 1887, is offered for the best collection of 60 plants of Azalea indica in 30 varieties. Section 23 for Agaves, Yuccas, and Cactaceæ contains 16 classes, including one for Furcræa Lindenii, to be judged for its beauty, apart from any other merit. The section for fruit is relatively small, but contains some interesting classes. The 26th group is concerned with horticultural science and education, and includes competitions and classes of the most varied nature. Expositions of the Mendelian theory of inheritance, collections showing the adaptation of plants to different surroundings, and exhibits of the various means adopted by different plants to ward off enemies, will serve to add to the attractiveness of the exhibition, both to the amateur and to the scientific horticulturist. One of the most interesting classes is that in which a demonstration is required of the effects produced on a plant (to be determined) by the action of an anæsthetic or a galvanic current. The last group but one in this exhaustive schedule, which contains 841 classes, is for floral decorations. The "Palais d'Horticulture," in which the exhibition will take place, is an immense building, which has lately been erected at a cost of 1,750,000 francs. The superficial area on which it stands measures 30,000 square metres. It is divided into different halls, one of which, the "Fêtes Hall," measures 14,000 square metres. For the accommodation of the stove plants, a warm exhibition house, 6,000 metres square, is provided. Copies of the schedule and other information may be obtained from the Secretary, M. JULES DE COCK (Coupure, 160, Gand, Belgium). Entries for exhibition must be sent in on or before March 29 next.

INTERNATIONAL HORTICULTURAL CONGRESS AT GHENT.—A circular has just been issued announcing a congress to be held in conjunction with the Ghent Quinquennial next year. A copy of the circular can be obtained of the Secretary, M. ED. RODIGAS, 79, Avenue Charal, Brussels.

ERODIUM CHRYSANTHUM (see p. 234).—Our correspondent *A. C. B.* writes to say that an interesting point respecting the seeding of Erodium referred to in the last issue was the fact that the same day on which the flower was pollinated the seed pod had begun to form. Owing to a printer's error E. macradenum was made to read E. macradenium.

SWEET PEA TRIALS.—Mr. WALTER P. WRIGHT informs us that owing to the increase in the number of Sweet Peas sent to him for trial, he has decided to put his trials on a business footing for 1913 and organise an expert committee to assist him. The trials will be conducted in the garden of Reading University in 1913. The great object, writes Mr. WRIGHT, will be to give absolutely unbiassed and independent assistance to raisers and growers, and to this end a novel and interesting plan has been devised.

FLORA OF THE TRANSVAAL.—Mr. BURTT-DAVY and Mrs. RENO POTT-LEENDERTZ have compiled a "Check-list of the Flowering Plants and Ferns of the Transvaal and Swaziland," which appeared in the *Annals* of the Transvaal Museum, May, 1912, and has also been issued separately with the original pagination. It is no more than a list of the plants at present known to inhabit the region in question, and it is published with a view of gaining further contributions for a more comprehensive work. Nevertheless, it is a most useful and interesting addition to South African botanical literature, for by it one can form an idea of the vegetation and make comparisons with better-known areas. The area of the Transvaal is upwards of 100,000 square miles, of which about one-sixth lies within the tropics. The present list of flowering plants and Ferns comprises about 3,250 species, belonging to 920 genera and 157 families, or nearly three-fourths of the families of the world. The composition of the vegetation is very different from that of the Cape district, such characteristic genera as Pelargonium, Oxalis, Mesembryanthemum and Erica being jointly represented in the Transvaal by only 37 species. Of the Restiaceæ only one species is recorded, and the Proteaceæ are represented by 14 species belonging to three genera. The predominating families in the Transvaal are:

	Genera.	Species.
Compositæ	89	304
Leguminosæ	62	275
Liliaceæ	34	189
Asclepiadaceæ ...	34	156
Orchidaceæ	21	123
Iridaceæ	14	79
	254	1,126

This works out approximately at 25 per cent. of the genera and 30 per cent. of the species recorded from the region. Distinctive features in the landscape are presented by the numerous species of Aloe, Acacia, Rhus, Combretum, and Helichrysum. Of Helichrysum about 60 species are enumerated. As the authors point out, this list cannot be regarded as by any means exhaustive.

A CATERPILLAR PEST IN ITALY.—According to a report received at the Foreign Office from the British Consul at Nice (Mr. J. W. KEOGH), in 1909-10, it was brought to the notice of the French Minister of Agriculture that serious damage was being caused in Italy to fruit trees and other plants by insects, and particularly by a caterpillar—Diaspis pentagona. This pest spread rapidly all over the Italian Riviera and gravely menaced agriculture in the south of France. At the end of 1911 it was found necessary to prohibit the importation into France from Italy of all plants, including cut flowers, except the vine and resinous plants; also many kinds of fruit. The yearly average importation of cut flowers alone, by way of Ventimille, amounted to 804 tons. A commission was appointed to study the question, and it was found that in the four months from November 1 to March 1 (being the period when most of the cut flowers were imported into France) the caterpillar was not found. A modified order was issued in April, 1912, admitting, in addition to the vine and resinous plants, Palms and the fruits of the Orange, Lemon, Mandarine and the Cedrat if recognised to be in a healthy condition. Cut flowers are also to be admitted, but only during the months of November, December, January and February. Rose petals, however, for the manufacture of perfumes, will be admitted all the year round if in sacks and provided proper precautions are taken.

PUBLICATIONS RECEIVED.—***Chrysanthemums,*** by Thomas Stevenson, with chapters by C. Harman Payne and Charles E. Shea, being vol. xiii in the PRESENT-DAY GARDENING series, edited by R. Hooper Pearson. (London: T. C. & E. C. Jack.) Price 1s. 6d.—***Queensland Agricultural Journal.*** August. (Brisbane: Anthony James Cumming.)—***Heredity and Eugenics,*** by William E. Castle, J. M. Coulter, C. B. Davenport, E. M. East, and W. L. Tower. (London: The Cambridge University Press.) Price 10s. net.—***Indoor Gardening in Room and Greenhouse,*** by H. H. Thomas. (London: Cassell & Co., Ltd.) Price 1s.—***British Plant Galls,*** by E. W. Swanton. (London: Methuen & Co., Ltd.) Price 7s. 6d.—***Japanese Gardens,*** by Mrs. Basil Taylor. (London: Methuen & Co., Ltd.) Price 21s. net.—***Sixteenth Annual Report of the County Experimental Garden, Droitwich, 1911, and Twelfth Annual Report on the Evening Gardening Classes, 1911.*** Worcestershire County Council Education Committee.—***Agricultural Education in the Public Schools,*** by Benjamin Marshall Davis. (London: The Cambridge University Press.) Price 4s. net.—***The Simple Carbohydrates and the Glucosides,*** by E. Frankland Armstrong, D.Sc., Ph.D. (London: Longmans, Green & Co.) Price 5s. net.

THE PERGOLA.

(See Supplementary Illustration.)

THE pergola, now so constant a feature of English gardens, has been copied from our Italian neighbours, and we have yet to learn how to use it to the best advantage. Most of us have but one stereotyped notion—that of training creeping Roses over iron or rustic supports, usually forming a long, low bower. This arrangement, although pretty enough while the particular Rose is in bloom, is not particularly decorative or useful at other seasons. Moreover, the flowers are seen only from without, and the effect of hanging blossoms, so charming in Italian pergolas, is missed.

In Italy the pergola is not so much an ornament as a necessity, to provide protection from the heat, and it serves as an *al-fresco* dwelling-room. The supports, usually from 8 to 10 feet high, are sometimes formed of rough wood over which vines are trained, but more often they are pillars of solid timber, of stone or brick-work, or of ornamental terra-cotta, as shown in the photograph from Mr. Winter's well-known garden at Bordighera (see Supplementary Illustration). The supports are joined by wooden trees, and the cross-pieces overhead are also formed of wood strong enough to carry a considerable weight.

The only Rose much in vogue for growing on pergolas is Rosa Banksiæ, partly because it blooms early and partly on account of its thick, close foliage, which provides shelter from the sun. The true pergola plants are the Wistaria and the vine; the leaves afford a deep shade, and the hanging flowers of the one and the fruit of the other satisfy the beauty-loving eye of the Italian.

Charming as is the Wistaria when trained against a wall, the effect is even better when grown as a standard or over a pergola. In an old-fashioned Berkshire garden is a standard Wistaria some 60 years old, and its branches, carried many feet from the stem, make the prettiest arbour I have seen. Standards, however, take time to mature, but, supported on strong pillars, the Wistaria soon grows large enough to give the required shade, if planted in a sunny and sheltered position. W. sinensis is probably the hardiest, but the white variety, W. s. macrobotys, and the later-flowering species W. frutescens (the American Kidney Bean) can be grown in most parts of England.

The Grape vine is naturally of little use in this country, but Vitis californica serves the purpose extremely well. It is a strong grower, and in autumn its crimson leaves and purple berries are as beautiful as the Wistaria blossoms are in spring.

One of the prettiest of English pergolas known to me forms a covered walk from the house to the end of the small garden. The wide pathway is laid with grey-stone flags, and the pillars are of harled brickwork supporting wooden beams. It is covered with Wistaria, and on either hand grow Narcissus, Madonna Lilies, Clematis, Campanulas, and other white and lilac flowers; no stronger colours are permitted. The result is most cool and restful to the eye. At the far end the pergola widens to form a loggia overlooking the tennis lawn. Over it grows the Californian vine, that keeps its leaves through October. From early spring to late autumn there is shade and colour in that pergola. *M. Bayley.*

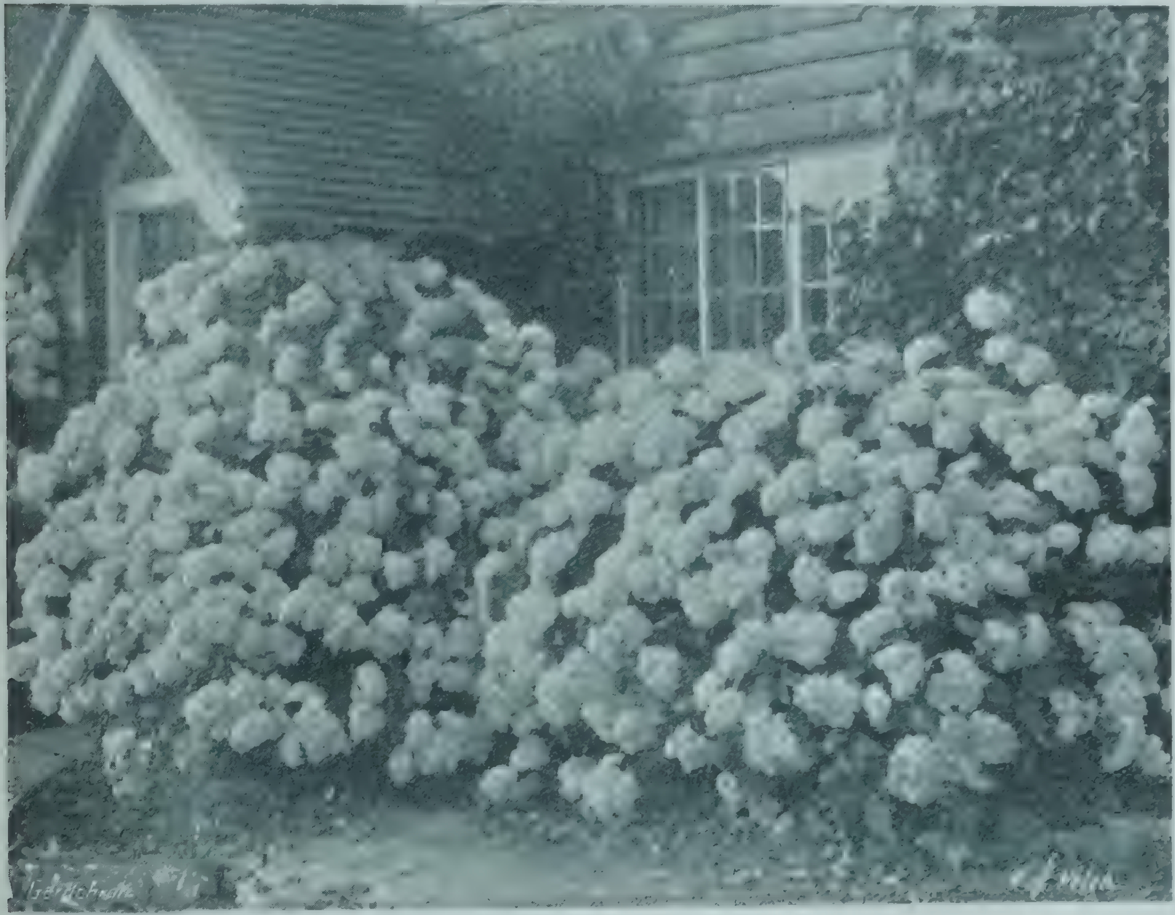

FIG. III.—HYDRANGEA HORTENSIS IN A HAMPSHIRE GARDEN.

SCOTLAND.

ROYAL MEMORIAL TREE AT FYVIE.

Her Majesty the Queen paid a visit to Lord and Lady Leith of Fyvie, at Fyvie Castle, Aberdeenshire, on the 18th inst., and planted a memorial tree in the grounds near the castle. The tree chosen was a small Copper Beech. There are several other trees planted by royalty in the policies, these including specimens planted by Queen Victoria, Prince Arthur of Connaught, and King Alfonso of Spain.

SUGGESTED IMPROVEMENTS ON THE CALTON HILL, EDINBURGH.

On former occasions we have referred to contemplated improvements at Calton Hill, Edinburgh, in order to make that park more attractive to the public. None of the schemes seemed to meet with general acceptance, but a later one has met with the approval of a sub-committee of the Edinburgh Parks Committee. The suggestions are embodied in a report by Mr. J. W. M'Hattie, Superintendent of Parks, the City Superintendent and the City Road Surveyor, and comprise alterations in the approaches, the formation of a carriage drive, and the planting of trees. Suggestions are made for the placing of suitable garden embellishments, one being the formation of an enclosure by means of a clipped Yew hedge, in which might be placed garden ornaments. The total cost of the scheme would exceed £2,000. *Correspondent.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Hydrangea hortensis.—I enclose a photograph (fig. 111) of two Hydrangeas growing on the south front of the house of Mr. George Ayling, Privett, Alton, Hants. For several years the two plants have flowered well, but this year they are exceptionally fine and carry 925 panicles of flowers. This, no doubt, is due to the exceptionally hot summer of last year, which assisted the plants to mature their buds and wood, as is shown by many smaller Hydrangeas in the neighbourhood which are flowering well. The flowers of the plants photographed are blue and pink: there are more blue heads where the plants get the most shade from a porch, which indicates that light and shade have something to do with the coloration of the flowers, and this has been my experience in pot culture, as plants placed under the shade of a north wall to retard them have produced much bluer flowers than others grown in the same mixture of soil without being retarded in shade. We are over 600 feet above sea level, and have a cold, retentive soil with a subsoil of clay and flints overlying chalk, consequently fruit trees and flowering shrubs are always better in a year following immediately upon a hot season. *T. Down, Basing Park Gardens, Hampshire.*

Tom-tits and Nuts.—I have been interested in the correspondence about the Tits eating Sweet Pea buds, and should be glad to know if any of your correspondents have known these little birds make a raid on Cobnuts. I have a few bushes of the Cobnut, and from the time the nuts formed their kernels until they were gathered the Tom-tits spoilt nearly half of them by pecking holes in the shells and eating the kernels. *S. S., Mitcham, Surrey.*

American Blight on the Roots of Apple Trees.—Every gardener and fruit-grower who has had this pest to contend with knows how difficult it is to eradicate. I have made many trials and failed often, but this year I have discovered two remedies which are in every way effectual. After root growth is finished for the season (this is very important), make some holes around those trees which are infested at their roots with this pest, either with a dibble, stake, or crowbar, at depths varying from 9 inches to 18 inches, and into these holes insert small pieces of carbide of calcium (about ½ ounce each in size). The holes should be closed quickly as the work proceeds, and the land will become fumigated and the roots of trees be cleansed without any harm to vegetation. I would also state that I have found the use of this fumigant a good means of clearing the land of grub and wireworm attacking the Carrot crop. Now for the second remedy I have applied for four or five years, and, on my recommendation, others have tried with success. It is an excellent method of killing American blight on the root stems, limbs or branches of trees, and also many other pests attacking Cauliflowers, Carrots, Onions, Roses, fruit trees, &c. Gather the foliage and the extremities of the shoots of the common Elder (Sambucus nigra) and boil them; dilute the decoction with two parts clear water, and water the land with the liquid. This will cleanse it of earth pests, blights, pests or diseases. Spray or paint the infested plants and trees or affected portions with the same liquid. These remedies are inexpensive. If some of your readers would try either or both remedies and report the results in the columns of the *Gardeners' Chronicle*, their communications would be of great value and interest. *John Smith, Durham.*

The Bearing of Apples (see p. 216).—The fact that some late varieties of Apples do not bear every year, as Mr. Cousins notes, does not solve the difficulty. Here there are no more consistent croppers than Alfriston, Northern Greening, Mère de Ménage, Prince Albert, Striped Beefing, Adams's Pearmain, Duke of Devonshire and Stone or Birmingham Pippin, their season of usefulness extending until May. Much can be done by judicious thinning, but the varieties I have mentioned, whether thinned or not, almost always bear good crops. *R. P. Brotherston.*

The Colouring of Hardy Fruits (see p. 234).—If, as Mr. Pearson maintains, sunshine is not essential to the colouring, how does he account for the fact that most Apples colour only on the portions exposed to the sun, and for the other fact that a perfectly shaded fruit does not colour at all? Shaded vegetables, foliage, flowers, and even grass lack their full tints. Again, how is it that fruits grown in British Columbia, California, Australia, and Tasmania, where there is more sunshine and less rain in summer than we have here, are more highly-coloured than ours? I repeat that I never had less colour in early Apples, gathered before the rainy weather ceased, than I had this season. Worcester Pearmain, Allington Pippin, Cox's Orange Pippin, Bismarck, and Newton Wonder coloured after the wet time ceased, but not more than they did last year, while other mid-season or late varieties have not been nearly so well coloured as they were in 1911. My Pears, again, are much less coloured than usual, and I never saw hothouse Peaches so nearly devoid of colour as some were in a neighbour's houses. *A Southern Grower.*

Monstrous Helenium autumnale.—With regard to the note on this plant (see p. 240), I think the monstrosity occurs fairly often. It was described as a virescent form in *Gardeners' Chronicle*, February 23, 1895, p. 241. I gave some plants to a young friend who was making a new garden in 1908; they flowered the following year, one coming as you have described. I took the flower to Wisley, where we tried to propagate it, but were not successful. I then got the stalk from my friend and managed to start two shoots from it, but they damped off during the winter. On inquiry, I find that the plants have resumed their normal form of flower. I presume that the new ground they were planted in was too good for them, the result being the monstrosity, and that they have now sobered down. *W. Marshall, V.M.H., Bexley.*

The Origin of Life (see p. 232).—There is one and the most prominent characteristic of life which no one at the British Association appears to have mentioned. I refer to what Sir A. H. Church called the "Directivity of Life." Just as he can "direct" atoms and molecules in his laboratory, and produce, say, indigo, so the life in the indigo-plant has a directing power to produce the same product, with the same elements, in the same way. This "directivity" is to be observed in every organ and in every cell of every plant, from the smallest to the largest in the world. It is life which directs the lifeless physical forces to move lifeless matter (food) so as to build up definite purposeful structures or organs. This kind of directivity—which also enables organic beings to vary and acquire new adaptive purposeful organs—is unknown to the inorganic kingdom. Therefore, before even an *a priori* conception of the origin of life is entertained, the origin of "life-directivity" must be sought. At present this is a blank in all speculations as to the origin of living beings from lifeless compounds. *George Henslow.*

Wahlenbergia Pumilio.—I do not understand *W. I.* when, in his interesting paper on Wahlenbergia vincæflora (p. 216), he says that those of the genus included in the section Edraianthus are all more or less biennial in habit. My experience of Wahlenbergia (Edraianthus) Pumilio is quite at variance with this. I have had it growing for seven seasons on the crest of a retaining wall, whence it shows no symptom of flagging, but increases in vigour each year, despite the exhausting strain of covering itself with blossom. *Herbert Maxwell, Monreith.*

———In speaking of this section of the genus as biennials more or less, it will be noted that I qualified my general statement by saying that some species, like W. Pumilio and W. serpyllifolia, persist and flower freely for some years when planted in suitable situations. Sir Herbert Maxwell has evidently been successful in keeping his plants for a long time, but my experience is that they have a tendency to flower themselves to death. I find that the best way is to persist in raising young plants from seed. Much, of course, depends on elevation and other conditions, for, in some gardens, a plant will be short-lived, whilst in another it may flourish for a long time. *W. I.*

SOCIETIES.

ROYAL HORTICULTURAL.

September 24.—The Hall at Vincent Square, Westminster, was unusually well filled at the meeting held on Tuesday last. The competitive exhibition of vegetables was very successful, and there were also some fine non-competitive collections. In addition to the vegetables, there were meritorious exhibits of Roses, Dahlias, and border flowers.

The Orchid Committee awarded three Medals and five Awards of Merit to novelties.

The Floral Committee bestowed 25 Medals, eight Awards of Merit to novelties, and, in conjunction with the National Dahlia Society, four Awards to New Dahlias.

The Fruit and Vegetable Committee awarded 10 Medals.

At the 3 p.m. meeting of the Fellows, Mr. C. Herman Senn gave a lecture on "How to Cook Some of the Root Vegetables."

In the Lecture Room at 6 p.m., by permission of the Council, Mrs. W. W. Astor provided a tea for the Church Army gardeners who cultivate a piece of waste land adjoining the Hall.

Floral Committee.

Present: H. B. May, Esq. (in the Chair); and Messrs. Chas. T. Druery, W. J. Bean, G. Reuthe, Chas. Dixon, W. Bain, Wm. Howe, F. J. McLeod, John Green, J. W. Barr, J. Jennings, C. Blick, R. W. Wallace, Arthur Turner, H. J. Jones, W. Cuthbertson, Chas. E. Pearson, E. H. Jenkins, Wm. J. James, James Hudson, George Paul, E. A. Bowles, Ed. Mawley, F. Page Roberts, W. T. Ware, C. R. Fielder, and R. C. R. Nevill.

Messrs. **Frank Cant** & Co., Colchester, exhibited many beautiful Roses. The blooms of the varieties Ecarlate, A. R. Goodwin, Lyon, Mme. E. Resal, Mrs. R. G. Sharman Crawford, La Tosca, Alice Roosevelt, Peace and Comtesse du Cayla were especially good. (Silver-gilt Banksian Medal.)

Messrs. **Wm. Paul** & **Son**, Waltham Cross, also displayed Roses. Two Bamboo stands were filled with the charming variety Juliet, while another contained equally fine blooms of Mme. Abel Chatenay. Round baskets of the rich, yellow varieties Marquise de Sinety and Lady Hillingdon were admirable. (Silver-gilt Banksian Medal.)

Messrs. **Alex. Dickson** & **Sons**, Newtownards, Co. Down, arranged their Roses in very tall stands, bordered with exhibition boxes. The varieties Lady Pirrie, Dorothy Page Roberts, and Rayon d'Or were especially noteworthy. (Silver-gilt Banksian Medal.)

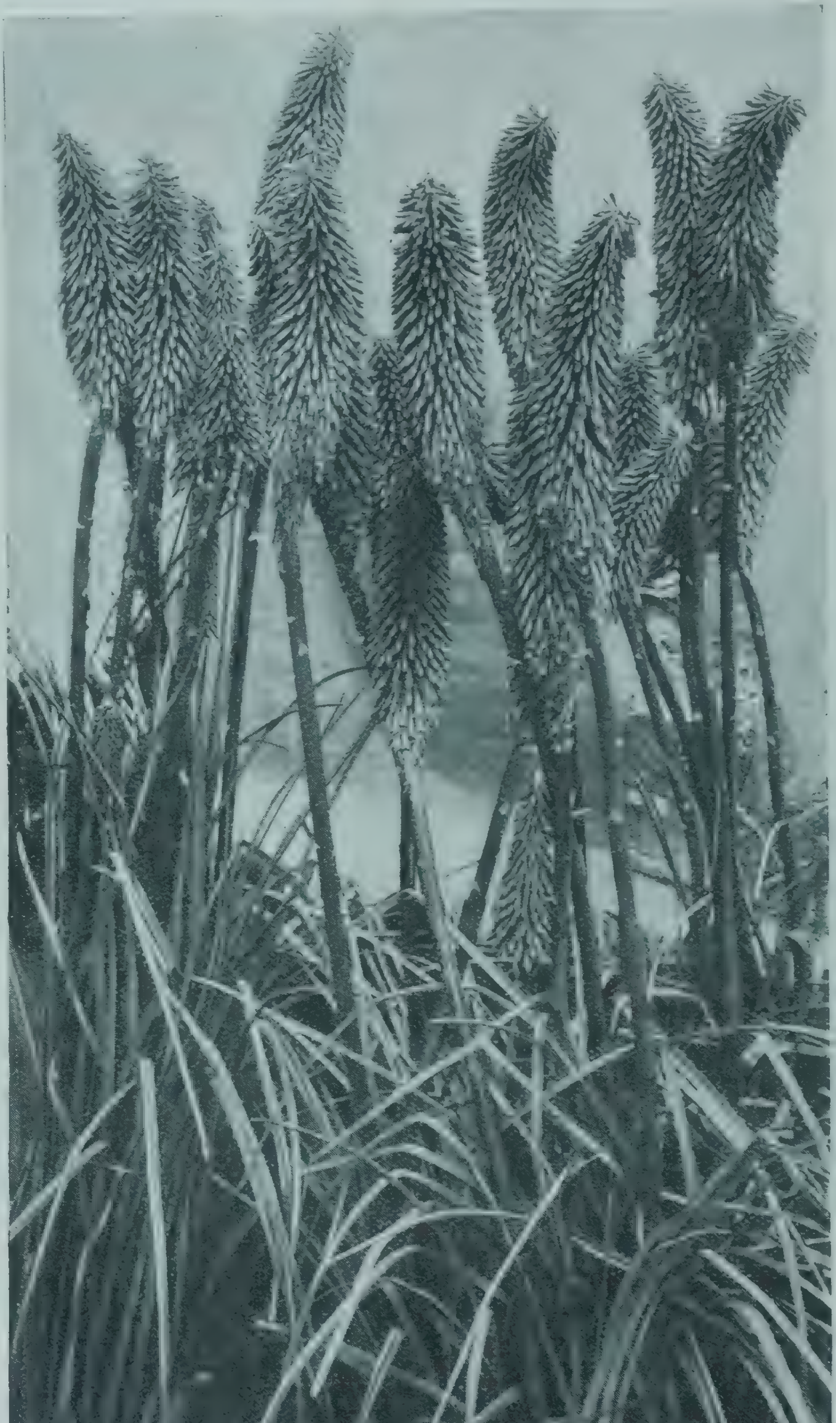

Fig. 112.—Kniphofia "John Benary" (syn. Lord Roberts).
(Received R.H.S. Award of Merit on Tuesday last.)

Messrs. **B. R. Cant** & **Sons**, Colchester, showed a collection of Roses in which the stands of Irish Elegance, La Tosca, Warrior, Lyon, Léonie Lamesch, and a stand filled with Lady Waterlow and Ulrich Brunner were very charming. (Silver-gilt Banksian Medal.)

Messrs. **R. W. Proctor** & **Sons**, Chesterfield, showed Roses in ornamental baskets and small vases. The outstanding varieties were Jonkheer, J. L. Mock, Chateau du Clos Vougeot and His Majesty. (Bronze Flora Medal.)

Messrs. **Wm. Cutbush** & **Son**, Highgate, displayed various Roses and Carnations in a very dainty and attractive manner. (Silver Banksian Medal.)

Mr. **W. Easlea**, Danecroft Nursery, Eastwood, included a basket of a new seedling H.T. Rose "Cherry Page" in his collection.

Messrs. **Dobbie** & Co., Edinburgh, staged many vases of Sweet Peas. Besides splendid blooms of such named varieties as Etta Dyke, Princess Victoria, Rosabelle, and Lady Miller, there were several very promising seedlings. The same firm exhibited some beautiful flowers of Scabious. (Silver-gilt Banksian Medal.)

Messrs. **Jarman** & Co., Chard, staged bright and clean blooms of such Sweet Peas as Mrs. H. Dickson, Chas. Foster, and Elsie Herbert. (Bronze Banksian Medal.)

Messrs. **J. Veitch** & **Sons, Ltd.**, Chelsea, showed small batches of Nerine Fothergillii major, Streptocarpus, Ixoras, and several splendid plants of Kniphofia (Tritoma) John Benary (see fig. 112). In another part of the Hall Messrs. **Veitch** exhibited very floriferous, tall, standard plants of Salvia splendens. (Silver Flora Medal.)

Messrs. **H. Cannell** & **Sons**, Swanley, Kent, exhibited exceedingly good trusses of Crozy Cannas and a great variety of border flowers.

Messrs. **H. B. May** & **Sons**, Upper Edmonton, displayed stove and greenhouse Ferns, in which varieties of Selaginella and the "Golden" Ferns were conspicuous. (Silver Flora Medal.)

Messrs. STUART LOW & Co., Bush Hill Park, Enfield, exhibited exceedingly good Carnation blooms. (Bronze Flora Medal.)

Mr. JAMES BOX, Lindfield, showed the most beautiful group in the Hall. The charming masses of early-flowering Chrysanthemums, rich red Gladiolus spikes, excellent Phloxes, and many other good flowers were very tastefully arranged. (Silver Flora Medal.)

Messrs. ROBERT VEITCH & SON, Exeter, exhibited several exceedingly good forms of shrubby Veronicas, also Clematis nutans, Erythrina Crista-galli, their new Calceolarias Veitchii and The Bronze Age, and Nerine Bowdenii.

The Misses HOPKINS, Shepperton-on-Thames, showed a small collection of Alpines.

Messrs. PIPERS, Bishop's Road, Bayswater, showed many interesting Alpines in small pots and pans. (Silver Banksian Medal.)

MARY Countess of ILCHESTER, Holland House, Kensington (gr. Mr. G. Dixon), contributed cut sprays of varieties of Cratægus. (Silver Banksian Medal.)

Messrs. W. WELLS & Co., Merstham, arranged a very bright display of border Chrysanthemums, which provided a warm show of colour. (Silver Banksian Medal.)

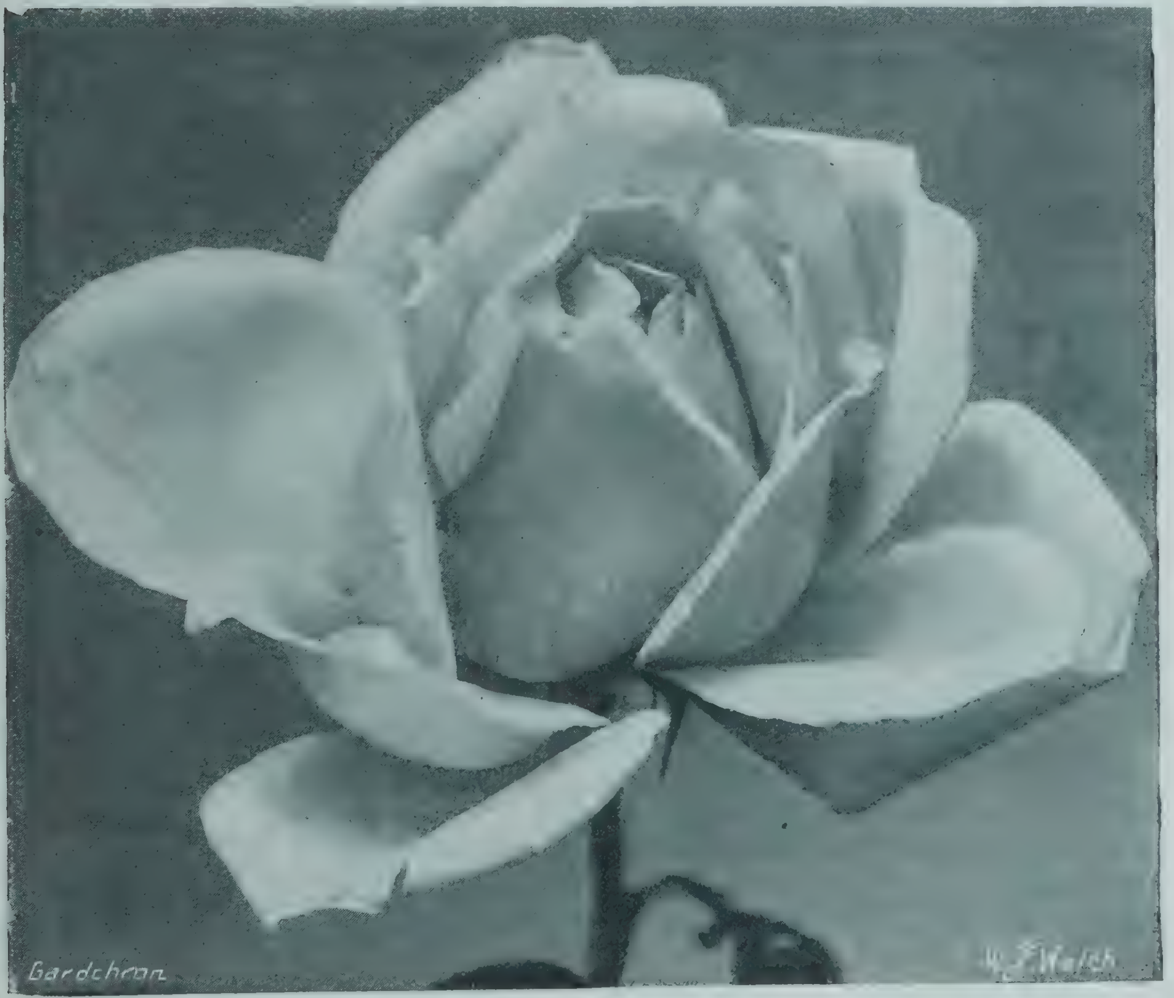

FIG. 113.—HYBRID TEA ROSE MRS. MACKELLAR; COLOUR PALE YELLOW.

(Received R.H.S. Award of Merit on Tuesday last.)

Messrs. R. WALLACE & Co., Colchester, exhibited good spikes of hybrid Gladiolus Helianthus sparsofolius, and Michaelmas Daisies. (Silver Banksian Medal.)

Messrs. BARR & SONS, Covent Garden, London, exhibited various Gladiolus, Michaelmas Daisies, and Acidanthera bicolor, an interesting bulbous plant from Abyssinia.

Messrs. PAUL & SON, Cheshunt, staged an interesting collection of sprays of trees and shrubs with their fruits. Castanea americana rubra, which fruits at an earlier age than C. sativa, Pyrus Sorbus, the true Service Tree, which bore unusually large fruits, Daphniphyllum glaucescens, Pyrus Malus albo-plena, which is interesting in that plenty of fruits follow the nearly-double flowers, and the desirable Euonymus latifolia are a selection of the many interesting examples shown. (Silver Banksian Medal.)

Messrs. R. H. BATH, LTD., Wisbech, exhibited their new yellow Chrysanthemum "Martin Reed," which is a sport from the creamy-white rose-tinted variety Perle Chatillonaise. Blooms of two bronze-flowered sports from the same variety were also shown, and there was an interesting branch on which the parent and the yellow sport were both in flower.

Mr. AMOS PERRY, Enfield, showed a variety of Michaelmas Daisy, which is superior to the older variety "Mrs. Perry."

Mr. W. E. TH. INGMERSEN, Harewood Road, Croydon, also exhibited Michaelmas Daisies.

Mr. L. R. RUSSELL, Richmond, exhibited a good group of Clematis, hardy Fuchsias and other plants.

Mr. H. J. JONES, Lewisham, showed a comprehensive collection of Michaelmas Daisies. (Silver Banksian Medal.)

Messrs. G. & A. CLARK, Dover, arranged border flowers, which included very good Pyrethrums.

Messrs. PRICE & FYFE, Grove Park Nursery, Lee, exhibited early-flowering Chrysanthemums. (Bronze Banksian Medal.)

Messrs. THOMPSON & CHARMAN, Adam Street, London, showed a few vases of herbaceous flowers.

Mr. ERNEST DIXON, Roehampton, also showed cut border flowers.

Mr. J. B. RIDING, Chingford, exhibited many fine Dahlia blooms. Besides an excellent collection of Collerette varieties, there were several good Anemone-flowered Dahlias, with erect flowers, which show themselves well. Mme. Legrange (deep red), Meissonier (pink), and Mons. Ch. Dupont (rosy-purple) are typical varieties. (Silver Banksian Medal.)

Messrs. J. CHEAL & SONS, Crawley, showed many Dahlias, in which the Cactus and miniature Cactus varieties were especially good. (Silver Flora Medal.)

Mr. CHARLES TURNER, Slough, showed a few exceedingly good blooms of Pæony-flowered and Pompon varieties, as well as several bicolor single Dahlias. (Silver Banksian Medal.)

Messrs. CARTER PAGE & Co., London Wall, London, exhibited many Cactus, Pæony-flowered, and Collerette Dahlias. This exhibit also included cut spikes of Antirrhinums and Violas. (Silver Banksian Medal.)

Mr. T. WEST, Brentwood, also exhibited an interesting collection of Dahlias, which included many good blooms. (Silver Banksian Medal.)

Messrs. DOBBIE & Co., Edinburgh, arranged a very meritorious collection of Collerette varieties.

Messrs. T. S. WARE, LTD., Feltham, exhibited an attractive collection of Dahlia blooms and various border flowers. (Bronze Banksian Medal.)

Messrs. BAKERS, Wolverhampton, made an imposing display of Pæony-flowered Dahlias.

AWARDS OF MERIT.

Chrysanthemum Joan Carter.—A very useful, single, yellow-flowered variety. This is quite the best of its type; the colour is rich and the flowers are borne on stiff, wiry stalks. Shown by Messrs. W. WELLS & Co.

C. Framfield Early White.—A globular Japanese variety, with incurved tips to the florets, which will supersede the older varieties of its class. Shown by Mr. DAVIS.

Pentstemon Mrs. F. Fulford.—The specimens shown were very fine indeed. The flowers are large and bright red in colour. Shown by Mr. FULTON, Tarbolton.

Kniphofia (Tritoma) John Benary (syn. Lord Roberts) (see fig. 112).—The three plants of this splendid tall Kniphofia were fully 5 feet high and the heads of flaming red flowers were 12 inches long. Shown by Messrs. JAMES VEITCH & SONS.

Rose George Dickson.—A deep velvety-crimson H.T. Rose of splendid shape and rich perfume.

R. Mrs. MacKellar (see fig. 113).—A seedling H.T. Rose; the pale yellow flowers are of good size and are borne on very stout stalks, which are furnished with bronze-coloured foliage.

R. Edward Bohane.—A beautiful, rich crimson H.T. variety. These three fine Roses were shown by Messrs. ALEX. DICKSON & SON.

R. Little Dorrit.—This pretty Tea Rose was awarded a Silver-gilt Medal at the recent show of the National Rose Society (see *Gardeners' Chronicle*, p. 238, September 21, 1912).

In conjunction with a sub-committee of the National Dahlia Society, the following Dahlias received the customary awards:—

D. Useful.—A small-flowered, rosy-mauve, decorative variety. Shown by Mr. WEST.

D. Johnny.—A very good, deep maroon Pompon. Also shown by Mr. WEST.

D. Mrs. Randle.—A large pink Cactus variety.

D. Jennie Wren.—A medium-sized shell-pink coloured Cactus bloom; the undeveloped florets are yellow. Both of these fine varieties were shown by Messrs. JAMES STREDWICK & SON.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); and Messrs. Jas. O'Brien (hon. sec.), C. J. Lucas, J. Wilson Potter, R. A. Rolfe, R. G. Thwaites, F. Sander, F. J. Hanbury, C. H. Curtis, T. Armstrong, W. Cobb, A. McBean, J. Charlesworth, W. H. Hatcher, Arthur Dye, J. E. Shill, W. H. White, J. S. Moss, R Brooman-White, William Bolton, de B. Crawshay, and Sir Harry J. Veitch.

Lady WERNHER, Luton Hoo, Luton (gr. Mr. Metcalfe), staged a very effective group of splendidly-grown and finely-coloured Vanda cœrulea, arranged above specimens of the white Dendrobium formosum giganteum; a Silver-gilt Flora Medal and Cultural Commendation were awarded. With them were a grand plant of Lælio-Cattleya Dominiana, with two spikes of four and three flowers respectively, good L.-C. Bletchleyensis, L.-C. callistoglossa, Cattleya Adula, and other hybrids, the whole tastefully arranged with Maidenhair Ferns.

Baron BRUNO SCHRÖDER, The Dell, Englefield Green (gr. Mr. J. E. Shill), showed a magnificent specimen of Cypripedium W. R. Lee, with many spikes, bearing together upwards of 40 flowers; this had been grown at The Dell from a small plant of the original batch (Cultural Commendation), and a large specimen of Brasso-Cattleya Mme. Chas. Maron, with six flowers.

FRANCIS WELLESLEY, Esq., Westfield, Woking (gr. Mr. Hopkins), showed his Lælio-Cattleya Mrs. Phayre magnifica (C. aurea × L.-C. Norba superba), a charming flower, of fine shape, but smaller in size than C. aurea. The sepals and petals are primrose-yellow, the sepals having a faint green tint; lip deep rose with gold veining.

E. H. DAVIDSON, Esq., Borlases, Twyford, staged a small group, which contained the new

Odontoglossum Woodroffeæ (Rossii rubescens × Queen Alexandra), the finest O. Rossii cross yet raised (see Awards). Also the pretty, new Sophro-Cattleya Dora (C. Dowiana Rosita × S.-C. Cleopatra), a pretty flower, of good shape and attractive colour. Sepals and petals chrome-yellow, tinged with copper-red; lip rosy-red, with gold veining.

Messrs. Hassall & Co., Southgate, were awarded a Silver Flora Medal for a group of pretty hybrids, principally raised by the firm, including eight examples of their fine strain of Cattleya Minucia, a selection of the pretty and fragrant C. Eldorado cross, C. iridescens, varying much in colour, L.-C. Walter Gott, C. Nestor (Iris × Harrisoniana), and some unnamed crosses, including one between Cattleya Skinneri and C. Bowringiana, very floriferous.

Messrs. Stuart Low & Co., Bush Hill Park, secured a Silver Flora Medal for a good group, at the back of which were graceful sprays of the yellow Oncidium varicosum. A good selection of Cattleyas were in the group, the finest being C. Hardyana "Enfield variety," a large and richly-coloured flower.

Messrs. J. & A. McBean, Cooksbridge, staged an effective group of good Odontoglossum crispum, Dendrobium Dearei, D. Sanderæ, Odontioda Charlesworthii, O. Bradshawiæ, and some other showy hybrids, the best of which was their handsome Cattleya Lord Rothschild albescens (Dowiana aurea × Gaskelliana alba) (see Awards).

Frederick J. Hanbury, Esq., Brockhurst, East Grinstead (gr. Mr. T. Matthews), sent Cypripedium Winifred Hollington "Brockhurst variety" (niveum × callosum Sanderæ), a pure-white form, with dotted lines of purple on the petals and dorsal sepal; and a pretty hybrid between C. Charlesworthii "Closes Hall variety" and, according to the record, C. Fairrieanum, but no trace of the latter species could be found. The dorsal sepal was like the white form of C. Charlesworthii, the rest of the flower resembling the same species.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), sent a beautiful Cypripedium raised by G. F. Moore, Esq., between C. Argus Moensii and Fairrieanum; a fine, cream-white flower, prettily marked with purple in lines and blotches. It is a good form of C. Luxembergense syn. Marguerite Opoix.

Messrs. Charlesworth & Co., Haywards Heath, staged a select group, interesting features in which were Cycnoches maculatum, with a long, drooping spray of male flowers, and a pair of large and very dissimilar female flowers, of wax-like texture, greenish, with white lip; and C. Egertoniana, with a spray of purple blooms.

Messrs. Jas. Veitch & Sons, Chelsea, showed Brasso-Cattleya Ilene rosea, a very pretty, rose-pink form, with pale-yellow disc.

C. J. Phillips, Esq., The Glebe, Sevenoaks, showed Cattleya Fabia "Glebe variety," large, and of fine colour, and L.-C. Hastediana (see Awards).

Mr. Sidney Flory, Tracy's Nursery, Twickenham, showed a good form of Cypripedium Beechense, the pretty C. Faire-Maude (Fairrieanum × Maudiæ), and a good O. crispum, with some spotting on the sepals.

Messrs. Sander, St. Albans, showed the beautiful Cattleya nobilis nobilior (Warneri × Schofieldiana), and the elegant little Cirrhopetalum miniatum, from Annam, with a one-sided umbel of slender, orange-red flowers.

AWARDS.

First-class Certificate.

Odontoglossum Woodroffeæ (Rossii rubescens × Queen Alexandræ), from E. H. Davidson, Esq., Borlases, Twyford. A superb novelty, and very distinct from any previously raised, the dark colouring and fine substance of O. Harryanum and the yellow ground colour of O. triumphans (the parents of O. Queen Alexandræ) showing and blending effectively. The flowers, which are large, are borne on an erect spike. Sepals reddish-claret, with the yellow ground colour showing in wavy lines between the blotches. The petals are broader and similarly coloured, except that the blotches are smaller and there is more of the ground colour showing between. Lip broadly ovate, clear, rosy-lilac, with a bright-yellow crest

Awards of Merit.

Odontoglossum Neptune (crispum × nebulosum), from Monsieur H. Graire, Amiens. A remarkable cross, the hybrid being intermediate between the parents, but with strong evidence of O. nebulosum in habit. Flowers white, with dark-red spotting on the inner halves of the segments. Lip white, with dark, reddish blotches in front of the yellow crest.

Odontioda Margarita (Odontoglossum madrense × Cochlioda Noezliana), from Monsieur H. Graire. Flowers in shape nearest to O. madrense; cinnabar-scarlet on the inner parts of the segments, rose-pink outward.

Lælio-Cattleya Hastediana (L.-C. Henry Greenwood × C. Dowiana aurea), from C. J. Phillips, Esq., The Glebe, Sevenoaks. Flowers resembling a small L.-C. Dowiana, the lip being very attractive and of a rich claret-purple colour.

Zygopetalum maxillare Sanderianum, from Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White). A very remarkable and distinct form, with large flowers, the sepals and petals pale green, barred with light purple. Lip broad, white, with thick, ribbed, violet crest. Probably a fine form of the plant figured in Regel's *Gartenflora* (1888) as Z. Sanderianum.

Cattleya Lord Rothschild variety albescens (Gaskelliana alba × Dowiana aurea), from Messrs. J. & A. McBean, Cooksbridge. A charming and delicately-tinted flower, of fine shape. Flowers clear white, with golden centre to the lip, which is tinted with light lilac in front.

Cultural Commendation

To Mr. Metcalfe, gr. to Lady Wernher, Luton Hoo, for a selection of finely-grown Vanda cœrulea, with large and brightly-coloured flowers.

To Mr. J. E. Shill, gr. to Baron Bruno Schroder, for a very large specimen of Cypripedium W. R. Lee (Lord Derby), with over 40 flowers.

Fruit and Vegetable Committee.

Present: Jas. Cheal, Esq. (in the Chair); and Messrs. J. Harrison, F. Perkins, Owen Thomas, W. J. Jefferies, J. Willard, Hy. Hooper, J. Jaques, W. E. Humphreys, Joseph Davis, H. Markham, Geo. Kelf, A. W. Metcalfe, A. R. Allan, A. Bullock, Geo. Wythes, George Woodward, James Vert, H. Somers Rivers, A. H. Pearson, Geo. Bunyard, W. Poupart, Wm. Pope and W. Bates.

Messrs. George Bunyard & Co., Maidstone, exhibited a splendid collection of Pears in numerous varieties, which included Gilogil, Winter, Wndsor, Princess Beurré Jean van Geerk, Marguerite Marillat and Pitmaston Duchess. (Gold Medal.)

Mr. R. C. Notcutt, Woodbridge, showed a very fine collection of Apples and Pears. The Apples included Hollandbury, Rival, Wealthy and Peasgood's Nonesuch, and amongst the Pears Marguerite Marillat, Triomphe de Vienne and Louise Bonne of Jersey call for special mention. (Gold Medal.)

Lady Wernher, Luton Hoo, Bedford (gr. Mr. A. W. Metcalfe), exhibited an attractive collection of Apples and Pears. (Silver Knightian Medal.)

E. Mocatta, Esq., Woburn Place, Addlestone (gr. Mr. T. Stevenson), sent an exceedingly meritorious collection of "Peppers" (Capsicum varieties) in pots, which ranged from the very large fruits of "Chinese Giant" down to the narrow fruits of the small, bright "Red Cluster," and included the interesting variety Chameleon, which has red, purple and yellow fruits on the same stems. (Silver Knightian Medal.)

The Mempes Fruit Farm, Purley, showed a collection of Melons, including good fruits of such varieties as Hero of Lockinge, Ringleader and Sutton's Universal. (Silver-gilt Knightian Medal.)

Mr. Vigo, Thaxted, Essex, contributed a meritorious collection of fruit and vegetables. (Bronze Banksian Medal.)

Col. Cox, Harefield Place, Uxbridge (gr. Mr. J. Orton), sent an interesting collection of ornamental Tomatos.

Messrs. Sutton & Sons, Reading had a display of very fine vegetables. The Leeks, Celery, Sugar Corn (Maize, Early Dwarf), Kohl Rabi, Red Cabbage, Beans and Peas were exceedingly good. (Gold Medal.)

Messrs. J. Carter & Co., Raynes Park, showed an excellent collection of vegetables. At the back there were immense succulent-looking Cardoons and long sticks of clean Celery. Towards the front the Radishes (Round White Tipped and Olive Forcing), Aubergines (Long Purple), and Garlic (Giant) were especially noteworthy.

Messrs. Dobbie & Co., Edinburgh, exhibited many varieties of Potatos attractively laid out in shallow baskets. Amongst the purple-skinned varieties we noted the very long tubers of Mountain Ash, a variety not yet for sale, and Herd Laddie. (Silver-gilt Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, London, filled a length of tabling with a great variety of vegetables. Lettuces, which included the varieties Continuity and Crystal Palace, were prominently placed.

Mr. H. Hemsley, Crawley, Sussex, included in his collection of vegetables very good Peas (Gladstone) and Autumn Giant Cauliflower. (Silver Banksian Medal.)

From the Church Army Garden, Westminster, Mr. E. O. Sullivan staged many kinds of vegetables, which showed exceedingly good cultivation. The Savoy Cabbages, Onions, Brussels Sprouts and Long Carrots were especially good. (Bronze Banksian Medal.)

COMPETITIVE CLASSES FOR VEGETABLES.

Many of the vegetables in the two collections exhibited in the class for 12 distinct kinds were models of cultivation. The Sutton Challenge Cup and 1st prize of £10 were won by Hon. Vicary Gibbs (gr. Mr. E. Beckett), Aldenham House, Elstree, with a splendid exhibit. The Celery, Onions, Peas (Centenary), and Leeks (Prizetaker) were excellent. The 2nd prize was awarded to H. T. Tatham, Esq. (gr. Mr. W. Gaiger), Kendall Hall, Elstree, who showed very good Celery, Carrots, and Brussels Sprouts.

There was much better competition in the class for nine distinct kinds, and the premier position was taken by W. H. Myers, Esq. (gr. Mr. G. Ellwood), Swanmore Park, Hampshire, who showed excellent Peas (Duke of Albany), Leeks, Carrots, and Onions. 2nd, Col. Cox (gr. Mr. J. Orton), Harefield, Uxbridge. 3rd, Mr. R. Staward, Panshanger Gardens, Hertford.

The 1st prize for six distinct kinds was won by Brodie Henderson, Esq. (gr. Mr. H. Smith), Epping House, Little Berkhamsted, who showed splendid Peas (Centenary), Celery, and Potatos. 2nd, J. Kerr, Esq. (gr. Mr. T. Avery), Loudwater, Rickmansworth. 3rd, Miss E. L. Bradshaw, The Grange, Steeple Aston, Oxfordshire.

The collections of 12 distinct varieties of Potato included a large number of clean tubers of good, useful size. The 1st prize was awarded to M. McMurdie, Esq. (gr. Mr. A. Basile), Woburn Park, Weybridge, who showed splendid dishes of the varieties Windsor Castle and Wordsley's Pride. 2nd, Mrs. E. H. Denison (gr. Mr. A. G. Gentle), Little Gaddesden, Berkhamsted. 3rd, Sir Humphrey Turner, (gr. Mr. A. Humphrey), The Bedford, Havering.

The best collection of six varieties of Potato was shown by H. W. Henderson, Esq. (gr. Mr. F. L. Pike), Serge Hill, King's Langley, Hertfordshire. 2nd, H. T. Tatham, Esq. 3rd, Hon. Vicary Gibbs.

There were some very good Onions shown in class 6, and the exhibit which won the 1st prize for W. H. Myers, Esq., was exceedingly good. 3rd, Mr. R. Staward.

The classes for Salads did not contain any novel salading. The Hon. Vicary Gibbs, who was placed 1st in the class for nine kinds, included good Radishes (French Breakfast), Tomatos and Beet. 2nd, H. T. Tatham, Esq.

The Hon. Vicary Gibbs, who showed the best collection of "other vegetables," included fruits of the Long Purple Egg-plant, Long Red Capsicum, Celeriac, Salsify, and Scorzonera in his excellent exhibit. 2nd, W. H. Myers, Esq.

The best Scarlet Runner Beans, in a very strongly contested class, were shown by W. H. Myers, Esq. 2nd, H. Keep, Esq., Aldermaston, Reading.

Lord Foley (gr. Mr. H. C. Gardner), Ruxley Lodge, Claygate, won the 1st prize for French Climbing Beans. 2nd, Hon. Vicary Gibbs, whilst H. T. Tatham, Esq., excelled in the class for dwarf French Beans, and the Hon. Vicary Gibbs was again placed 2nd. Sutton's Black was the best Beet shown (H. T. Tatham, Esq.), and the 2nd prize was won by Mr. Staward.

The Hon. Vicary Gibbs showed an excellent dish of Brussels Sprouts; the second best were shown by H. W. Henderson, Esq. The best three plants were shown by J. Kerr, Esq.; 2nd, Hon. Vicary Gibbs. Lord Foley showed excellent Cabbages; 2nd, Hon. Vicary Gibbs. The best Savoys were shown by Mrs. E. H. Denison; 2nd, Col. Cox. The 1st prize for Cauliflowers was awarded to Hon. Vicary Gibbs; 2nd, Brodie Henderson, Esq.

R. McMurdie, Esq., showed exceptionally good examples of Celeriac; 2nd, Hon. Vicary Gibbs. The Celery shown was also very fine. R. McMurdie, Esq., won the 1st prize for White and 2nd for Red, whilst the Hon. Vicary Gibbs excelled with Red and won the 2nd prize for White Celery.

The 1st prize for Cucumbers was awarded to W. H. Myers, Esq.; 2nd, Lord North (gr. Mr. E. Janes), Wroxton Park, Banbury.

The prizes for Marrows were awarded to the Hon. Vicary Gibbs and W. H. Myers, Esq., in the order named, whilst these positions were reversed in the class for Leeks.

The Hon. Vicary Gibbs was the only exhibitor of Mushrooms, and was awarded the 1st prize.

Onions of all kinds were large and firm. J. Kerr, Esq. (gr. Mr. Avery), Loudwater, Rickmansworth, and Mr. Staward won the 1st and 2nd prizes respectively with round or globular bulbs. The prizes for flat Onions were awarded to H. T. Tatham, Esq., and Mr. Staward.

The best Parsnips were shown by Hon. Vicary Gibbs; 2nd, H. T. Tatham, Esq. Mrs. Denison won the 1st prizes for long and for short Carrots; the 2nd prizes were awarded to Hon. Vicary Gibbs for the former vegetable, and to J. Kerr, Esq., for the latter.

Brodie Henderson, Esq., excelled with Peas; 2nd, Mrs. L. Davis.

Mrs. Denison was the most successful exhibitor of white and parti-coloured Turnips, and the Hon. Vicary Gibbs, who won the 1st prize for yellow Turnips, was 2nd with white varieties. Mr. Staward was placed 2nd with yellow Turnips, and J. Kerr, Esq., was similarly successful with the parti-coloured varieties.

The best dish of white Potato was shown by Miss Bradshaw; 2nd, Mrs. Denison, whilst the Hon. Vicary Gibbs showed the 1st prize coloured tubers; 2nd, W. H. Myers, Esq.

The best Kale of both kinds was shown by the Hon. Vicary Gibbs. Brodie Henderson, Esq., won the 2nd prize for dwarf Kale, and Mr. Staward a similar honour for the tall variety.

Tomatos were as nearly perfect as possible, and the 1st prize dish, shown by W. H. Myers, Esq., deservedly won that honour; 2nd, Lord North, whilst the best yellow fruits were shown by Hon. Vicary Gibbs. Col. Cox and Brodie Henderson, Esq., were, in the order named, the successful exhibitors of ornamental Tomatos.

The 1st prize exhibit in the class for any other vegetable consisted of a pair of Red Cabbages, shown by R. M. McMurdie, Esq., whilst a dish of Globe Artichokes won the 2nd prize for Mr. Staward.

Scientific Committee.

September 10.—*Present*: Mr. E. A. Bowles, M.A., F.L.S. (in the Chair); Messrs. J. W. Odell, A. Worsley, J. Fraser, G. Wilson, E. M. Holmes, W. Hales, J. O'Brien, and F. J. Chittenden (hon. sec.).

Erica cinerea malformed.—Mr. E. M. Holmes showed a specimen of Erica cinerea from Ringwood in which the corolla was divided to the base so that the flowers had the appearance of those of Ling. He also showed a specimen from Studland in which the flowers were replaced by very numerous bracts almost as in the Wheat-ear Carnation.

Malformed Armeria.—Mr. A. W. Hill reported that he had examined the flowers sent to the last meeting in which the corolla was replaced by a calyx, so that there were two calyces, and had failed to find either fungus or mite present to account for it. It was suggested that some pest, such as eelworms, had attacked the roots.

Sweet Pea with proliferous inflorescence.—Mr. Fraser showed an inflorescence of Sweet Pea which after flowering had elongated and produced leaves and flowers to the number of 14 in all.

Lysimachia vulgaris.—Mr. Fraser also showed a shoot of Lysimachia vulgaris which had grown out of a shady position in a horizontal fashion, and the leaves had arranged themselves as in a shoot of Polygonatum.

Watsonia.—Mr. A. Worsley showed a specimen of Watsonia iridifolia which differed in some respects, but especially in its extreme robustness, from the variety O'Brienii (also called Ardernii). It was thought probable that it was merely a robust form of that variety.

Musa Bakeri.—Mr. Worsley also showed staminate flowers of Musa Bakeri from a plant raised by him from seed.

Certificate of Appreciation.—The Council have awarded a Certificate of Appreciation to Mr. C. H. Hooper for his work in connection with the pollination of hardy fruits.

Seeds of Parrot Tulips.—Some fruits of Parrot Tulips were sent from Sussex, but on examination the seeds contained were found to possess no embryo.

THE LATE W. BAYLOR HARTLAND.

NATIONAL CHRYSANTHEMUM.

September 23.—At a meeting of the executive committee of the above Society, held at Carr's Restaurant, Strand, under the presidency of Mr. T. Bevan, the secretary (Mr. Witty) submitted an interim financial statement to date, which showed a substantial balance in hand. It was decided that the prizes at the two forthcoming shows in October should be paid immediately after the exhibitions are closed.

The annual dinner will be held on November 27, at the Holborn Restaurant.

At the conference to be held at Essex Hall on November 20, at 7 p.m., Dr. Russell will read a paper on "Soil Sterilisation," and a small show of Chrysanthemums will also be held in conjunction with the conference. The judges and stewards for the two exhibitions at the Crystal Palace were appointed, and it was stated that the two N.C.S. medals offered at the Royal International Show at Chelsea last May had been awarded to exhibits which, considering the time of year, were very meritorious.

An invitation for a delegate to be sent to the Chrysanthemum Show to be held at Nantes next November was discussed, and it was resolved that no action be taken. Mr. Thomas Bevan was appointed to represent the N.C.S. at the International Horticultural Congress to be held in Ghent during the Quinquennial Exhibition next April.

One Fellow and 12 new members were elected.

NORTH OF ENGLAND HORTICULTURAL.

September 18.—There was a large attendance at the meeting held at the Queen's (Midland) Hotel, Leeds, on the above date. Professor R. S. Seton, B.Sc., of Leeds University, presided, and Mr. W. Dyke delivered a lecture on "Commercial and General Manures." A collection of fruit (Grapes, Apples, Pears, Peaches, &c.) from Lady Nunburnholme, Warter Priory (gr. Mr. F. Jordan), was unanimously recommended a large Gold Medal. Mr. J. C. Fordy, Warkworth, Northumberland, exhibited Gladioli, for which a cultural certificate was awarded. The Rev. C. Gallacher, Hunslet Vicarage, in the heart of Leeds, exhibited Gloxinias and Coleus (Silver Medal). The Collerette Dahlias Prince John and Frogmore from Messrs. Dobbie & Co., Edinborough, received First-class Certificates, as also did the Chrysanthemum Crimson Polly shown by Messrs. W. Wells & Co., Merstham, Surrey.

Obituary.

William Baylor Hartland.—In our last issue we briefly announced the lamented death of this great florist and nurseryman, which took place at his residence on Sunday, September 15, at the age of 76 years. W. Baylor Hartland was born at Mallow, Co. Cork, in 1836. His father, who was a nurseryman at Cork, died there in 1848, and soon afterwards William Baylor was apprenticed to his uncle, Mr. J. B. Hartland, seedsman in the same city. He remained with his uncle until 1878, when he went into business on his own account, and at once commenced to collect and cultivate Daffodils at the present establishment, Ardcairn, Ballintemple, Co. Cork. He personally collected all the available species in their native habitats, he purchased every desirable variety, and resolutely set to work to improve the members of the genus Narcissus, and secure for Daffodils the public appreciation he felt they deserved. To this end he published the first known complete catalogue of Daffodils in 1884, and a copy of this catalogue may be seen in the British Museum. The Ardcairn collection and its fame grew apace, and in 1897, the Jubilee year of the Victorian era, another important catalogue was issued, consisting mainly of illustrations of the best Daffodils from drawings by Gertrude Hartland. Some of the best varieties of his own raising are William Baylor Hartland, King of the Poets, Countess of Southesk, Jenny Woodhouse, and Orestes.

Mr. Baylor Hartland devoted an immense amount of energy to the collection and culture of Tulips, and the present-day cottage varieties are to a large extent the results of his visits to the old gardens in Ireland, many of them cottage gardens, where most of the varieties were discovered. Hartland obtained the assistance of Mr. J. G. Baker, of Kew, and the late Mr. Burbidge, of Trinity College, Dublin, who helped him to identify and classify the varieties he discovered. His first list of Tulips was published in 1896, and some of the best varieties he introduced are Royal Visit, Glare of the Garden, Mrs. Keightley, Illuminator, The Fawn, and Fairy Queen. Mr. Baylor Hartland was a great collector, enthusiastic, impulsive, of a poetic temperament, full of original ideas, a lover of old books, and a true Irishman. His poetic inclinations may be seen in his useful little books, and notably in that tourist's handbook, *Wayside Ireland, its Scenery, Botany, Agriculture and Peasantry*, in which much useful information is conveyed in a very interesting style. He was elected a member of the Daffodil Committee of the Royal Horticultural Society of England about 1885, and was one of the best authorities on the subject. He contributed frequent articles to the *Gardeners' Chronicle* during a long period. The funeral took place at the old Protestant Churchyard, Douglas, Co. Cork, on the 18th inst., in the presence of a large number of friends, the coffin being borne by the principal men in the nurseries. He leaves four sons and one daughter.

Answers to Correspondents

*** *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

Apple: *Kent.* We have not been able to identify the Apples received; they probably represent, as you suggest, a local seedling. The attractive fruits are of useful size and of fair quality for dessert. As the flesh is a trifle mealy and the pips have not plumped up, we suspect that the fruits were gathered a little too soon.

Asters Destroyed by Insects: *Hardworker.* The insect enclosed with the injured plant is the larva of the common cranefly, Tipula oleracea. It is very rarely that these insects infest such plants as Asters, and their attacks have no doubt been favoured by the excessive rains. Roughly dig the borders or beds and leave the soil exposed to frosts. If there should be a recurrence of the pest next season the only course is to trap the maggots by inserting pieces of green turf near the plants.

Caladiums from Seed: *Correspondent.* The seeds of Caladium should be sown in March, in a mixture of peaty or light, loamy soil, to which has been added enough silver sand to keep it porous, the whole having been passed through a ¼-inch sieve. Prepare clean pots of a suitable size, or better still shallow pans, with plenty of drainage to allow a free passage of water; fill to within an inch of the top with the prepared soil, and gently press it down; then thinly sow the seeds over the surface and cover with soil ¼ inch deep. Water thoroughly with a fine-rosed can, then place the pots in a bottom heat of 75°, and cover with a sheet of glass to prevent evaporation. As soon as the seedlings appear remove the glass and place the pans on a shelf as near to the light as possible. Water carefully, as at this stage the seedlings are liable to "damp" off if kept too wet. When large enough to handle, transplant the seedlings into thumbpots using similar soil, but adding a little broken charcoal. Keep them as near to the glass as possible in a brisk, moist heat, and pot on as required into larger pots. using soil of a coarser nature according to the size of the pots and giving the plants abundance of water as the pots become filled with roots. Caladiums are swamp-loving plants and must never be allowed to become dry.

Carnation and Begonia Gloire de Lorraine: *J. M. A.* The fungus found on the Carnation leaves is Heterosporium echinulatum. Remove all the badly-diseased leaves, and plunge the plants into a rose-red solution of permanganate of potash on two occasions at intervals of four days, and repeat the operation if necessary. There is no disease present on the Begonias. The appearance is due to conditions of cultivation.

Celery: *J. S. M.* The Celery you send has been far too heavily dressed with soot, which has burnt the skin of the stalks.

Cyclamen Diseased: *P. G. W.* The roots of the corms were rather badly infested with eelworms (Tylenchus), as you surmised. The source of infection was in all probability the loam, but the worm which you enclosed in the cartridge case belongs to a much less harmful group, and is not a true Tylenchus; the latter are microscopical and not visible to the naked eye. As a precautionary measure you have taken the proper course by destroying the infested corms, there being no other really satisfactory treatment.

Damson Diseased: *Fruit.* The black, sooty appearance of the leaves is due to fungi which have grown owing to the presence of plant lice. Spray the trees with a paraffin emulsion to which should be added liver of sulphur at the rate of 1 lb. to 100 gallons of water.

Fig Leaves: *B. N.* The white spots on the leaves are caused by some substance which has been sprinkled or sprayed over the foliage. No. 1 is covered with a fungus called Capnodium, which lives on the honey-dew deposited by aphides on the leaves. An insecticide should be used to destroy the aphides.

Fruit Found in Garden Shed: *W. & Co.* The fruit is that of a Palm, probably of Rhopalostylis sapida (syn. Areca sapida).

Fungus: *H. G. B.* The fungus is "Black Scab" (Synchytrium solani). Its presence should be reported to the Board of Agriculture.

Grapes Unhealthy: *G. W. J.* There is no disease to be found on the Grapes; the injury is due to excess of water at the root, and lack of heat.

Insects in Greenhouse: *G. B.* The material you have sent us on "sticky fly-paper" is inadequate for diagnostic purposes. If you will send us better specimens we will advise you.

Insects in Vine Border: *Perplexed.* The beetle sent is a harmless species. It is a member of the genus Trox, and is possibly Trox sabulosus. All the members of this genus live upon dry bones, horns, hoofs, and other animal remains, and the probabilities are that they were introduced in the way you have suggested in your communication.

Lilium candidum: *W. A.* In order to keep the leaves green, spray the plants in their early stages of growth with liver of sulphur, using 1 ounce of sulphur to 4 gallons of water. There is no disease present on the bulbs.

Muscat Grapes Decaying: *J. A.* The vines are attacked by the Grape rot, Glœosporium ampelophagum. Your best plan is to drench the vine before the buds open with a solution of sulphate of iron, 1 lb. in 10 gallons of water. This remedy can only be employed during the winter, otherwise it would destroy the foliage.

Names of Fruits: *F. U.* 1, Red Astrachan; 2, Summer Strawberry; 3, Worcester Pearmain; 4, Shepherd's Fame. Pears: 1, Madame Treyve; 2, Beurré Hardy.—*Grinstead.* 1 to 5, Pitmaston Duchess; 2, not recognised. We think a local stewing variety. —*G. N. S.* Cox's Pomona.—*A. G. L.* Jargonelle.—*W. S.* Huyshe's Prince Consort.—*T. D.* Pear: Beurré d'Amanlis; Apple: Winter Quoining.—*J. D.* Lady Derby.—*B. B.* Beurré d'Amanlis. The fruits are ready to gather; they will not keep many days after gathering.—*H. E.* 12, Marguérite Marillat; 13, Beurré Superfin; 14, Doyenné du Comice; 15, Easter Beurré; 16, Beurré Hardy; 17, Josephine de Malines.—*Constant Reader.* 1, Uvedale's St. Germain; 2, Kerry Pippin.—*J. E. H.* 1, not recognised, a local variety; 2, Potts's Seedling; 3, Lord Derby; 4, Emile d'Heyst; 5, Stirling Castle; 6, Red Astrachan. —*Enquirer.* 1, Peasgood's Nonesuch; 2, Cellini; 3, King of the Pippins. *E. J. W.* 1, Keswick Codlin; 2, Lady Derby; 3, Washington; 4, The Queen; 5, Claygate Pearmain; 6, Stirling Castle.—*Bude.* Williams's Bon Chrétien. The figs were smashed.—*F. E. C.* Pear: Williams's Bon Chrétien. Quite ready to gather. 1, decayed; 2, French Crab; 3, Brownlee's Russet; 4, Cox's Orange Pippin; 5, too small to name. *L. M. B.* All fruit trees in pots, especially Peaches, need a great deal of attention in respect to thinning and feeding. They should never be allowed to become the least dry at the roots, otherwise premature ripening takes place, and as a result the fruits are sour. Again they should not be allowed to ripen in a cold house under vines. Peaches are always of better flavour when exposed fully to the sunshine, and if a gentle warmth can be afforded, so much the better.—*H. C.* 1 and 2, decayed; 3, Beurré d'Amanlis; 4, Cox's Pomona; 5, Lady Henniker; 6, Lord Burghley.—*H. H.* Pear: Beurré Hardy. Apple: Nancy Jackson.—*A. H.* 1, Summer Strawberry; 2, Bramley's Seedling; 3, Beurré Hardy; 4, Louise Bonne of Jersey; 5, Souvenir du Congrès; 6, Pitmaston Duchess; 7, Comte de Lamy.—*H. R.* Large Pear: Beurré Bosc; small one: not recognised. *Gardener.* 1, Duchess of Oldenburg; 2, Pile's Russet; 3, Cox's Pomona; 4, Mother; 5, The Queen; 6, Tower of Glamis; 7, not recognised; 8, deformed fruit; 9, Northern Greening. Others next week.—*H. M.* Pears: 1, Beurré Clairgeau; 2, Catillac; 3 and 5, Beurré Diel; 4, Beurré Sterckmans; 6, Beurré Bachelier; 7, Doyenné du Comice; 8, Beurré Hardy; 9, Duchess d'Angoulême; 10, Winter Nelis. Apples: 1, Fearn's Pippin; 2, Egremont Russet; 3, Cox's Orange Pippin; others next week.—*A. S. K.* Louise Bonne of Jersey.—*T. H. Chilton.* 1, Beurré d'Amanlis; 2, Autumn Bergamot.—*J. Ross.* 1, Beurré de Jonghe; 2, Jean de Witte; 3, Golden Knap; 4, Madame Treyve.—*J. Harris.* Emily Childs. —*H. Collier.* 1, Brockworth Park; 2, Josephine de Malines; 3, Emile d'Heyst; 4, Comte de Lamy; 5, Beurré Sterckmans.

Names of Plants: *Constant Reader.* 3, Specimen withered, probably Rose Henriette de Beauveau; 5, Comtesse du Cayla.—*G. W. W.* Datura Stramonium.—*H. F. W.* 1, Clematis orientalis; 2, Chironia ixifera; 3, possibly a species of Eupatorium, but send when flowers are open; 4, Aster, a garden variety almost impossible to name correctly, there are so many sorts; 5, Cimicifuga simplex; 6, C. cordifolia.—*W. W. W.* 1, Francoa ramosa; 2, Passiflora sp., probably P. cœrulea; 3, Trachelospermum jasminoides; 4, Tradescantia zebrina discolor; 5, flower too withered to name; 6, insufficient material to name; 7, Nepeta Glechoma variegata; 8, Begonia fuchsioides; 9, Asparagus Sprengeri; 10, Bougainvillea glabra.—*O. R. T.* 1, Lælia Dayana; 2, Oncidium incurvum; 3, O. cheirophorum; 4, Cochlioda vulcanica; 5, Odontoglossum Lindleyanum; 6, Oncidium flexuosum.—*J. McD.* Sarcanthus erinaceus.—*H., Ltd.* 1, Leycesteria formosa; 2, Aralia species.—*W. A.* The photographs you send are of Rhopalostylis sapida, which is known in gardens as Areca sapida, or as Kentia sapida.

Pears Cracking: *R. S. F.* The answer to your query is the same as to *Enquirer* in last week's issue, p. 224.

Potatos Diseased: *Cestrian.* The Potatos are attacked with Phytophthora infestans. Following the digging of the crop in autumn, every bit of haulm should be gathered and burnt. Tubers that are diseased should be picked out and destroyed by burning. Next season spray the plants with the Bordeaux mixture early in July, following this spraying by one or two more sprayings at intervals of a fortnight, and taking care to spray the undersides of leaves as well as the tops. To prevent this disease, the crops should be planted on well-drained soil, free from excessive dampness.

Profits from Fruit Farming: *E. E. C.* Only a general reply can be given to your inquiry as to the usual profits of fruit farming on holdings of 20 acres and upwards. Much depends on the amount of capital available to tide the grower over unprofitable seasons and on the nature of the soil, its situation, nearness to good markets, experience of fruit-growing on the part of the cultivator, and, last, but not least, his business aptitude. Some localities are well adapted for the culture of Plums; in others, such as the neighbourhood of the Chilterns, Cherries can be profitably grown, and so on, but, notwithstanding this, as a wise man does not put all his eggs in one basket, so, unless the conditions are exceptionally favourable, a general fruit farm is the wisest venture. You would do well, before embarking on your project, to visit some of the districts in Kent, Sussex, Hampshire, and Gloucestershire, where fruit farming is carried out on a large scale, and if you then care to again write, giving fuller information, we will further advise you.

Rose Leaves Injured: *H. S. F.* The injury is due to insects of some kind, but as no examples were enclosed with the leaves it is impossible to say what the pest is. We may add, however, that the insect is furnished with mandibles, and therefore spraying with Paris green at the rate of 1½ ounce to 20 gallons of water would in all probability destroy the pest.

Vines Diseased: *B. N.* Eelworm is present. Soak the soil twice, at intervals of 10 days, with nitrate of soda, using 2 ounces of nitrate to a gallon of water.

Communications Received.—A. W. K.—Mrs. A.—M. B.—J. A.—H, B. W.—R. A. H.—J. H.—W. B.—P. L. H.—M G. C.—S. H. A.—Constant Reader—E. N.—C. & Sons—G. H. J.—A. C. D.—W. A. H.—R. H. T.—F. R. S.—W. T.—E. J. H.—J. W.—A. J. B.—E. H. R.—M. E. S.—H. & G.—C. H. P.—W. G. K.—T. E. W.—H. S. T.—V. H. L.—W. C.—H. C., Geneva—W. B. H.

THE
Gardeners' Chronicle
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PLANT NAMES FROM ANIMALS.

THE popular division of all earthly products into animal, vegetable, and mineral, though not scientific, may be allowed, if only it be understood that the three divisions are not separated by impassable barriers, but that they are in many cases so closely allied that one division often overlaps another and even mixes with it. A familiar instance of the overlapping of mineral and vegetable is found in the common cases of silica in Wheat and in the Mare's-tail (Hippuris), of lime in the crustaceous Saxifrages, and of nitrates and potash in almost all vegetable matter. The union of animal and mineral is seen in the iron found in the blood and bodies of most animals, including man, besides other more unpleasant minerals, and the close analogy and even union of animals and plants are shown in many ways. One instance will suffice. In the very interesting account of the marine worm Convoluta roscoffensis, lately published by Professor Keeble, it is clearly shown that the Convoluta is a true "plant-animal," so that at one time of its life the animal is the predominant partner and at another the plant. The book is called *A Study in Symbiosis*, and the professor proves that in the Convoluta "the animal requires the same food substances as the plant. Hence it is constrained to take it from the plant, and the aphorism, 'All flesh is grass,' is no mere figure of speech, but a terse statement of truth."

This analogy or union between plants and animals is no new doctrine; it is, indeed, very old. Aristotle, in the *Hist. Anim.*, says that there is much in common between plants and animals, and his pupil, Theophrastus, says the same. In some editions of Theophrastus the work starts with the intention of showing the analogy between plants and animals. The reading is doubtful, but the idea can be traced in many other parts of the book. Pliny and Dioscorides copied Theophrastus, but the extreme view was not reached till Baptista Porta, in the latter part of the 17th century, published his *Phytognomonica*, in which he showed the strong likeness between plants and animals, and did not hesitate to attribute to plants virtues and vices and even "anima," by which he meant the internal force and secret working of the plant. We may now laugh at his fancies and call them fantastic, but he was a real natural philosopher and observer of nature, and the book is well worth looking into. About the same time or a little earlier Bacon, in his *Sylva Sylvarum*, has a chapter on "The Sympathies and Antipathies of Plants" and another on "The Affinities and Differences of Plants and Living Creatures," in which he quotes the proverb, "Homo est planta inversa," which he translates, "Man is like a plant turned upwards, for the root in plants is as the head in living creatures." Passing by other writers, I come, in 1818, to *An Essay on the Probability of Sensation in Vegetables*, by Dr. J. P. Tupper. He was a very learned physician with a large practice, and he grounds his theory on motion in plants, sleep, irritability, &c., and the treatise is well worth reading. Again passing by other writers, I come to Professor Darwin's presidential address to the British Association at Dublin in 1908, in which he said "it is impossible to know whether plants are or are not conscious. . . but in certain conditions we must believe that in plants there exists a faint copy of what we know as consciousness." With such great authorities we need not hesitate to recognise a real relationship between ourselves and the flowers of our gardens.

Before I go to the subject of my paper, "Plant Names from Animals," I must still add a little to my forewords, because I wish to draw attention to one particular point of resemblance which I do not like to pass over. It is curious that among the likenesses between animals, especially man, plants, &c., many different writers have given to plants the power of speech, because speech is the great point in which man considers himself superior to what he calls the dumb creatures. Yet it has been so from very early times. In one of the earliest existing fables, "The trees went forth to anoint a king" (Judges ix.), and the Olive, the Fig, the Vine and the Bramble spoke very clearly; and in another fable (2 Kings xiv.) the Thistle sent a verbal message to the Cedar. In connection with this it is worth noting that before David's decisive battle against the Philistines he was told to wait "till thou hearest the sound of a going on the top of the Mulberry trees." The message from the trees was audible to David and led him to victory. Throughout the Bible, especially in the Old Testament, trees and other plants are spoken of with an almost human personality.

It is the same with the Greek and Roman writers. The oracles of Dodona were spoken by the Oaks. The reeds of Mount Tmolus said very clearly that Midas had the ears of an ass; and Sophocles speaks of "the many-tongued Oak." Æsop introduces us to many talking plants. Virgil, Horace, Ovid, Lucretius and all the Latins who delighted in outdoor life bear their testimonies to the same feeling. How the relationship between plants and animals was recognised by them is shown by the way in which, perhaps unconsciously, they applied the same descriptive epithets to both. Virgil, for instance, applied these human epithets to plants: Ridens, segnis, læta, languens, impia, spirans and others.

Passing over many years, I come to the English writers. In the *Shepheard's Calender* for "Februarie" Spenser tells the pretty tale of the "spiteful brere" abusing the "goodly Oake" in very scolding English. Then we come to Shakespeare, who teaches the good lesson that "sweet are the uses of adversity," which will find for us "tongues in the trees and good in everything." In 1635 the learned Thomas Fuller published his "Antheologia or Speech of Flowers," in which the flowers speak of themselves in very plain English. Then, skipping many years, not for want of material, but for want of space, I may finish this part of my subject with Tennyson's "Talking Oak," of which he says:—

"Tho' what he whispered, under Heaven
None else could understand,
I found him garrulously given,
A babbler in the land."

I say nothing of the many modern books on the "Language of Flowers," because most of them are rather foolish, and in all of them the names and language merely show the private fancies of the authors. I can only recall two instances in which the words spoken by the flowers are descriptive and have some authority and may be called popular. One is the Balsam, which, from its sensitiveness to touch, has for its specific name "noli-me-tangere," and for its generic name is rightly called "impatiens." The other is the Heartsease, which, from very early times, has had all sorts of pretty names, speaking a definite language, such as "Call me to you," "Kiss me at the garden gate," "Jump up and kiss me," and many others of the same kind. From very early times the Mandrake has been credited with the power of shrieking when pulled out of the ground. The belief was based on its fancied human appearance, and Josephus says it was a common opinion in his time, and it certainly lasted till the time of Shakespeare and Jonson, both of whom speak of its shrieks.

If I may speak of myself, I should say that I do not consider these semi-human attributes to be far-fetched or over-fanciful. To me they are real. As I walk through my garden, I find in the flowers not only beauty and interest but also companionship; they talk to me, and as they talk they never scold and are never monotonous. One-day telleth another, and the tale is never the same from day to day. Keble felt the same, and shows it in his beautiful flower-poem for the 17th Sunday after Trinity. So did George Herbert, Cardinal Newman, Alphonse Karr, and Forbes Watson in his delightful *Gardens and Flowers*. What the flowers say depends upon the hearer; the voices of flowers are like the voices of church bells, of which it is said "What the soule thinketh that the bell clinketh" (Burton). In the same way, what the flowers say depends on the hearer, but they have voices, and so I partly understand St. Paul's lesson, "There are, it may be, many kinds of voices in the world, and none of them is without signification"—man is not the only *animal loquens.*

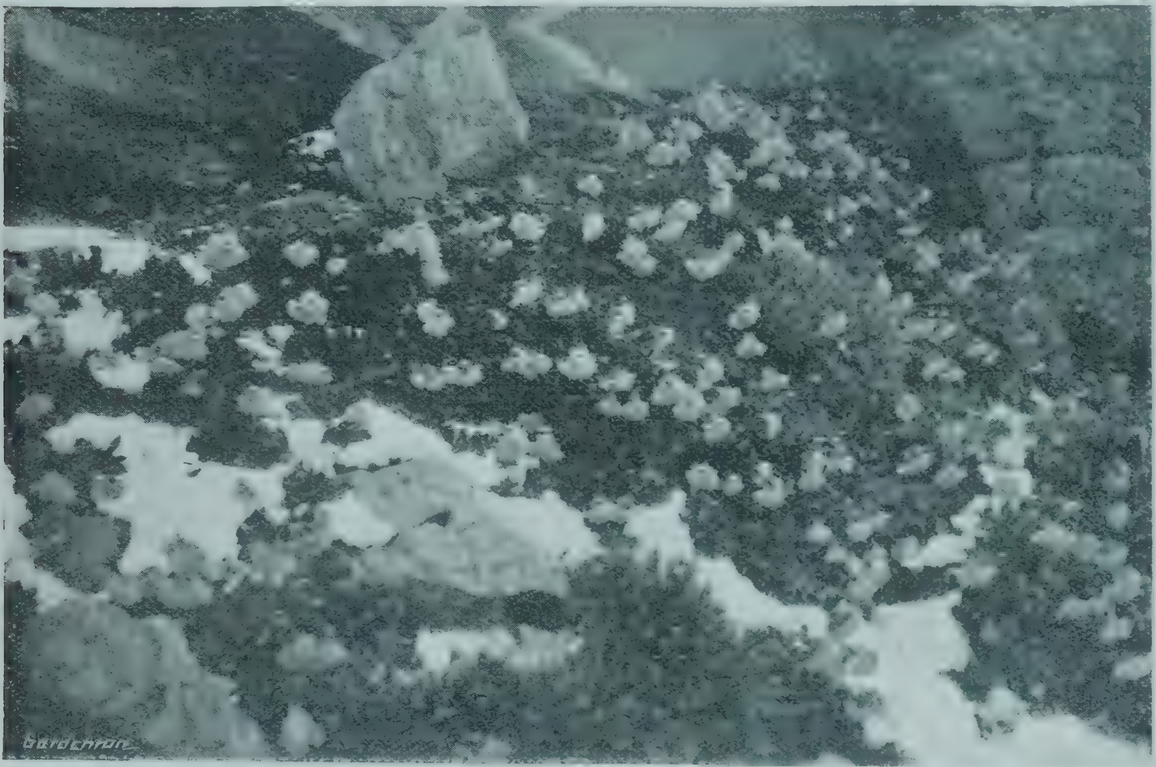

FIG. 115.—PRIMULA INTEGRIFOLIA IN THE TYROL: ALT. 9,900 FEET.

In these forewords I have tried to show how universal has been the belief in the relationship between plants and animals. I now go on to the way in which that belief has been shown in the many instances in which the names of animals have been given to plants, and I begin with the birds.

Aquila, the eagle, has given his name to the Aquilegia, the Columbine. That this is the right origin of the name I have no doubt, though the derivation from aqualegus, a water-collector, has some authority. But I am content to follow Linnæus, who puts Aquilegia into his list of wrongly-named plants and says that the right name is aquilina, i.e., eagle-like, referring to the likeness between the upper petal of the flower and the curved beak of the bird. The connection with the eagle has been adopted in many European languages, but has not been kept in the English. Our English name for the plant is Columbine, and how a plant can be connected both with the eagle and the dove seems a contradiction in terms, and recalls Horace's line, "Nec imbellam feroces progenerant aquilæ columbam," and I should suppose that Columbine refers to the colour, like Chaucer's "Eyen Columbine."

Erodios, the heron, pelargos, the stork, and geranos, the crane, give us Erodium, Pelargonium and Geranium and the English Crane's-bill, all pointing by their seeds to the sharp bills of the birds. Our domestic poultry give us Chickweed, Chick-pea, Cockscomb, and Henbane. The connection of Henbane with the bird is not quite certain. The seeds are hurtful to poultry, but the Greek Hyoscyamus connects the plant with the hog. The pheasant's eye is found in the pretty autumnal weed of the cornfields and in the Pheasant's-tail Grass (Apera). We have no English plant connected with the pigeon, but we find it in the pigeon pea (Cajanus), the pigeon berry (Phytolacca), and the pigeon beak (Lotus), all exotic. The dove may be found in the Columbine, and in I. Walton's and J. Dennis' Culverkeys. The "culver" is certainly the dove, but the "keys" makes a difficulty, and Walton's azure Culverkeys makes me connect it with the blue Geranium, the seed (keys) of which may be said to resemble the pigeon's foot. The swallow, chelidon, is found in Chelidonium, either because, according to Theophrastus and Pliny, the plant springs up and decays at the coming and departure of the swallows, or because, according to the absurd derivation given by Aristotle and Dioscorides, the swallow picks the seeds to restore the lost eyes of its young ones. We find the crow in Crowberry (Empetrum) and in Crowfoot (Ranunculus); the cuckoo appears in the Cuckoo Flower and in the Lychnis Flos-cuculi; the lark in the Larkspur and the Corydalis, and from the Greek hierax, a hawk, Theophrastus derived the name hieracion, and we keep the name of the hawk in the Hawkweed and Hawkbit, both derived from Pliny's account that hawks eat it for their eyesight. Strouthios is the Greek name both for the ostrich and the sparrow. The ostrich is found in the Ostrich Feather Fern, and carries its name in Greek, Struthiopteris, from Strouthios and pteron, a feather. From the sparrow, Strouthios, we get the plant Struthiola. A plant is named Struthios by Pliny, and is supposed to be a Gypsophila, and he calls Quinces Struthea mala, which looks as if he did not much care for them, otherwise I do not find the sparrow in any plant, unless we admit the Cockney Sparrowgrass, for Asparagus, a form which really seems to have established itself in some English literature. The partridge is found in the Partridge berry (Gaultheria) and the Partridge Pea. The peacock and parrot give their names to the Parrotbeak (Clianthus) and the Peacock Lily (Tigridia), but the plants are exotic and the names modern. The duck is found in Duckweed and in the Ducks-foot (Podophyllum), while the Greek name of the goose (chen) survives in the Chenopodium or Goosefoot, and its Latin name (anser) in Potentilla anserina. In Gooseberry the derivation is not connected with the bird. The cassiowary is said to have given its name to the Australian Casuarina. *H. N. Ellacombe, Bitton Vicarage.*

(To be continued.)

PLANT NOTE.

CLERODENDRON FALLAX.

INCLUDED in the genus Clerodendron are some widely dissimilar types, for among hardy species there is Clerodendron fœtidum, which though classed as a shrub is almost of an herbaceous character, while C. trichotomum attains the dimensions of a small tree. The tender species also show much variation, for while several of them are decided climbers, others are of erect, shrubby growth. To this last group belongs Clerodendron fallax, a native of Java, and certainly one of the most showy of the entire genus. It has been grown in gardens for a long time, but has come markedly to the fore within the last few years, and deservedly so, as it is exceedingly useful for various decorative purposes. This Clerodendron is of upright growth, the sturdy stems being furnished with large, heart-shaped leaves, and terminated by large, erect branching panicles of deep scarlet flowers. It blooms as a rule in the summer and early autumn months. Seeds frequently ripen, and in this way young plants can be readily obtained, while cuttings are also easily rooted. Effective specimens may be grown in pots from 6 inches to 8 inches in diameter, and in order to obtain the best results they should be assisted when the pots are well furnished with roots, with occasional doses of liquid manure. *W. T.*

IPOMŒA LEARII.

CONSIDERING that flowers of a clear, decided blue tint are so generally admired, it is somewhat surprising that this Ipomœa is not grown more frequently. Perhaps it is owing to the fact that the flowers are not of a sufficiently lasting nature to admit of their being used to any extent in a cut state, though on the plant they are delightful, and are borne throughout the greater part of the summer and well on into the autumn. As with many of the Ipomœas this is a rapid-growing climber, and the large Convolvulus-like flowers are of a rich bright blue with a lighter throat. It needs the temperature of a stove or intermediate house for its successful culture; indeed, in the last-named house it is less liable to the attacks of red spider, which in the stove sometimes gives trouble. Ipomœa Learii is not difficult to strike from cuttings of the young shoots, and the plants so obtained grow away freely afterwards. Owing no doubt to its great beauty, it is cultivated in many parts of the tropics. In cultivation it forms a charming rafter plant. *W. T.*

PRIMULA INTEGRIFOLIA ON THE HIGH ALPS.

THE illustration in fig. 115 shows a European Primula, peer of the lovely Oriental forms recently illustrated in these pages. It is P. integrifolia, which I photographed on July 1 last, at a height of 9,900 feet, while descending the Vertainspitze, an outlier of the Ortler group in the Tyrol. One specimen at least was seen at 10,000 feet, but the group illustrated was part of a natural rock-garden nearly half-an-acre in extent, surrounded by snow, which was prevalent down nearly to 8,000 feet. A snowstorm was raging at the time, and I used my ice-axe for a camera stand; the slope being so steep, it was difficult to get back far enough to take the picture. The colour was intense violet, far more blue than the usual shade even of this Primula, perhaps because of the unusual height. The rocks were, of course, dripping with ice-cold snow water. At least 150 plants are included in the picture. *J. Edmund Clark, B.Sc., Purley.*

BROCKHURST.

Brockhurst, the residence of Frederick J. Hanbury, Esq. (gr. Mr. T. Matthews), is interesting not only to lovers of beautiful gardens, but to the naturalist and botanist, for the museum contains a complete collection of British Lepidoptera and the herbarium some 70,000 specimens of British plants. The gardens also contain numerous rare British plants. A former owner planned the gardens and pleasure grounds, but Mr. Hanbury has developed them, so that to-day they are amongst the finest in the country. The rock-garden is one of the most extensive in these islands, for, although not yet finished, it is one-eighth of a mile in length, and consists of a ravine cut in the natural rock, with shelving, irregular sides, the home of rare and interesting species.

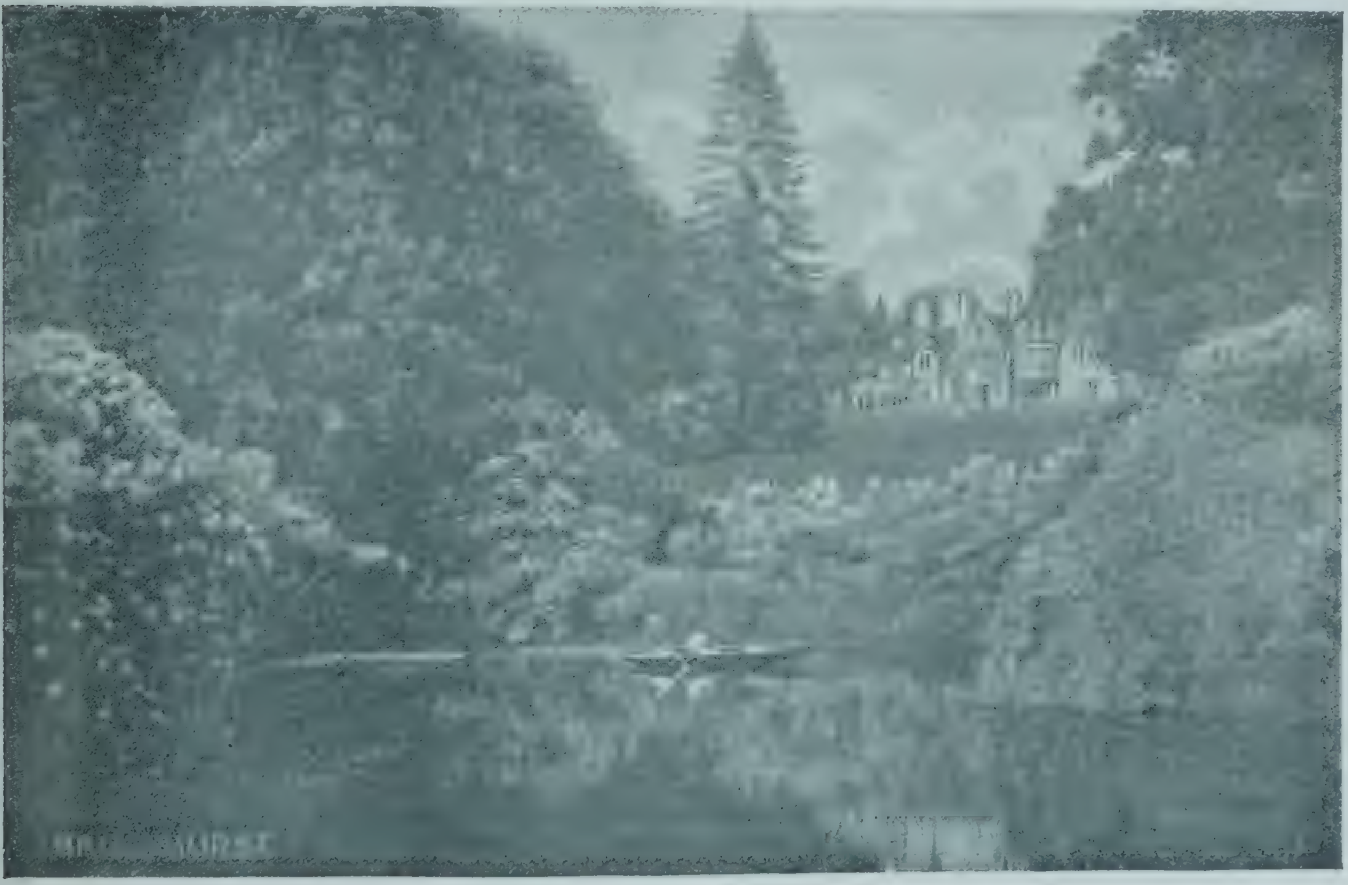

Fig. 116.—Brockhurst, East Grinstead.

The view from the terrace (see fig. 118) includes graceful slopes, studded with fine Conifers and other trees, with Pomegranates, Stauntonia latifolia, Solanum crispum, and various other uncommon creepers around the house. The garden front contains rocky herbaceous borders, in the middle of which are steps of natural stone. In the spaces between, on stones, close-growing rock plants thrive, such as the Corsican Helxine Soleirolii, Arenarias, Acænas, Androsaces and Saxifrages. A chain of four large ponds, fed by natural springs, extends from the higher to the lower ground, their rock-bound sides affording suitable homes for marsh-loving plants. Above the ponds are long stretches of Rhododendrons, some of the plants being 25 feet in height, and providing a great display of flowers in their season. There is a large collection of Spiræas in the moist, shady rockeries, and the plants attain to a large size. In the more recently formed garden, on high ground known as the Upper Field, a Pergola of Wichuraiana Roses was a mass of bloom at the time of my visit. Beds of Roses were beautiful objects, although the wet season had not been favourable to these flowers. On the brow of the hill, and excellently well situated for scientific purposes, is a meteorological station and observatory, completely equipped for research and in charge of a competent scientist. Around it, in beds and rockeries, is a fine collection of Ericas, including some 30 to 40 species and varieties. Some of them are in flower all the year round. Planted with the Ericas are fine clumps of Dabœcia polifolia and its white variety. So well do the hardy Heaths flourish at Brockhurst that one of the most effective features of the place is a long stretch of rocky bank, in which, many years ago, were planted small plants of Erica vagans, collected in Cornwall. These have now formed dense bushes and give a mass of bloom.

Few other gardens are naturally so well adapted for providing suitable situations for every class of plant, from those which thrive best on dry, rocky places to those which flourish in marsh land. Mr. F. J. Hanbury is specially successful in the cultivation of many uncommon plants obtained from La Mortola, the gardens of his cousin, the late Sir Thomas Hanbury. Among rare British plants I noted Potentilla verna thriving well; Ajuga pyramidalis gathered in Co. Clare (whence the British Maidenhair, which thrives in a moist nook in the rockery, was also obtained); Rubus saxatilis, Linn., Sonchus palustris, and Euphorbia Peplis (not E. Peplus, which is a common plant). Mr. Hanbury is specially interested in these rare British plants. Other uncommon plants noted were Moricandia arvensis, species of Corrigiola, Hyoscyamus aureus and other interesting plants collected in Jaffa. In the ponds it was interesting to see the Arum Lily (Richardia africana) thriving and producing its white spathes freely, whilst on the bank were two large patches of Dierama (Sparaxis) pulcherrima, producing their tall sprays of lilac and purple flowers in profusion. Cordyline australis grows well in the open garden in a sheltered nook; Saxifraga Fortunei thrives remarkably well on the rockery, and many other tender plants, such as the Sikkim Rhododendrons, a fine collection of which occupy a sheltered ridge beside one of the ponds, give ample reward for the care taken in selecting the site and planting them. Beside the shady walks, in rock and natural greensward, Hepaticas, Daffodils, Anemones, hardy Cyclamen and other spring bulbs are established. There are two kitchen gardens on different levels, surrounded by the glasshouses. In the kitchen gardens are broad herbaceous borders, well furnished with showy flowers and many interesting, uncommon plants. In one of the borders Brassica insularis, a Sardinian plant, forms a large bush, producing a profusion of white, fragrant flowers throughout the summer. Spiranthes autumnalis and other British Orchids are well established in the grassy slopes, and beside the house are a noble tree of Araucaria imbricata, a fine Weeping Beech and some stately Conifers.

The Orchids.

There is a very extensive collection of Orchids at Brockhurst, and Mr. Hanbury takes great interest in hybridising and raising new hybrids. There are two excellent blocks of new Orchid houses. Good varieties of showy species are well represented, but the chief interest lies in the hybrids, which include many crosses of Cypripedium, Cattleya, Lælia and Brassavola. There are no fewer than 500 crosses of Cypripedium, some of which have already flowered, and large numbers are due to bloom in their season. There are four houses of Cypripediums with plants in all stages of growth, including many in seed pans and store pots. In one house I noticed sturdy specimens of C. bellatulum, which, like C. niveum and others of its section, thrives best in a mixture of mortar rubbish and loam. The plants of C. bellatulum are suspended from the roof. In flower or bud were C. Rossettii, C. Germaine Opoix, C. Thalia Mrs. Francis Wellesley, C. Mrs. E. V. Low, C. Maudiæ, C. callosum Sanderæ, C. Chapmanii magnificum, C. St. Alban, C. Unixia, C. Godefroyæ leucochilum, and a large number of seedling Cypripediums, while the fine collection of varieties of C. insigne, which numbers more than 100 distinct forms, gave evidence of a fine show of blooms later. In one of the houses were observed numerous seedling Odontoglossums on an elevated woodwork stage. These have not been so satisfactory as the many hybrid Cattleyas and Lælias which abound in the intermediate houses, but they are now becoming more vigorous.

In the Odontoglossum houses the bulk of the well-grown specimens are forms of O. crispum, good blotched varieties noted being Victoria Regina, Orvieto, Luciani, Raymond Crawshay, Rossendale, Empress of Germany, Brigadier, and Starlight. A very fine form of O. Uro-Skinneri, with two spikes, very distinct O. Adrianæ, various good forms of O. crispo-Harryanum and other hybrids were in bloom, and in these cool houses are large numbers of hybrid Cymbidiums of various crosses, those between C. erythrostylum and C. Tracyanum being specially promising. In the coolest part of the house Dendrobium Victoria Regina thrives admirably and produces its blue flowers freely. The collection also includes a good batch of the scarlet Cochlioda Noezliana and some hybrids of it; C. vulcanica, Lycaste Skinneri, L. lanipes, L. leucantha, various showy Masdevallias, including M. bella, M. Chimæra and others of the section, Oncidium incurvum and other cool-house Oncidiums. In the intermediate houses the greater part of the occupants are Cattleya, Lælia and Brassavola hybrids, some of which are in flower. Numerous Cattleya granulosa Schöfieldiana hybrids vary much in shape, while generally retaining the peculiar form of the labellum of C.

granulosa, though in exceptional cases with crosses of the C. labiata section the more tubular base to the labellum occurs. A good batch of distinct forms of Lælio-Cattleya elegans, some being in bloom, and thousands of various crosses of Lælia and Cattleya approaching the flowering size, promise an interesting display. Brassavolas have been successfully crossed to a large extent at Brockhurst, where crossings of the terete-leaved Brassavolas have produced some very pretty flowers, the best of which are Brasso-Cattleya Joan, with its trumpet-shaped white labellum spotted with mauve (now in bloom), and B.-C. Faith (Brassavola Perrinii × Cattleya Leopoldii). Hybrids of Brassavola glauca were remarked, also Lælio-Cattleya Clonia Brockhurst variety, which is quite the best form of this pretty hybrid; Cattleya Maronii × C. Dowiana aurea, which is an improvement on C. Maronii; and a very fine lot of Cattleya Bowringiana hybrids, the C. Portia and C. Mantinii forms being remarkably vigorous and well furnished with flower-sheaths. All the finer varieties of C. Mantinii have been acquired, but the Brockhurst variety appears to be the best.

In other houses are a good selection of Lælias, especially of the large-flowered species, such as L. purpurata, L. tenebrosa, &c.; a representative collection of the large-flowered Cattleyas with albinos of most of the species, which are being used for crossing in various ways; a number of C. Dowiana aurea and some good specimens of most of the best species. Throughout the whole collection the floriferous character of the plants and their sturdy condition arrest the attention of the visitor. The Mexican house has a good collection of Lælia anceps, and, on one side, some fine Sobralias, including the bright-yellow S. xantholeuca, the pure-white S. macrantha alba, S. Veitchii and others. In this tolerably cool house Vanda teres is in fine health, and strong specimens of Dendrobium Wardianum show that they can be grown without much fire-heat, which some consider necessary. The same remark applies to the general collection of Dendrobiums, both species and hybrids, which, although given a tolerably warm house when making their growth, are, at other times, kept cooler than in most establishments. Dendrobium Phalænopsis Schröderianum, D. bigibbum and others of the section are grown in a warm house, and not rested so cool as the Burmese species. At the end of this house is a warm division set apart for raising seedling Orchids and fitted with cases, in which the seed-pots are placed. Various methods of raising seedlings have been tried, but the method now adopted as the most satisfactory is to prepare seed-pots or pans either by making them up with fine Orchid compost, on which is placed a layer of carefully-selected, live Sphagnum-moss, leaving the surface convex in form; or to place in the pots spherical wads made by covering moist Sphagnum-moss with thin gauze or thin calico; the seeds are sown thinly on the moist surface, and germinate equally well under both methods. Seeds of many interesting crosses are germinating in the cases; some of the seed-pots have already given a first crop of small seedlings and are being retained in the cases to supply more, should the first batch fail. Of a larger size, and soon ready to be passed on to the plant houses, are many healthy little specimens in tiny pots on the side stage. The work is very interesting, but requires constant attention. In another house were excellent examples of Lælia pumila and L. Jongheiana with hybrids of them, a good form of Lælio-Cattleya Clive and some others in bloom, together with Cycnoches chlorochilon Brockhurst. *J. O'B.*

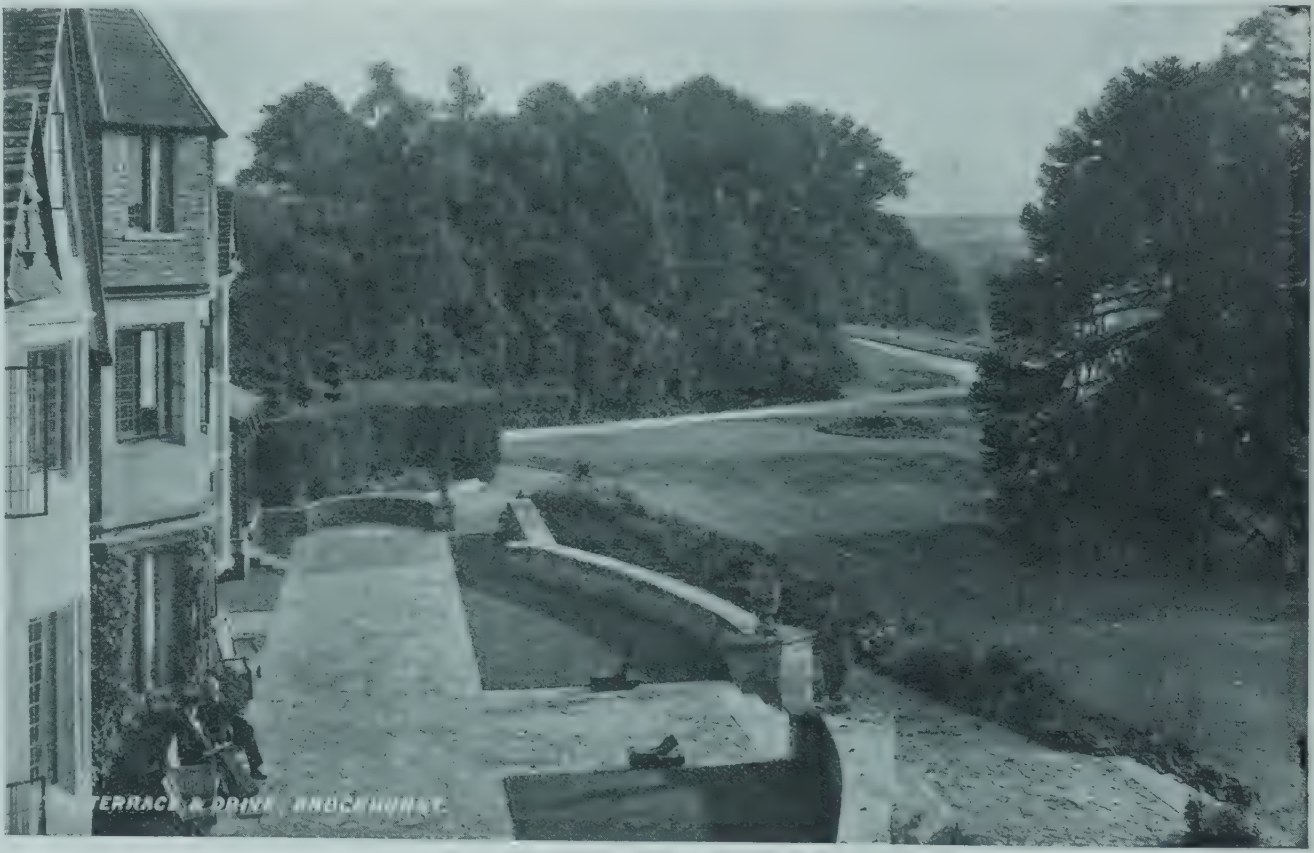

Fig. 117.—Brockhurst, East Grinstead.

FLORISTS' FLOWERS.

THE PERPETUAL-FLOWERING MALMAISON CARNATION.

The old, time-honoured Souvenir de la Malmaison Carnation has been abused by some and admired by others, and when it is gone and the plant is no more, some of us who have put in many years work adding to its list of varieties will regret its loss. But that its days are numbered none can deny, and that the new Perpetual-flowering Malmaison will take its place is certain.

The definition of what really is a "Malmaison" is not what I intend to discuss. I believe it is generally agreed upon that the first plant of Souvenir de la Malmaison was raised by a Frenchman from seed obtained from Remontant varieties, and anyone who has worked upon these plants can believe this. The "Malmaison" is, however, sterile, and the late James Douglas was most positive that no seed could be obtained from it. Yet some of us have used its pollen to advantage, and this fact leads me to believe that there is much "Perpetual" blood to be found in the old "Malmaison."

The point, however, which I wish to make plain is that the new Perpetual-flowering Malmaison comes from the same source as the old Souvenir de la Malmaison, viz., Remontant or Perpetual Carnations. Perpetual-flowering Malmaisons can, of course, be obtained by crossing "Malmaisons" on to Perpetual-flowering Carnations, and Mr. Brooks obtained Lady Millar, and I raised Princess Juliana that way. I do not, however, look for the best results from this method.

Mr. Burnett raised Marmion, the first Perpetual-flowering Malmaison, and also Mr. C. F. Raphael from Perpetual-flowering Carnation parents, and many growers to-day maintain that they are not Malmaisons, because they have not Malmaison parents. However, as I have said, it is generally agreed that the first Malmaison came from a Remontant stock, and now that the type is more fixed, it is not to be marvelled at if Perpetual-flowering Malmaisons are produced, and I look to this fact being proved during the next few years.

Everyone who has raised Perpetual-flowering Carnation seedlings knows that certain slow, strong-growing seedlings are produced which are, as a rule, thrown away. If, however, they are persevered with for two or three years, wonderful results can be obtained, and the origin of the Perpetual Malmaison discovered. Of course, like all seedlings, the useless ones are numerous, and the percentage would not be more than one good in 500 selected seedlings. We have been working on these lines for three years, and it is surprising how certain seedlings have improved under selection and careful cultivation, and, depend upon it, every colour and shade figuring in the Carnation to-day will be produced in this new plant. I believe Mr. Engelmann has similar views.

I would never have taken up my pen to write this, if the new Perpetual Malmaison was simply a mule, never to reproduce its kind, but we have procured certain plants of them which are fertile, and some of the seedlings we have obtained from these are most encouraging, producing flowers as large and full as Prince of Wales, while we have quite a good stock worked up of seedlings far superior to varieties of the same colour in the old Malmaison class and perfectly perpetual in growth, with stiff stems during all seasons.

The Perpetual-flowering Carnation Society has discussed this plant and its future in committee, with the intention of making special classes to encourage its culture. It is therefore well beyond the stage when the hybridist "dreams dreams and sees visions" of things he hopes will be, and very shortly those gardeners who have tried to cheat Nature by producing flowers of the Souvenir de la Malmaison the entire 12 months of the year, will be spared this difficult and never satisfactory task by having a plant which will naturally bloom perpetually. *Montagu C. Allwood.*

SWEET PEAS FOR APRIL.

The following varieties of Sweet Peas have proved most suitable for cultivation under glass for flowering in April and May (see also p. 266):—

White.—Etta Dyke, Nora Unwin, and Moneymaker.

Cream.—Clara Curtis, Dobbie's Cream and Isabel Malcolm.

Lavender.—R. F. Felton, Masterpiece, and Nettie Jenkins.

Cream pink.—Mrs. Hugh Dickson, Mrs. Routzahn and Doris Esher.

Orange.—Thomas Stevenson, Edrom Beauty and Helen Grosvenor.

Salmon.—Melba, Earl Spencer and Stirling Stent.

Blush pink.—Elfrida Pearson, Mrs. H. Sykes and Princess Victoria.

Scarlets.—Scarlet Monarch, Red Star and Vermilion Brilliant.

Fancies and Bicolors.—Afterglow, Charles Foster, May Campbell, Mrs. Cuthbertson and Mrs. W. J. Unwin.

Edged Flowers.—Elsie Herbert, Mrs. C. W. Breadmore and Marchioness of Tweeddale.

Each of these varieties may be depended upon to succeed, and those may be selected which appeal most to the individual taste. *Experto Crede.*

FORESTRY.

FOREST SURVEYS.

The question of State afforestation in the British Islands is one which is so often raised that it threatens to become monotonous. Royal Commissions are appointed, reports published, and even private individuals go to a lot of trouble to show the advisability or otherwise of afforestation. But are we now any further than we were 20 years ago? The question is taken up periodically by the Government, and then shelved as soon as some other subject turns up, so that it looks as though no serious thoughts are entertained of ever tackling it in a serious way. The last development grant has been so split up that one is tempted to ask what good is likely to come of it.

The Supplement of the *Journal* of the Board of Agriculture, dated August, 1912, is devoted to an interesting paper by Mr. R. L. Robinson on some of the Kerry woods in Wales, the object being to collect reliable information for a forest survey. The report is especially valuable owing to the fact that the work has been carried out in a thoroughly scientific and at the same time workmanlike manner, and although some of the data upon which the calculations are based are evidently more or less the result of guess work, they probably err on the right side in giving a low estimate of the value of the yield.

Mr. Robinson points out that there are two methods of selecting land for afforestation. In the first case it may be assumed that the project will pay its way, and the ground mapped out and planted accordingly. This is the line of reasoning usually adopted in this country, and as opinions are bound to differ upon a question where proof is lacking, much inconclusive argument is the result. The second and rational method is to investigate the commercial prospect of afforestation in a district, and to start the work of surveying or scheduling the land on the basis of information thus obtained.

An attempt has been made to survey the Kerry woods upon these lines. The most up-to-date methods have been adopted, and it is particularly satisfactory to see the usual makeshift ways of measurement (quarter-girth, &c.) abandoned in favour of more accurate methods. If forestry ever gets hold in this country, the system of measurement will have to be improved. The work of surveying was carried out roughly as follows:—Several wooded areas at varying altitudes, and as far as possible typical of their surroundings, were selected and carefully measured. A thorough examination and analysis was made of representative trees in each group, and an idea thus obtained of the past and future development of the whole wood.

Owing to the lack of reliable yield tables for this country, the Austrian calculations compiled by Schiffel were used for the yield estimates. These tables were found to be the most suitable, as they make allowances for the density of the canopy, a factor apparently neglected by German foresters. Samples of soil from each group were also submitted to a thorough mechanical and chemical analysis. The working expenses could not be correctly estimated, as without a working plan no figures could be given. The future timber prices are of course also unknown. Nevertheless, by assuming liberal working expenses, and a very moderate rise in the price of timber, the calculations must perforce be on the side of safety. With the help of this data it is easy to work out the expectation value of the soil, and consequently the maximum sum which can be expended on the acquisition of freehold land if a profit is to be realised. Owing to the numerous advantages which capital invested in forestry enjoys, a comparatively low rate of interest, viz., 3 per cent., is generally looked upon as sufficient.

Whether the area examined by Mr. Robinson is of positive or negative value for afforestation, is not the main issue. The most useful service which he has rendered is to be looked for in the abandonment of obsolete ideas, and the compilation of a survey upon a practically and financially sound basis. *G. W.*

FURBER'S CATALOGUE.

The catalogue of trees, fruits and plants appended to the second volume of *The Gardener's and Florist's Dictionary* (1724) of Philip Miller is well known to collectors of gardening books. But there is an edition of this catalogue, which was published separately, of which I have seen only one copy, and have never heard of another. So far as I know, it is the earliest nurseryman's list ever published separately, though there were lists published in one or two books on gardening of an earlier date. The catalogue in question is bound up with pamphlets of about the same date, some much earlier, e.g., Gerald Langbaine's *Momus Triumphans*, and a few later. It contains 16 pages, of which one is a title page, another is occupied by a preface, and there is a rude engraving of a mansion with attached flower gardens as a headpiece. The page measures 8¼ inches by 6¾ inches, but has been larger both ways. The title is interesting and the preface worth transcribing, on account of the divergence of Furber and Miller regarding popular names.

The preface, nearly all in italics, fills the whole of the back leaf of the title page.

The PREFACE.

The Design of printing this Catalogue is to inform the Lovers of Gardening of the Names of several curious Exotick and Domestick Plants, that are hardy enough to stand abroad and flourish in our Climate; I shall avoid mentioning their Names at length as they are inserted in the Botanical Authors, but content my self rather by calling them by such Names only as they are generally known in ENGLAND.

I have also added a Catalogue of Fruits, which I have for many Years been collecting; which I believe contains as great Variety of such Fruits as will be serviceable for our ENGLISH Gardens, as will be met with in any Collection for Sale in this Kingdom; with a Catalogue of Plants fit to adorn a Gentleman's Green-House, and do not require a Stove in Winter; with a short Account of some Flowers fit to adorn the open Borders in a Parterre, without the Trouble of covering in Winter, or shading in the Time of Bloom, as the nicer Sorts require.

I likewise take this Opportunity of returning my Thanks to those worthy Gentlemen, who have been so kind as to furnish me with several curious Plants from abroad.

In *Miller's Dictionary* the introductory notice is as follows:—

A Catalogue of Curious Trees, Plants, &c.

For the Satisfaction of such Gentlemen, that are curious in collecting of foreign Trees and Shrubs, and are not willing to be at the Expence of building Stoves and Green-houses, I have here set down a Catalogue of such Trees and Shrubs, both Exotick and Domestick, as will prosper in our Climate, in the open Ground, as hath been several Years experienced by Mr. Robert Furber, Gardener, over-against Hide Park Gate, at Kensington, where any Gentlemen may be furnished with any of the following Trees and Shrubs at reasonable Rates; and for the general Satisfaction of Gentlemen, which are skill'd in Botany, I have endeavoured to give Authentick Names opposite to the English, that it may be useful to every Body, the Gardeners understanding what Gentlemen mean when they write for any of the following Plants, and that Gentlemen may understand what the Gardeners mean when they call any of the following Plants by the names used amongst them.

The page is divided longitudinally, Furber's names on the left half and the "Authentick Names" on the right half. The transcription, if from Furber's catalogue, is rather carelessly done, e.g., "Acacia, or Honey-Locust of Virginia," appears as "Acacia or Honey, Locust of Virginia," which is botanically named "Acacia Americana abruæ foliis, triacanthos, sive ad axillas foliorum spina triplici donata." It is Gleditschia triacantha. Whether Miller's knowledge did not extend to naming all the plants, or for some other reason, a few plants are not included, one of which, Tuft-Nuts, or, as Furber has it, "Tuft-Nut grows to a large tree," one would have specially liked to have been determined. It is a designation I have never seen elsewhere, and conveys no other information save that it may be expected that the Nuts would be arranged as the flowers of Sweet William, otherwise London Tufts and Candytuft in a capitulate manner.

The arrangement differs in the two. In Furber's Catalogue it is as follows:—Trees and Shrubs; A Catalogue of Curious Fruits, Apples; A Catalogue of Pears of the Choicest Sorts made me a Present by Mr. Alderman Brocas; Other sorts of Pears, &c.; A Catalogue of Plants fit to adorn a Green-house, and which require no artificial Heat in the Winter more than a good Green-house; A Catalogue of Flowers for the open Borders.

In the *Dictionary* the arrangement is Trees and Shrubs; A Catalogue of Plants, out of which any Gentleman may collect at Pleasure, for to furnish a Green-House, and not require a Stove in the Winter; A Catalogue of Flowers for the open Borders; A Catalogue of Curious Fruits, Apples; A Catalogue of Pears of the Choicest Sorts made a Present to Mr. Furber by Mr. Alderman Brocas; Other Sorts of Pears, &c.

The list of greenhouse plants is very considerably restricted, and it is not free from mistakes. *The Gardener's and Florist's Dictionary*, it may be added, was printed by the same person as the Catalogue of Furber. Thus:—

London: Printed by H. P. for Charles Rivington at the Bible and Crown in St. Paul's Churchyard, 1724.

There are numerous errors in the names of plants in both, Furber's spelling being to a large extent phonetic, and to-day we should have been thankful had he not restricted the names to those "generally known in England." *R. P. Brotherston.*

THE ROSARY.

SELECTION OF ROSES FOR BEDDING.

A lady recently asked me to select some Roses for 18 beds containing about a dozen Roses each, and, so far as practicable, to comply with three conditions:—(1) They are to be of decided colours; (2) they must be "real Roses," by which is meant that whether the flowers are large or small they must individually have some of that beauty of form we are accustomed to look for in exhibition Roses, and (3) they must be fragrant. The purpose for which they are required virtually involves the further conditions (4) that they must be fairly free and constantly in flower during the Rose season; (5) of good constitution, and (6) of suitable habit for bedding purposes.

From all our beautiful modern Roses it might be thought an easy task to pick out 18 varieties that would comply with these conditions, but when I come to put them on paper the criticisms which suggest themselves seem more numerous than I expected. And as it may be that other readers of this journal are of one mind with my friend in their likes and dislikes, I am tempted to work out my task at length for their benefit.

To begin with the first requirement of decided colouring. This alone rules out many very beautiful Roses. Pharisaer, Prince de Bulgarie, Ethel Malcolm, Countess of Derby, Mme. Antoine Mari, Mrs. Theodore Roosevelt, and other charming Roses of half-and-half shades of colour must obviously be rejected. The second condition, beauty of form, excludes most of the dwarf Polyantha and China Roses, and such H.T.s as Ecarlate, which might well comply with most of the later conditions; and the third requirement, that of fragrance, disposes of Frau Karl Druschki, while Marquise de Salisbury must go because, whether from lack of constitution or susceptibility to fungoid pests, it is by no means always reliable; again, Souvenir de Pierre Notting, though of excellent habit and in many respects one of the good garden Roses, produces too few flowers of any value to be suitable for our purposes.

I begin with the pinks, and here I shall expect to find the greatest choice, and I take half the total number allowed me. My list is André Gamon, Dr. J. Campbell Hall, G. C. Waud, La France, Lady Ashtown, Lyon Rose, Mme. Abel Chatenay, Mme. Maurice de Luze, and Mrs. E. G. Hill. It is, I am well aware, open to criticism: neither Lady Ashtown nor Mrs. E. G. Hill is so fragrant as one would expect from their appearance. They have some fragrance and that is all that can be said for them in this respect. La France, on the other hand, pre-eminent for sweet perfume, is not without faults of a different kind. In wet weather the flowers ball, the petals stick together and refuse to open, and this defect would appear to be worse on heavy and highly-cultivated soils. It is well to grow plants of this variety from cuttings. Should any change be desired in this list, it can be supplied by Caroline Testout, only omitted because many of its flowers are lumpy and too round in shape, and Mme. Jules Grolez, which perhaps ought to find a place in the original selection instead of Dr. J. C. Hall, the perfume of which is not very pronounced.

My list of red Roses is also a strong one: Richmond, Liberty, General MacArthur, Horace Vernet and Commandant Felix Faure. Horace Vernet is included according to instructions, but it might be thought worth a place by reason of its rich and abundant perfume, and because of the high proportion of good flowers and the few magnificent ones which it produces. At its best it is as near perfection in form as we have yet attained. It cannot, however, be said to be constantly in flower, and in strictness ought not to be here for that reason. It is often said to be best as a maiden, but I am not sure that this is always the case, and have known plants which, though cut back year after year, still produce good flowers; but it is true that at times plants deteriorate after the first year for no apparent reason. If we exclude Horace Vernet, there is no difficulty in filling its place. There are two rather new red Roses to be found in Mrs. Edward Powell and Georges Reimers. Of these I have grown each for one year only, and Mrs. E. Powell seems to me preferable as being a slightly more pleasing colour and better shape. Georges Reimers has shown some tendency to produce the rounded centre to which I objected in Caroline Testout. Though the flower is not so large, it is certainly free in flowering and a bright Rose in the garden, but I must see it again before forming a definite opinion. Mrs. E. Powell, on the other hand, has been so good with me this year that I feel more confidence in recommending it. If an older Rose is desired, I would take either Laurent Carle or Captain Hayward. The first produces its flowers more freely and continuously than the latter, but the colour, though distinct, is not so good as that of Capt. Hayward. I have had some thoughts whether Richmond and General MacArthur ought not to be alternatives one to the other: those whose gardens are on light or loamy soils choosing Richmond, those on stiff clay taking "The General"; but the early flowers of Richmond are so lovely, so continuous, and the fragrance so excellent, that I cannot bring myself to exclude it. Those, however, who try it and fail, would do well, especially if they own a heavy clay soil, to substitute one of the others I have named.

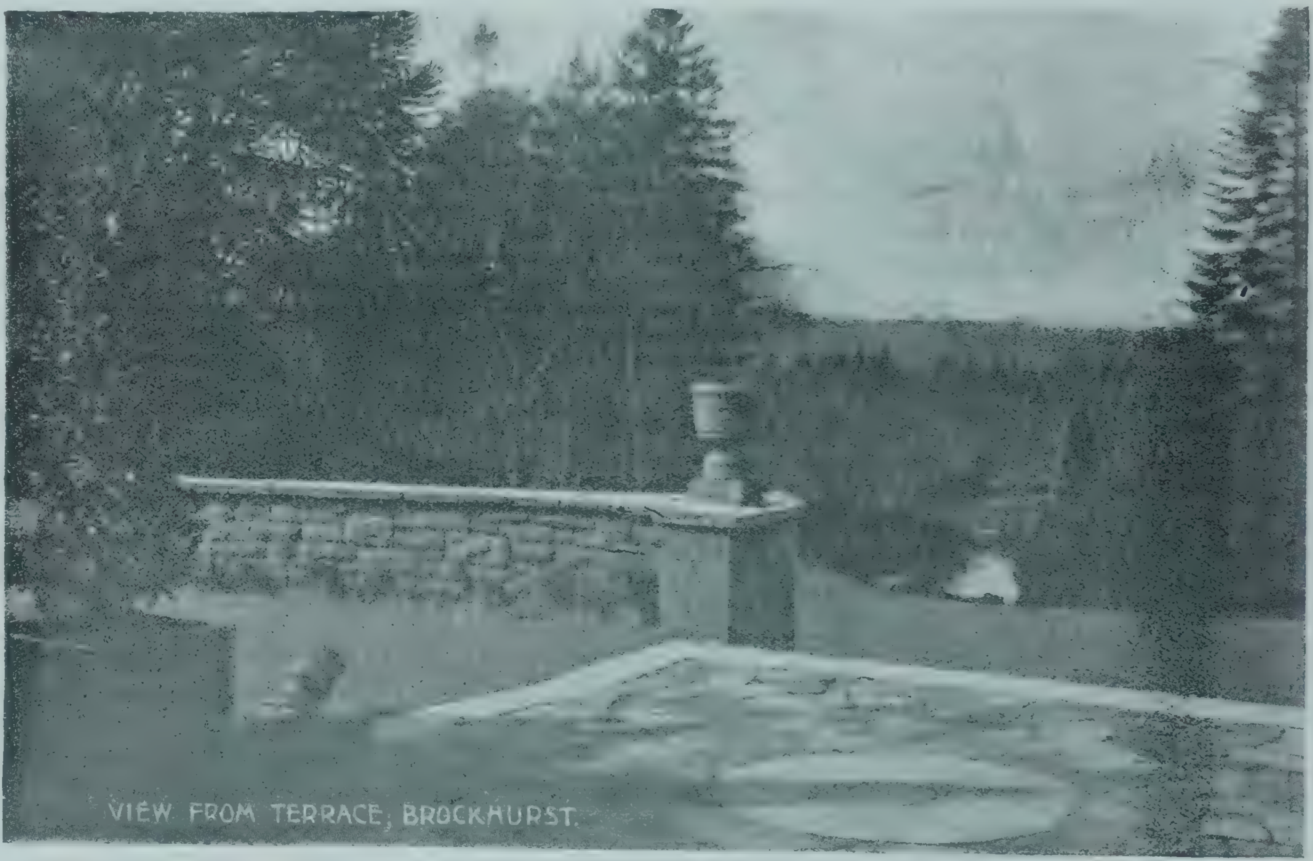

Fig. 118.—BROCKHURST, EAST GRINSTEAD.
(See p. 259.)

My list of yellows is necessarily smaller, and I take three: Mme. Ravary, Rayon d'Or and Lady Hillingdon. Here again I feel some doubt whether my selection will be approved. Mme. Ravary has no doubt a fine definite colour in summer, but if the rain comes, as it must do in autumn, it seems to wash the colour away. Rayon d'Or has a definite colour, brilliant in tint, but is lacking in form, though not so much so as necessarily to exclude it. It is certainly continuously in flower, for one can always find a few flowers in the bed the summer through, but I am yet uncertain whether it can be called free. So far, I have seldom had a mass of flowers out at a given time, but it may improve in this respect as the plants get established. Of Lady Hillingdon, I can say with confidence it is, for a Tea, a good garden Rose. The foliage is most beautiful, and the habit good. If all the flowers had the lovely deep yellow which many of them possess, I should feel no hesitation in including it, but many flowers lack the perfect shade—why I have failed to discover—and when they are wanting in colour the flowers look quite uninteresting; often on the same stem some flowers will be coloured, others washy and pale; nor does their position on the stem seem to make much difference; sometimes the crown-bud will be coloured and side buds pale, and at other times the position will be reversed.

I come last to white, and have only one to suggest, Molly Sharman Crawford, the only Rose of its colour which seems to me to comply with the conditions. Mrs. Foley Hobbs may do so, but my experience has been of only a few plants for one year, and I hesitate to be too definite as to its qualities for massing, but it is a strong grower and one of the best new Tea Roses brought out for a long time. The only alternatives would be either Mme. Pernet Ducher, a pretty little Rose, though it too soon loses its shape, or Mrs. David McKee, a good garden Rose, but perhaps not a definite enough colour, being lemon-yellow, so I retain my first selection.

I have made the foregoing selection, it must be remembered, in an endeavour to comply with definite and somewhat stringent conditions. Were I selecting bedding Roses for my own garden, there are many shades of soft-coloured Roses, some of which, e.g., Mme. Antoine Mari, I might prefer to many of those here mentioned, but it is clear that there are many of our gardening friends to whom definite colouring appeals strongly, and for these my list may possibly be worth some consideration. *White Rose.*

THE ALPINE GARDEN.

MORAINES AND MORAINE GARDENS.

In July, 1896, when the late Rev. Wolley Dod was in Geneva, we were discussing the best way of growing Alpines, especially the more delicate species. I remember expressing the opinion that in England they should be planted on a wall, but Mr. Dod objected that English walls were usually composed of brick, and had not, therefore, the proper characteristic of absorbing water in wet weather and giving it out by evaporation during dry periods. We also discussed the matter of soil; for high Alpines this should, of course, be very poor, as in the real moraines in the neighbourhood of the Alpine glaciers.

Some time afterwards Mr. Dod made his first moraine, and assisted Miss Willmott to make one for herself. I saw the moraine at Warley (the first I had ever seen) about 12 or 13 years ago. Nowadays almost all moraines in England, and even in America, are made in the same way.

What is a "moraine" in the true sense of the word? In its natural state, it is an ugly—very ugly—mass of sand and stones, surrounding the glaciers at one end, and forming around them a sombre framework. All the stones and refuse which are brought down with the glacier are deposited on the moraine at the foot. The moraine may be broad or narrow—old or new. The old ones are usually covered with shrubs and trees; even forests are found on some of the oldest, if not too high up. Here in Geneva we are surrounded by an old moraine (possibly ten to twenty thousand years old!) which bears what we call the "flore calcifuge." This flora can always be recognised by the presence of the true Chestnut (Castanea vesca), a tree which will not grow on lime. When we speak of a moraine garden, however, it is the modern moraine we are thinking of, on which no shrubs will grow, because there have never been any trees to fertilise the bare ground with their leaves—the soil simply consisting of sand and stones. There is, indeed, a moraine flora quite as distinct as the floras of bog, wall, or meadow; and many flowers prefer the wet sand of the moraine to any other medium. Examples of such plants are Epilobium Fleischeri or Dodonæi, Saxifraga stenopetala and aizoides, Linaria alpina, Cerastium glaciale, Androsace glacialis, Artemisia spicata and A. Mutellina (perhaps also A. glacialis), Dryas octopetala (sometimes), Ranunculus glacialis, Anthyllis vulneraria, Campanula cenisia, Viola cenisia, Comolia and others.

These plants are at first "colonisers," being the first to grow on the thin, sandy soil. Afterwards, when their leaves have somewhat fertilised and enriched the ground, a few more exacting plants, such as Edelweiss, Epilobium alpinum, Campanula pusilla, Salix retusa, S. reticulata, and S. herbacea, Gentiana imbricata, Festucas, and Carex, Erigeron alpinus and E. uniflorus, Draba tomentosa, D. frigida, D. aizoides, Chrysanthemum (Leucanthemum) alpinum, Senecio incanus or S. carniolicus, Azalea procumbens, Arabis alpina, Achillea nana; and some Alsines and Arenarias. The vegetation on these spots is always hardy and healthy, although the soil is so poor and the sun very hot. The fact is that the sandy ground is always wet; and the air, owing to the proximity of the glaciers and snows, perpetually saturated with moisture. The rays of the sun are thus never sufficiently powerful to burn the foliage of the plants, and the moraine, originally so bare and ugly, a mere field of broken stones flung in disorder about the mouth of the glacier, becomes a charming picture of brightness and beauty, the small, gay blossoms gradually spreading, like a carpet, over the whole surface.

Can we reproduce the moraine in our own gardens? I think that in some cases we can; but it is difficult to realise how poor and meagre the soil must be—in fact, the ideal is sand, mixed with stone débris. Then, it must be continually watered *from below*, and must get as much sunshine as possible. In the moraines of the Rev. Wolley Dod and Miss Willmott (which were, I believe, purely sand and gravel) perfect success was attained with such plants as Rânunculus glacialis, R. alpestris, and R. parnassifolius, Androsace (high Alpines), Linaria alpina, Senecio incanus, Papaver Rhoeas, Campanula cenisia, and C. Allionii. I think Miss Willmott was very successful with Eritrichium nanum, and I am sure this treatment is the best for many high Alpines. But for the greater number the wall garden is most suitable. This is particularly the case with Campanulas, Primulas of the group Eu-Auricula, Lithospermums, Æthionemas, Edraianthus, and Saxifragas of all kinds, and also for all the Androsaces of the group Aretia, Dryas, Ramondias, &c.

I have already said that an all-important feature in a moraine garden should be the underground watering. This is the same principle as that which directed the famous "culture en baquets" invented by Dr. Rosentiehl at Enghien, near Paris, and so well applied by M. and Mme. Daigremont at Soisy, near Montmorency. In the north of Italy, Sphagnum is grown under these conditions with great success; and here, at Floraire, I give the same treatment to my high Alpines. I have a basin, 30 feet long, 8 feet wide, and 4 feet deep, through which water constantly flows. On the side of this a bank has been constructed of rolled stones, forming a large gravel, a foot deep, so that the water may run through. On the top of the gravel Sphagnum has been planted, in which the following plants are growing:—Gentiana bavarica, G. imbricata, G. pumila and pyrenaica; all the Pinguiculas, all the Parnassias, Anagallis tenella, Wahlenbergia hederacea, Primula capitata (true), P. Poissonii, P. purpurea (true), P. farinosa, P. stricta, P. scotica, P. magellanica, and P. luteola.

All these are doing well, except Wahlenbergia, which does not stand much sunshine. The method is a good one for the southern European countries, but can hardly be recommended for England. For English gardens, I cannot do better than repeat my advice, to stick to wall-gardens and moraines. *H. Correvon, Geneva.*

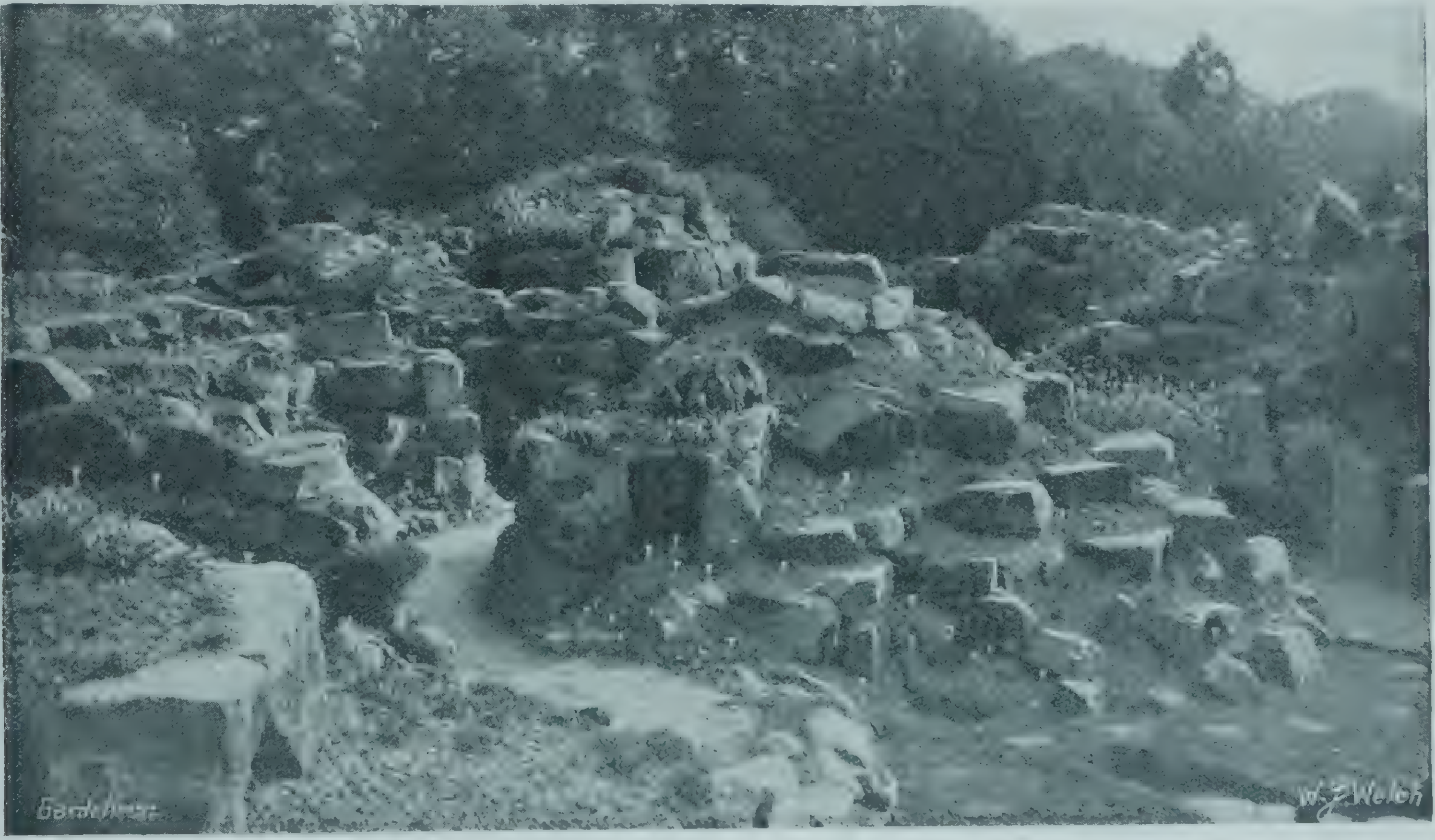

Fig. 119.—BROCKHURST: A SECTION OF THE RECENTLY-CONSTRUCTED ROCKERY.
(See p. 259.)

RUBUS ARCTICUS.

This diminutive Bramble is not commonly grown in gardens, as it is not easy to establish. In the spring it produces small Rose-pink blossoms, and continues in bloom for several weeks; but it is most ornamental in the autumn when its dainty leaves, which are only a few inches above the ground, assume a delightful, deep crimson colouring which lasts for several weeks.

It is one of the most beautiful plants in the rockery at this season. Rubus arcticus thrives best in a light compost which contains a fair proportion of peat and sand, and should be kept fairly moist at the root. Partial shade is advisable, and if it can be given a position under the overhanging branches of such a plant as Prunus prostrata, little difficulty should be experienced in establishing this Bramble, when it spreads fairly rapidly by pushing up young growths around the parent plant. *F. Gardner, Batsford.*

VEGETABLES.

EARLY CAULIFLOWERS AND CABBAGES.

THE question of autumn versus spring-sown Cauliflowers and Cabbages is often the subject of debate, and I may bear testimony to the success obtained from spring-raised plants of both Cabbages and Cauliflowers as against those raised in the autumn and wintered in frames. I may claim to speak with experience on the subject, as I am responsible for the production of a very large quantity of these vegetables in the spring and early summer. Last winter will long be remembered as one of the worst on record for the wintering of these plants. I had made every preparation for a supply of 50,000 Cabbages, and, up to Christmas, the plants were all that could be desired, but between that date and March I lost almost all the crop, whilst Cauliflowers were such a failure that I never intend to raise them again in autumn for wintering. Having to make good the loss, I procured seeds of Early Forcing and First and Best Cauliflowers, also Flower of Spring and Early Offenheim Cabbages. The seed was sown in February in cold frames, the soil being placed as near to the glass as convenient. The seedlings received careful attention but no coddling, and I was able to plant my first batch of plants in April and the second early in May. I have records of the first cutting of both kinds of vegetables, the date being June 26, and we have maintained a constant supply since. The Cabbages raised from the seed sown in the spring were ready for cutting a fortnight earlier than those that were sown in autumn. There is less labour in the case of seedlings raised in spring, which is an item of considerable importance. At the present time I am cutting more than 1,100 heads per week, and even at this rate I have sufficient of the crop to last for some considerable time. After all the heads have been cut the plants will furnish a big supply of Sprouts. The system of leaving the stems to sprout is a very economical one, and I practise it with Savoys, Brussels Sprouts, and green and purple Kales. It is an advantage to have Cauliflowers ready as soon as the first crop of Peas, and the varieties mentioned are suitable for this purpose, these being followed by Walcheren, Eclipse, and Late Autumn. *V. H. Lucas, Sheffield.*

HARDY FLOWER BORDER.

GERANIUM WALLICHIANUM.

I HAVE seen no allusion to the merits of Geranium Wallichianum, yet few hardy plants can rival it for beauty at this season of the year. A shady position is generally recommended, but here, in Berkshire, a patch 7 feet by 4 feet has been a charming sight for many weeks past, growing in full sun and in light, gravelly soil. This particular patch is of the variety which has the centre of the flower white and the edge (¼ inch deep) a lovely blue. This has very narrow and pale stripes, which hardly detract from the pure white of the centre. In the pink form, the white centre is far smaller; the edge (which extends to nearly the base of the sepals) is pink, traversed by broad, crimson lines. The dark-purple stamens lend additional beauty. I know not which of the two is the more attractive. *A. C. B., Reading.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to Lady NUNBURNHOLME, Warter Priory, Yorkshire.

RASPBERRIES.—It is rather early as yet for the planting of canes, but permanent beds of Raspberries may be freshly staked, thinned out to the required number, and tied in. They must not be shortened back, or the canes will be liable to damage by frost, especially after so wet a season. A light dressing of rich manure may be given after the ground between the rows has been cleared of weeds, but neither spade nor fork must be used. In the choice of materials for mulching, it is well to be guided by the nature of the soil. If the ground is light and warm, good rotten manure may be safely applied; but on a heavy, cold soil, only some light material should be used.

AUTUMN RASPBERRIES.—Up to the present very little has been expected of the autumn canes, but with the improvement in the weather, good progress has been made, and if the warmth continues, fair results may be attained.

CURRANTS AND GOOSEBERRIES.—As soon as the leaves have all fallen from these bushes, the latter should first be pruned, and then well sprayed with some effective insecticide, to clear the trees of any insect pests which may have found a home there. The old mulchings and loose soil should be removed to a depth of 2 or 3 inches, especially round the stems, where larvæ are usually very plentiful. A good dressing of quicklime should then be given, the bushes dusted with it, and the old soil should be replaced by some fresh compost, firmly trodden down. The bushes should be syringed once or twice during the winter and spring, and a sharp look-out kept for any signs of caterpillars. If necessary, the bushes may be dusted with lime again in the early spring.

PLUMS.—A great improvement in colour and flavour, consequent on the better weather, has been noticeable in such late varieties as Grand Duke, Late Orange, Reine Claude de Bavay and others. Many wasps and flies have perished as a result of the recent cold nights—a matter for congratulation, as they are usually a source of great trouble at this season. If the excellent weather of the last few weeks continues, the fruits may be allowed to hang to the middle, or even the end, of this month.

GENERAL DIRECTIONS.—An effort should be made finally to clear the fruit quarters of weeds. Hitherto this has been almost an impossibility, since hoeing is of little use in almost constant rain.

FRUITS UNDER GLASS.

By E. HARRISS, Gardener to Lady WANTAGE, Lockinge House, Wantage, Berkshire.

EARLY PEACHES AND NECTARINES.—The trees in the early house will now be shedding their leaves. About twice a week a birch broom may be drawn over the trees in order to dislodge any leaves which are ready to fall. This helps to keep the house tidier than is the case where the leaves are left to fall of themselves. If the wood is not yet thoroughly ripened, no effort must be spared to get it well matured before closing the house. A little warmth in the pipes will be of service. When the trees are all bare of leaves, attention must be given to pruning, cleaning and training. If all the old fruiting wood has already been removed, not much pruning will be needed now; but the trees must be carefully examined, and if there is sufficient young wood to admit of the removal of some of the old bare branches, this should be done. The appearance of the trees will be improved by the operation, and the crop will be the better for the predominance of young fruiting shoots. After the pruning is done, the shoots should be loosened from the trellis, and the trellis and house thoroughly cleaned with strong soap-and-water. If mealy bug is found, the trellis should afterwards be painted over with paraffin, working it well into all holes and crevices. Great care must be taken, in washing the trees, not to injure the buds. The main stems should be washed with a very stiff brush in a strong solution of soft soap and sulphur; but the fruiting wood must be treated more gently, and with a softer brush. In training, care must be taken to secure all the main branches first in their proper position. When this is done, the tying of the young fruiting shoots will be easily accomplished. The ties must not be too tight—neglect of this precaution often results in canker. When training is finished, all brickwork lime-washed, and everything in the house cleaned, the surface of the border must be carefully pricked up to a depth of 2 or 3 inches. The border should then be top-dressed with rich loam, mixed with a liberal quantity of lime rubble and wood ashes. If the roots are dry, a good soaking with clear water should be given.

PINEAPPLES.—Plants of the "Queen" variety which are intended for fruiting next season will not require so much moisture at the root now that the days are getting shorter, and care must be taken to see that water is not given unnecessarily. Syringing must also be done less frequently, and the atmosphere kept less moist than has been advisable hitherto. The temperature should be gradually reduced, so that the plants may rest during the winter, the minimum being fixed at about 65°. During the day it may be allowed to rise to 80° in bright, sunny weather, if a fair allowance of fresh air is admitted. The bottom heat should be kept as even as possible throughout the winter—preferably at about 70° Suckers should receive the treatment recommended above. They should not be allowed to become too crowded, and the roof-glass must be kept quite clean—it is important that every plant be fully exposed to the light. Those on which the fruits are colouring should, if possible, be removed to a house where the atmosphere is warm and dry. The later fruits may then be induced to swell in a suitable atmosphere. The temperature in this house may be sustained at 70°, but in sunny weather it may be permitted to rise to 80° or even 85°, so long as the air is allowed to circulate at the top of the house.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

AZALEA INDICA.—Any plants of Azalea indica which have been in the open air until now must be removed and placed under glass at the first sign of frost. House room is usually somewhat scarce at this season, and it may be necessary to place them in one of the resting fruit houses. If so, they should not be allowed to stand on the border, or worms will find a ready entrance into the pots. After being placed in the house, they should be sprayed overhead on all fine mornings for a time; otherwise a loss of foliage may be the result of the change from the damp atmosphere outside to the dry air of the house.

CARNATIONS.—Winter-flowering Carnations should now be afforded all the light and air available. The temperature should not be allowed to drop at night lower than 50°. The earlier batches, the flower-buds of which are developing, may be given a little manure water or artificial fertiliser, but with strict moderation, as the shortening days will mean slower growth. Souvenir de la Malmaison Carnations which were layered late should be potted as soon as possible. The earlier ones, if well rooted, may need a little spacing on the stages. Water should be given sparingly, so as to keep the growth compact during the winter. Both batches should be fumigated regularly to keep off the ravages of green fly.

BOUVARDIA.—Plants of Bouvardia should now be growing freely, and forming flower-buds on almost every shoot. They should be carefully watered with liquid manure whenever they seem dry; at this season it will not be often needed. The temperature should be kept moderately warm, and if the plants are young, they will continue to flower nearly all the winter.

PENTAS CARNEA.—This is a flowering stove plant resembling a Bouvardia. It flowers all through the winter, and is both attractive and useful, especially for small vases and button-holes.

DECORATIVE CHRYSANTHEMUMS.—These will not make much growth until they are brought indoors; but afterwards, when they become large, it will be well to disbud the plants freely. This especially applies to single varieties, which should be reduced to one bud to each shoot; by this means the flowers will keep much better and attain to a more graceful shape. An exception may be made in favour of Mary Anderson, Mary Richardson, and others of the same class. In the other decorative sections, especially in the Incurved, it is a good plan to thin down to one bloom for each shoot. The same rule applies to many of the Japanese varieties, though for table decorations it is sometimes necessary to leave them in sprays.

Shading. — If plants have been gradually inured to the sunlight, there is no need for much shading; the little sun we get at this time of year is wholly beneficial, and helps to enable the plants to withstand the unfavourable winter weather. It is well to choose a showery day to remove any shading which has been sprayed or brushed on to the glass; it is less difficult to remove when damp than when perfectly dry. The water used to wash off the whitening should not be allowed to run into the tank used for watering plants, as it would mark the leaves; it is quite a simple matter to disconnect the down pipe before beginning operations. All roller blinds should be taken down and stored, first being thoroughly dried. If any are discarded as being worn out, an order for fresh ones should be placed in plenty of time for the spring.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Autumn-sown Onions.—The seedlings will soon be appearing above the ground, and as soon as it is safe the Dutch hoe may be used with advantage between the rows. A light dusting of soot should be given, and all weeds hand-pulled. A few small sowings of Onions may be made, if required, fairly close together in a cold frame.

Main Crop of Onions.—These should be examined when an opportunity occurs, and the loose outer skins removed. All roots showing the least sign of decay should be rejected, and the rest carefully graded preparatory to "roping." This method of preserving Onions is a very good one; the bulbs are easily examined, well exposed to the air, and take up very little room.

Chicory.—Where a sufficient supply of these useful salad roots has been sown, blanching may be carried out as soon as practicable. A few should be lifted from the earliest sowing (carried out at the end of April or beginning of May), and all foliage removed by cutting it off just above the crown. The roots should then be placed in pots or boxes in the Mushroom house. Nine or 10-inch pots are suitable for this purpose; each will accommodate five or six roots, and spent Mushroom-bed manure will do well to place around them. With an inverted pot placed over them, they will keep as long as required.

Rhubarb.—If an early supply of Rhubarb is required, the work should be begun towards the middle of the present month. The roots should be selected from an early-maturing plantation, e.g., under a south wall, and only early varieties should be taken, such as Royal Albert. The crowns should be carefully lifted and placed under a north wall, there to lie in a dormant state for a fortnight, covered only with a little Bracken or straw. After this they will start into growth very readily when placed in the warmest end of the Mushroom house with sufficient soil in between the roots to cover them. They should be syringed twice a day with lukewarm water. If a new plantation is to be made, either for permanent beds or for the production of crowns for forcing, the preparation of the ground should be undertaken as early in the autumn as possible, especially on heavy soil. Deep cultivation and rich soil provide the best conditions for Rhubarb; plenty of decaying garden refuse may be buried at the bottom of deep trenches, and a liberal dressing of farmyard manure should complete the operation. The ground may then be left in a rough condition until March, when planting will begin.

Corn Salad.—There is still time to make another small sowing of Corn Salad out-of-doors for a winter supply. The seed should be sown in drills, preferably on a south or south-west border. The ground should be well dug, and raked to a fine tilth. When the seedlings are large enough, they should be thinned out so as to stand about 4 inches apart. The Dutch hoe should be used between the rows to eradicate weeds and to promote good growth.

Mustard and Cress. – Sowings should be made in boxes; they require a certain amount of heat.

Cardoons.—These should be blanched as soon as possible, the process requiring at least eight or nine weeks. Brown paper, covered with hay-bands, is the medium usually employed, being both simple and clean. A little soil should be banked around the bands, and the plant must be securely fastened to the stake. Only a few Cardoons should be cultivated in one place, as they need especially generous treatment throughout the whole period of growth.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Renovating Herbaceous Borders.—This is an operation which is almost sure to be undertaken more or less thoroughly in every garden at the end of the summer, and there is no time like the present for carrying out such work. In some cases a new scheme of colours will be required; in others new plants are to be introduced, and room must be made by the removal of old ones. If the work is done now, while the relative heights, &c., of the various plants are easily to be seen, there is the more likelihood of placing them in their correct positions. When single plants or groups are to be placed in the border, the ground should be deeply dug, and as far round as possible. If the soil inclines to poverty, a little new soil should be put in, to encourage the new plants to establish themselves easily. The earlier the work is taken in hand the better the results are likely to be. The only drawback is that, if extensive overhauling is contemplated, the display of flowers will be destroyed, while if left to themselves, the plants might bloom for several weeks longer.

Delphiniums and Pæonies. — These two plants should be dealt with as early as possible. They begin their growth quite early in the spring, and they rarely do well if they are moved late in the autumn. Any replanting should therefore be carried out at once. Pæonies especially are extremely impatient of removal. Both Pæonies and Delphiniums are now largely grown, and well repay careful cultivation. The ground for planting should be deeply trenched, and a good supply of rotten manure dug into the bottom soil, deep enough for the roots not to reach it when first put in. If the soil is rather heavy and rough, a little leaf-mould or old potting soil may be worked into the top spit and round the roots. Delphiniums can be planted with charming effect almost anywhere: in beds, in clumps in the shrubbery, in mixed borders, in the woodland and natural gardens, by the banks of a stream, or among the fruit trees in the kitchen garden. Pæonies also are general favourites, and there are many lovely varieties now to be obtained in all shades, from white and the palest rose to deep crimson. They will thrive almost anywhere, and they are very attractive in the flower borders of the kitchen garden. In a mixed border they have the disadvantage of looking somewhat untidy towards the end of the season, on account of the foliage having a tendency to droop and trail. This difficulty can in a measure be obviated by planting a few summer-flowering Chrysanthemums or dwarf perennial Asters in front of the Pæonies. In early summer, while the Pæony is still at its best, a border devoted entirely to different varieties of this flower is extremely effective, and lasts in bloom over a long period. The position of the border is a somewhat important consideration. Pæonies are liable to a good deal of damage if exposed to rough winds, and should preferably be sheltered by a background of shrubs or woodland.

Lavender. — The propagation of this shrub should now receive attention, as young plants will probably be required to fill up gaps in existing Lavender beds, or for stocking new ones. It is difficult to plant too much Lavender. It is in great demand, as it combines an attractive appearance with a delicious perfume. A cold frame, similar to that used for Veronicas and Pentstemons, would be suitable; or, if only a small quantity is required, a box will be sufficient. Two plants which go well with Lavender are Santolina incana (or Cotton Lavender) and Rosemary. Both are propagated in the same way, and are very popular.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Miltonia.—Brazilian Miltonias, such as M. Regnelii, M. Binotii, M. spectabilis, and M. s. Moreliana, should be kept rather dry after passing the flowering stage. Just sufficient water should be given at the roots to prevent any shrivelling of the leaves or pseudo-bulbs. M. cuneata, M. Clowesii, and M. candida grandiflora are now developing their flower-spikes. As they pass the flowering period they also should receive the treatment recommended above. These plants are very subject, especially at the present season, to attacks of red spider. As a precaution against this pest, the leaves should be occasionally sponged with a solution of soft soap and tepid water. Any plants of Miltonia vexillaria which have been cultivated in the cool house during the summer should now be removed to the Cattleya or intermediate house. They should be placed in a light, airy position, and as the young growths advance and the new roots form, the supply of water should be gradually decreased. During damp, dull weather, the immediate surroundings of the plants should not be kept too moist or the foliage will decay. Miltonia Roezlii, and its variety M. alba, are now starting new growth and forming fresh roots. If repotting is necessary, this is the best time to do it. Ample drainage should be provided for, and the compost used should be the same as that recommended for Miltonia vexillaria in the calendar for August 17 last. A suitable place for these plants is the warmer end of the intermediate house. After repotting they should be watered sparingly until the young roots are well established in the new compost.

Lælia. — L. pumila and its many varieties which have been growing in the cool house during the summer will now benefit by a removal to the intermediate house. They should be suspended near the roof-glass while in flower, and until the new growths are completed the roots should be well supplied with water. When the new pseudo-bulbs are formed less water may be given, but care must be taken to see that the roots are never allowed to become dry. These plants are frequently attacked by the white scale insect. This is very destructive, and should be destroyed directly it appears. Plants of L. harpophylla are now making new growth, and should be placed in an intermediate temperature. Water must be given with moderation until the new shoots are well advanced, as too much moisture at the roots at this period will cause decay. As the plants advance in growth the supply of water may be increased. L. anceps, L. Marriottiana, L. albida, and L. autumnalis are now producing flower-spikes, and will require plenty of moisture at the roots.

Calanthe.—The deciduous Calanthes of the Veitchii and vestita types are now finishing their growth. Well-ripened bulbs are essential to the formation of strong flower-spikes and fine blooms, and the plants should therefore be placed near the roof-glass and be given plenty of space, so that the foliage may not shade the bulbs. A brisk temperature should be maintained in the house, with a good circulation of air. This treatment will tend towards the drying of the plants, and they will require plenty of water at the roots until the foliage begins to decay.

Lycaste.—Lycaste Skinneri and its variety alba, L. Mary Gratrix, L. Ballæ, L. cruenta, L. leucantha, L. Deppei, and a few others, will soon be finishing their young growth and forming a quantity of fresh roots. They will require a liberal supply of water until the new pseudo-bulbs are fully developed. The night temperature should not be allowed to fall below 55°; a light, airy position in the warmest part of the Odontoglossum house would suit them. They should be sprayed overhead during the morning of each bright day.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but they cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, OCTOBER 8—
Royal Hort. Soc. Coms. meet. Hort. Club Meet.

THURSDAY, OCTOBER 10—
Royal Hort. Soc. Autumn Sh. of British-grown Fruits (2 days).

FRIDAY, OCTOBER 11—
Ann. Conference of Affiliated Mutual Improvement Societies at R.H.S. Hall, Westminster.

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—51·6.

Actual Temperatures:—
London.—*Wednesday, October 2* (6 p.m.): Max. 52°; Min. 47°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, October 3* (10 a.m.): Bar. 29·8°; Temp. 57°; *Weather*—Fine.
Provinces.—*Wednesday, October 2:* Max. 52° Cornwall; Min. 40° Scotland E.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY.
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY, WEDNESDAY AND THURSDAY—
Dutch Bulbs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

TUESDAY AND WEDNESDAY—
Nursery Stock, at Shortlands Nurseries, Ash, Surrey, by Protheroe & Morris, at 12.

WEDNESDAY—
Trade Sale of Bulbs, at 1; Palms and Plants, at 4; Protheroe & Morris's Rooms.
Rose Trees, Shrubs, Perennials, Palms and Azaleas, at Stevens's Auction Rooms.

THURSDAY—
Nursery Stock, at Church Nursery, Lee-on-the-Solent, by Protheroe & Morris, at 12.

FRIDAY—
Sale of a portion of the "Wilderspool" Collection of Orchids, at Wilderspool, Warrington, by Protheroe & Morris, at 1.

Sweet Peas in April. Visitors to the principal exhibitions last spring experienced some surprise at the magnificent exhibits of Sweet Peas contributed by certain nursery firms, particularly by Mr. C. W. Breadmore and Messrs. Dobbie & Co. These flowers were to be seen even at the Royal Horticultural Society's exhibitions in April, but the finest specimens were doubtless those contributed by the latter firm to the International Exhibition in May. The effect of these displays was to furnish convincing proof to gardeners and the public that Sweet Peas of the highest merit may be obtained thus early in the season by those who care to carry out the necessary culture. As a guide to our readers on this subject we print the following instructions on the treatment of Sweet Peas under glass as they represent the cultivation practised by those who have already achieved signal success.

The seeds should be sown at the present time, either in boxes or in pots, or even in a seed bed in a greenhouse. Some firms that cultivate flowers for market adopt the bed system, potting the plants up into 2½-inch pots as soon as they are large enough to be handled, and allowing them to remain in these pots during the winter in unheated frames. Messrs. Dobbie, on the contrary, sow their seeds in boxes, putting the seeds 2 inches apart in each direction, so that there will be no risk of the young plants becoming drawn through overcrowding. This matter is important, because it is essential that these early plants should make short-jointed growth and form a stocky habit. When they have made three pairs of leaves, each plant is pinched for the purpose of inducing it to form side shoots from the leaf axils near the base. Here it may be remarked, that Scotch cultivators have found that plants so pinched do not break into growth in the colder districts of Scotland so easily as in the south, therefore it may be desirable in northern districts to defer sowing until January.

When the seeds have been sown in boxes early in October, the latter may be placed in a greenhouse until the plants are 1 inch through the soil, but on no account must the temperature of the house be allowed to get at all high. At this stage the boxes should be removed to unheated frames, facing the south, and every precaution taken to guard the tender plants from slugs and vermin. In such conditions the plants may remain until the commencement of the new year, when they will need to be repotted singly into 3-inch pots, employing a moderately rich, porous compost which will favour the multiplication of roots. Following the potting operation small twigs should be placed in the pots to support the growths, and the plants should be placed in the cool greenhouse, where means exist to repel frost and where ventilation may be given on all favourable occasions. If the plants are destined to flower in 10 or 12-inch pots, the latter must be prepared by thorough cleansing and by providing them with liberal and efficient drainage. The potting compost should consist of turfy loam with small quantities of leaf-mould, sand and bonemeal. Pots of these sizes may contain four plants, assuming that each plant is to be confined to a single stem, but if the purpose is to grow flowers for cutting rather than for exhibition two, or at the most three, plants should be placed in a pot, and each plant allowed to produce two growths. The shoots should be trained to thin Bamboo stakes which must be 7 feet long, and the lateral growths should be carefully removed, allowing only the flower-spikes to develop at each node.

The final potting should take place early in March, and at this operation the soil requires to be made very firm. After the potting the same cool conditions, with plenty of ventilation, and only sufficient fire-heat to prevent frost, are necessary. No feeding with manures must be attempted until the plants have commenced to flower. If the growths have the internodes longer than 4 inches the culture is at fault, too much heat has been given, or the plants have been watered too freely.

It should be remarked that certain varieties require special treatment. Speaking generally, the cultivation already explained will prove successful with most of the standard varieties, but if the weather in late autumn and winter prove very severe, those varieties having flowers exhibiting any of the orange shades will not be likely to succeed in unheated frames in November and December. Such varieties at Early Spencer, Barbara, Melba, Stirling Stent, and even Edrom Beauty and the finer scarlet varieties will need the conditions of the greenhouse. It may also be pointed out that crimson, purple and maroon-coloured varieties are not well suited for culture under glass. All varieties exhibiting but little colour succeed well, as do most of the salmon, lavender and pink shades. In another column (p. 261) a selection of varieties specially suitable for indoor cultivation is contributed by a correspondent who has proved their amenability.

Hail Preventers. An article in the *Agricultural Journal* of the Union of South Africa advocates strongly the erection of hail preventers in that country. The apparatus recommended is that invented by two French landowners, General de Négrier and Count de Beauchamp. The installation, which costs about sixpence per acre, consists of three essential parts, namely, a terminal, a conductor, and a diffuser. The terminal is made of a good conductor of electricity—for example, copper—is fixed at the top of a high building, such as a church tower or factory chimney, and should be not less than 33 feet above the tops of the highest trees in the neighbourhood. The conductor is made of thick copper plates in a lead casing, and connects at its lower end with the diffuser. The latter, also of copper, is placed in a pond, well, stream, or underground watercourse.

The apparatus has been used for three years at four stations in France with most successful results. The stations are some 6 miles apart, and form such an effectual electrical barrier that during the period since its installation the municipal authorities have been able to report "no damage" after each storm which has visited the protected area. Hail has not formed within the region, and hailstones driven by wind into the protected area are found to melt at once, and hence to do no damage.

With their Athenian gift for displaying intelligent interest in new things, the French have established a permanent commission in order to observe and report on the effects of this and similar inventions. It appears probable that, by installing the apparatus on the Eiffel Tower and other suitable high points in Paris, it will be possible to prevent not only hailstorms, but also thunderstorms from breaking over the city. We have not heard that any experiments with the apparatus have been made in this country, but having regard to the disastrous effects on glasshouses produced occasionally by hail, we commend the subject to the notice of the newly-established horticultural branch of the Board of Agriculture.

Royal Horticultural Society.—The next meeting of the Committees will take place on the 8th inst. in the Society's Hall, Vincent Square, Westminster. At the 3 o'clock meeting of the Fellows in the Lecture Room, Dr. Charles Crowther will deliver an address on "The Influence of Atmospheric Impurities on Vegetation."

R.H.S. Autumn Fruit Show.—The Royal Horticultural Society's annual exhibition of British-grown fruit will take place in the Society's Hall, Vincent Square, Westminster, on Thursday and Friday, the 10th and 11th inst. A lecture will be delivered by Mr. C. H. Hooper at 3 o'clock on the first day on "An English Fruit Farm in its Making."

Horticultural Club.—A house dinner of the Horticultural Club will take place on Tuesday, October 8, at 6.30 p.m., when a lecture on the subject of "Afforestation in the Black Country" will be delivered by Mr. P. E. Martineau, organising secretary of the Midland Reafforesting Association.

Trials at Wisley, 1912-13.—The Council of the Royal Horticultural Society has made arrangements for the following subjects to be tried at Wisley in 1912-13:—(Fruit) Autumn-fruiting Strawberries, 20 runners of each variety; berry-bearing fruits, three plants of each sort to be sent by February; Strawberries, Raspberries, Gooseberries, and Currants are excluded from this trial. (Flowers) Antirrhinums, Aquilegias, seeds of both these to be sent in February; Pyrethrums, Gaillardias, seeds and plants of both these to be sent in February; Violas, three plants of each variety to be sent at once; bearded Irises, flag or German, two plants of each variety to be sent in July, 1913. (Vegetables) Peas, one pint of seed to be sent in February; Potatos, early and mid-season; each variety must be labelled "early" or "mid-season," and 20 tubers of each variety should be sent by February; Tomatos, one packet of seed to be sent in February—this trial will be held under glass and out-of-doors; Turnips, one packet of seed to be sent in February. Packages of seeds or plants sent by post should be forwarded to the Superintendent, R.H.S., Wisley Garden, Ripley, Surrey. Consignments by rail should be addressed, the Superintendent, R.H.S., Wisley Garden, Horsley Station, L.S.W.R. Everything sent for trial must be named, and the name and address of the sender attached.

School-children Plucking Flowers in the L.C.C. Parks.—The system of encouraging the pupils in the London County Council schools to study botany apparently has its drawbacks, for it is reported that complaints as to school-children plucking flowers in the London parks and open spaces have increased recently. In some cases the children have pleaded that they were collecting specimens for their schools, and head teachers are accordingly to be asked to warn their pupils that on no account must flowers be picked in the parks.

Paris Chrysanthemum Show.—An important show of Chrysanthemums, organised by the French Association of Amateur and Professional Chrysanthemists, is to be held in Paris, in the "Grand Palais" of the Champs Elysées, from October 23 to 27. During the progress of the exhibition a conference will be held, in which questions affecting the Chrysanthemum will be discussed. The French railways are allowing a rebate of 50 per cent. to those attending the show. The secretary, 28, Rue Baudin, Paris, will be glad to send particulars of the different classes to those interested.

An Exhibition of Arts and Handicrafts by Women.—An exhibition of Arts and Handicrafts, to include gardening, will be held by *The Englishwoman*, at the Maddox Street Galleries, 23a, Maddox Street, Regent Street, London, from November 6 to 16.

Catalogue of the Plants in the Botanic Gardens, Singapore.*—This, we believe, is the first published catalogue of the plants cultivated or existing in the original vegetation in the Straits Settlements Botanic Gardens at Singapore. It has been compiled by Mr. J. W. Anderson, Assistant Curator, with the acknowledged assistance of Mr. H. N. Ridley, the late Director. We believe the Singapore Gardens are at least equal in area to Kew, but no particulars of this kind are given. Nor is there any summary of the collections. The families of flowering plants are numbered, from which we learn that 138 are represented. The catalogue is, however, something more than a list of names. Authorities, native countries, habit, uses, and other items of information appear. It is supplemented, too, by a classified list of economic plants after the nature of their products as: edible fruits, fibres, oils, rubbers, &c. There is a general index to the genera and to English and native names. The plan is not quite uniform throughout; the genera being arranged systematically for the greater part, but both genera and species of the Monocotyledons and Ferns are in the more useful alphabetical order. Palms must form a prominent feature in the gardens if we may judge by numbers, nearly

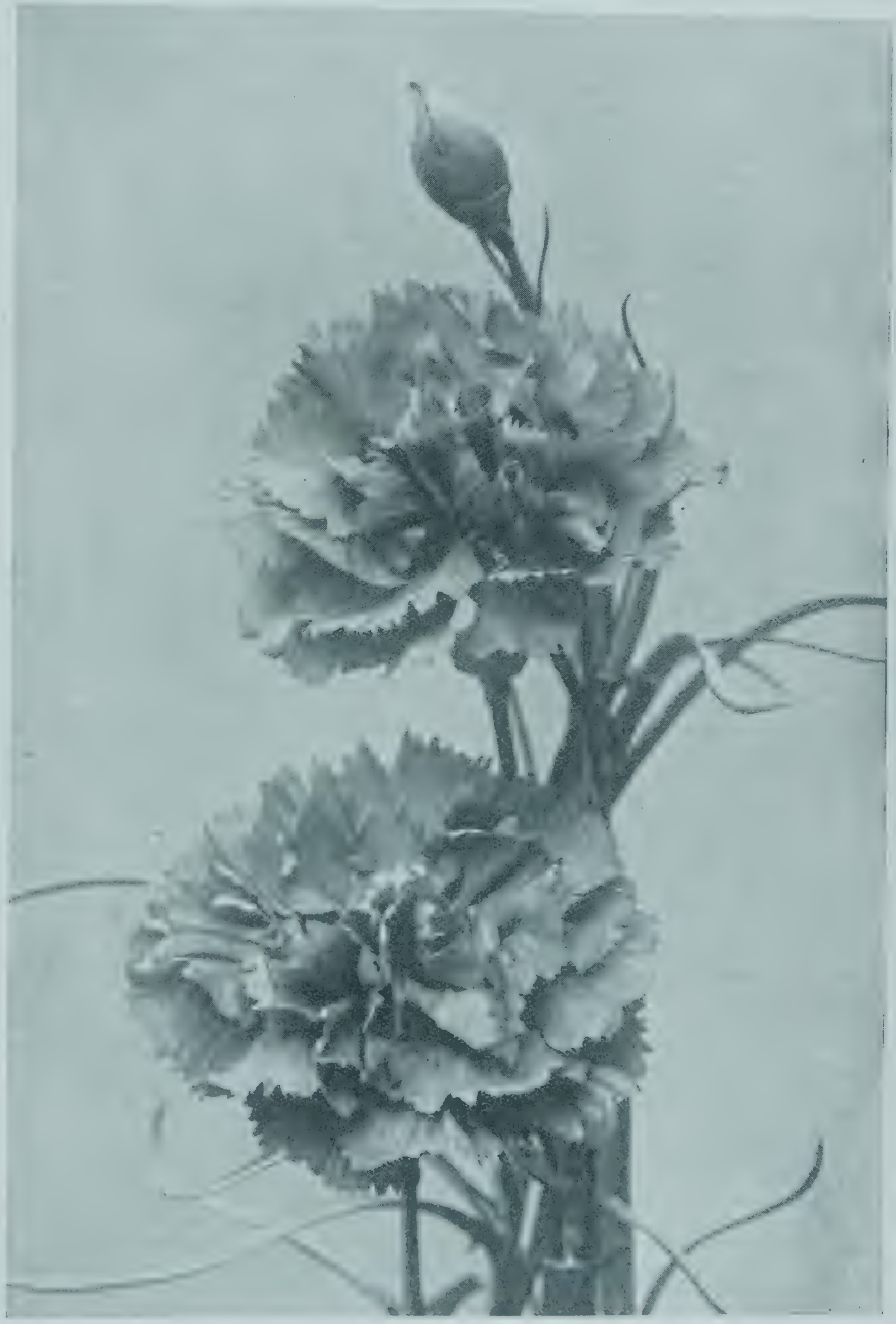

Fig. 120.—Perpetual-flowering Carnation "Rosette": colour deep pink.

(Exhibited by Messrs. Allwood Brothers at R.H.S. meeting on September 24 last.)

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* *Botanic Gardens, Singapore: Index of Plants, 1912.* (Singapore: Printed at the Methodist Publishing House.) 1912. Octavo, pp. 152. Price $1.00.

a hundred genera being represented. The collection of Orchids is also extensive, Dendrobium alone being represented by upwards of 70 species. Many New World genera are poorly represented, thus Epidendrum and Lælia by a single species each, and such a prominent genus as Odontoglossum does not figure in the list. We are glad to learn that a guide to the gardens is in preparation. Singapore is one of the botanic gardens that supplement their grant by the sale of plants.

"RECORDS OF THE BOTANICAL SURVEY OF INDIA." – Four parts of this publication have been recently distributed together. They are Nos. 5 and 6 of volume iv, and Nos. 2 and 3 of volume v; all dated 1911. The first number of this series is devoted mainly to an account of Messrs. W. W. SMITH and G. H. CAVE's botanical explorations of the Zemu and Llonakh Valleys of Sikkim, and an enumeration of the plants collected. In 1848-9 Sir JOSEPH HOOKER visited, as pioneer, this region, which is very difficult for travellers, and one in which unpleasant experiences may overtake the incautious. Through the coolies lagging behind on one occasion, SMITH and CAVE had to pass the night without any shelter; but they took care it did not occur again. Rhododendron jungle was one of the greatest obstacles to forward progress. The marsh land of Llonakh is of a type not seen elsewhere in Sikkim, and the travellers met with such familiar British plants as Glaux, Hippuris and Ranunculus aquatilis, previously unrecorded from the Eastern Himalaya. The enumeration is almost limited to the plants found above 11,000 feet, and it is assumed that it is a fairly complete record of the Alpine flora of the area investigated. Including 25 species of Ferns, three Lycopods and one Selaginella, the enumeration comprises 1,010 species belonging to 403 genera and 102 families. Saxifraga, Pedicularis, Primula, Saussurea, Rhododendron and Gentiana are most numerously represented, numbering jointly 145 species, with no fewer than 34 of Saxifraga. A few new species are described, and we note one new genus, Parajæschkæa, Burkill, allied to Gentiana. There is a good map and two striking views at 11,000 feet and 14,500 feet respectively. Running hastily through the enumeration, we have noted no habitats above 16,500 feet. The rest of this number is occupied by descriptions of new plants from India and Burma, among them the new genus Craibiodendron, allied to Pieris, Ericaceæ. No. 6 of volume iv is limited to an interesting contribution by Mr. J. H. BURKILL, entitled, "Determinations of the Prickly Pears now wild in India." This title by no means covers the scope of the paper, which seems to be practically exhaustive of the history and characteristics of the species naturalised, not only in India, but also in other countries of the Old World. The author presents a critical review of all the literature accessible relating to the species naturalised in India, and, incidentally, to the species naturalised in other countries. A tabular view of all the species concerned illustrates their distribution so far as the author's data permitted. The species now wild in India are five, namely, Opuntia cochinelifera, O. monacantha, O. nigricans, O. elatior and O. Dillenii, to which a key is given, followed by references to figures of the species under whatever names they may have appeared, with a summary of synonyms and pseudonyms. A map shows their present distribution in India, so far as ascertained, and a sixth species, O. decumana, is added in the map as wild in the western peninsula. The author also gives some account of the attempts at Cochineal cultivation in India, and the futile introduction of the insect for the destruction of the Cactus. The second and third parts of vol. v are continuations of Major GAGE's "Catalogue of Non-herbaceous Phanerogams Cultivated in the Royal Botanic Garden, Calcutta." On the appearance of the first part of this catalogue, the plan was described in these columns, May 27, 1911, and it is there designated a Name Guide. For the purposes of this Name Guide, the whole garden was divided into squares of 100 feet each way. These squares are numbered, and the trees and shrubs within each square are labelled, the label bearing a name and a number. The first part of this work carried the numbering to 4,001, and the present parts carry it to 9,930, presumably the end. A systematic part is to follow, by means of which the extent and composition of the collection will be shown, and the numbers coming after the names will, as we understand, complete the guide.

THE ADULTERATION OF SEED (U.S.A.).—The U.S.A. Department of Agriculture has published in *Circular No. 39* the results of analyses of seed secured in the open market and found to be adulterated and misnamed. This it does by virtue of powers vested in it by Act of Congress. The results show that the Act serves a useful purpose. Thus, of 305 samples of seed of Orchard Grass—presumably, Dactylis glomerata (Cock's-foot)—28 were adulterated with Meadow Fescue, Rye Grass or other seed. Seed sold in open market as Kentucky Bluegrass was found in 35 out of 430 samples to consist wholly or in part of Canada Bluegrass, Timothy or Bent. Hairy Vetch (Vicia villosa) appears to be yet more subject to adulteration, for of 703 samples no fewer than 187 were impure. Five samples were innocent altogether of any trace of the seed of the name under which it was sold; the others contained some Hairy Vetch, together with Vetches of other sorts. Red Clover alone proved true to name; of 510 samples not one was found to contain anything but Red Clover.

CLEARING LAND WITH DYNAMITE. — The following account of the use of dynamite for clearing land is contributed by Mr. R. B. HOWARD, Chief Protector of Aboriginals, to the *Queensland Agricultural Journal* for July, 1912:—"For some years I have been using dynamite on my farm for purposes of clearing the land of timber, for subsoiling, and also for draining. In clearing land of stumps or trees, a charge of dynamite is placed *under*, not *in*, the stump, by boring a hole with a 1¼ inch shell auger on three sides of the tree or stump to be operated upon. The holes are bored at an angle of, say, 45 degrees, with the object of bringing the bottom of the holes as closely together as possible, the depth of each hole being about 3 feet. The size of the stump will regulate the charge. For a stump of 18 inches in diameter I would use four cartridges in each hole—that is, 12 altogether. When charging, I always split the paper wrapper of the cartridge on two sides, and place *one* cartridge at a time into the hole, carefully squeezing down with a wooden hammer. Only *one* cartridge is primed with detonator and fuse. This cartridge is, of course, *not cut*. When the holes have been charged and tamped, the fuse is fired, and the concussion in one hole has been found sufficient to explode the others. It will, of course, be understood that the bottom of the holes must not be more than, say, 8 or 10 inches apart. This method of clearing land I have found a good deal more preferable and less costly than pulling stumps or trees with a machine, and I estimate you can blow up 50 stumps in the time it would take to remove one or two under other methods. The effect of the dynamite is to split up the stumps, remove all soil sticking to the roots, break all the main roots, and loosen the soil for yards around; and the stump burns readily. Moreover, *one* man can do all the work. In the ordinary cultivation work I have found dynamite most useful in almost every class of soil, but more especially where a sub-stratum of clay is in evidence. By drilling or boring with an auger holes to a depth of 3 feet 20 feet apart, and charging each hole with three plugs of dynamite, it will be found, after explosion, that the subsoil is fractured, for a radius of not less than 10 feet from each hole, to a depth of about 4 feet. It would be quite superfluous for me to point out to the agriculturist the value of such an effect on the soil. In fact, from the experience I have gained in using dynamite, I am strongly of the opinion that, were its value as an adjunct to farming more generally known, it would come into general use. The cost compared with other methods has also to be considered; and when it is pointed out that one acre of land can be efficiently subsoiled—more so than by any other means—for a sum less than £5, the value of the operation is apparent. In my own case I have just treated about two acres of land in which ornamental trees have been planted, but, although about three years old, the growth was stunted and altogether unsatisfactory, owing to a cold, impervious white clay underlying the few inches of top soil; and I am satisfied these trees will now make a good growth. Again, I have also treated my orchard in a similar way, and the result has already been very satisfactory. The general opinion appears to be that dynamite is exceedingly dangerous to handle. Well, so is a gun if placed in the hands of a careless person. My sons and myself handle dynamite constantly without the slightest fear of an accident; and, if the same care is exercised as would be in the case of a loaded firearm, there is little or no danger—in fact, a pea rifle in the hands of a young lad is far more dangerous than a ton of dynamite under the care of a responsible person."

TOMATO RUST.—A short illustrated account of the disease known as Tomato rust is given in Leaflet No. 262 of the Board of Agriculture. The disease, which is, unfortunately, only too well known both in this country, in France, Italy, and the United States, is due to the attack of the fungus Cladosporium fulvum, Cooke, and was first described by Dr. M. C. COOKE, from specimens received from North Carolina in 1883. The first serious outbreak of the disease did not occur in this country till four years later. The fungus affects the leaves, stem, and sometimes the fruit of the Tomato, but the first sign of the disease is to be found in the leaves. Unfortunately, it is not till the fungus has obtained a fairly good footing in the plant that it is to be recognised. The spawn or mycelium runs in the tissues, where, of course, it is invisible to the naked eye. It breaks out on the underside of the leaf to form its spores, which are associated in small patches. Though the spores are produced on the underside of the leaf, their presence is indicated by pale yellow patches on the upper surface coincident with the spore-patches. As the spores ripen they produce a rusty brown colouration of the leaf, which rusts and dies. Black streaks appear on the stem and the disease is apt to spread with great rapidity from plant to plant. The writer of the leaflet points out that the spread of the fungus is prevented by horizontal spraying, which tends to distribute the spores from one leaf to another, and suggests that if a vertical spray could be employed, the spores would be dealt with more effectively, by being washed down into the soil. Fungicides are of little avail unless employed at a very early stage. For this purpose, half-strength Bordeaux mixture is recommended. If a careful watch be kept and if the affected leaves are removed at once, the disease may sometimes be kept in check.

Appointment.—On the recommendation of Kew, Mr. Frank Birkinshaw, a member of the Royal Botanic Garden staff, has been appointed, by the Secretary of State for the Colonies, assistant agricultural superintendent in St. Vincent, West Indies.

Publications Received.—***Twelve Moons,*** by Frances A. Bardswell. (London: Elkin Mathews.) Price 2s. 6d.—***Royal Gardens,*** by Cyril Ward. (London: Longmans, Green & Co.) Price 16s.—***Dairying and Dairy-Farming,*** by Members of the Dairy Students Union; edited by J. C. Newsham. (London: W. Speight & Sons.) 5s.—***British Rainfall, 1911,*** by Hugh Robert Mill. (London: Edward Stanford, Ltd.) Price 10s.—***Sylviculture in the Tropics,*** by A. F. Broun. (London: Macmillan & Co.) Price 8s. 6d. net.—***Fruit Farming: Practical and Scientific,*** by Cecil H. Hooper. With special articles by Mr. George Massee, Dr. Bernard Dyer, Prof. F. V. Theobald, and Mr. Geoffrey F. Hooper. (London: The Lockwood Press.) Price 3s. 6d. net.

BURNS-LAND.

"Ayr and Ellisland, Mauchline and Dumfries, are the shrines of countless pilgrims," so said Lord Rosebery in one of his Burns orations. Many a horticulturist finds his way to these shrines during the season, and at the Burns Monument, hard by the Brig o' Doon, the gardens are so arranged and tended that after inspecting the monument a visitor who loves nature can spend an hour inspecting the trees and shrubs, the Roses, Sweet Peas and other plants which grow so well on the sheltered, gently-sloping banks of Doon.

It is interesting to remember that the father of Robert Burns was a gardener. In 1750, he came to Ayrshire from Kincardineshire to become gardener on the estate of Fairlie, in the parish of Dundonald. In 1752 he became a gardener at Doonside, and later was engaged as gardener and overseer by Provost Ferguson on the estate of Doonholm. In 1756, while still in Provost Ferguson's service, he feued from Dr. Alexander Campbell, physician in Ayr, then proprietor of the estate of Rozelle, for a feu duty of £71 2s. 5d. Scots, equal to about £5 18s. 6d. of our money, 7 acres and 18 falls of land at Alloway, intending to carry on business as a nurseryman and market gardener. On this ground he built with his own hands the cottage in which the poet was born. This is no place to speak of Burns, his worth and his work, but it would be unpardonable in a Scotchman if he did not on every opportunity speak up for his hero. Let Carlyle do it. He says of Burns—"impelled by the expansive movement of his own irrepressible soul he struggled forward into the general view and with haughty modesty laid down before the world, as the fruit of his labour, a gift which Time has now pronounced imperishable. . . In pitying admiration he lies enshrined in all our hearts, in a far nobler mausoleum than that one of marble; neither will his works, even as they are, pass away from the memory of men. While the Shakespeares and Miltons roll on like mighty rivers through the country of Thought . . . this little Valclusa Fountain will also arrest our eye: for this also is of Nature's own and most cunning workmanship, bursts from the depths of the earth, with a full gushing current into the light of day; and often will the traveller turn aside to drink of its clear waters, and muse among its rocks and pines!"

It is in the monument grounds that the most earnest attempt at gardening is carried on. The monument was erected in 1820 by public subscription, and it and the grounds were vested in trustees chosen from the leading public men in Ayrshire. The grounds were laid out and planted in 1822-23 by the gardeners of Ayrshire. It would be extremely interesting to know if there is a record in existence of these operations. For 45 years the ground and monument were open free to the public, but complaints becoming rife about the neglected condition of the grounds, the trustees imposed a charge of twopence for admission, the revenue thus obtained being entirely expended on the maintenance and improvement of the grounds and in purchasing adjoining properties. In 1881 the trustees purchased from the Ayr Shoemakers' Incorporation the whole premises which had grown up around the cottage where Burns was born, and the public-house licence attached to same, for £4,000. The licence they abandoned, and spent £500 in repairing the cottage and laying out the ground adjoining, but, as I have already said, it is in the grounds surrounding the monument where the best gardening is found. Entering through the turnstile in the month of August, one is immediately struck by the way in which Sweet Peas are cultivated. They are grown in oblong boxes or tubs and placed at regular intervals along the main path. The superintendent informed me that so much interest had been taken in them that he was sure some hundreds of the visitors would adopt his method next season in their own gardens. When I saw the plants, or rather clumps of plants, in the tubs in August they were about 6 feet high, and each clump was carrying from 50 to 60 excellent spikes of bloom, and they had been doing so continuously since the second week in June. Around the sides of each tub there had been placed six bamboo stakes about 7 feet in height, and the plants trained up these. No disbudding had been done, but flowers were removed directly they were past their best. There was no trace of disease, four-bloom sprays were abundant, and many of the varieties, I was informed, had given five-bloom sprays. Well-known standard sorts, all evidently true to name, had been selected, most notable being Mrs. C. W. Breadmore, Nora Unwin, Edrom Beauty, Marie Corelli, Sunproof Crimson, Mrs. Hugh Dickson, Mrs. Routzahn, Nubian, Elfrida Pearson and Apple Blossom Spencer. Tubs of the two last-named varieties had been placed in niches in the monument, and showed up to great advantage against the dark-grey stone. Climbing Roses were another great feature. They were mostly treated as pillars, so as not to obscure the view of the river from any point of the gardens—Dorothy Perkins, Hiawatha, Mander's Triumph, Minnehaha, Lady Gay, Gardenia and Alberic Barbier were all doing well. Gradually all the old Laurels and common shrubs are being rooted out and their places taken by the finer sorts of Cupressus, Olearias, Thuya, Juniperus, Maple, Kalmia, Prunus, Weigelia, Forsythia, and other sorts.

Annuals are used to advantage in the borders in front of the shrubs, and masses of bloom of Clarkias, Alonsoas, Larkspurs, Linarias, Phlox Drummondii, Verbenas and Antirrhinums testified to the value of such plants when well looked after. Two beds of rather uncommon Pelargoniums were most effective. These were Star of India, which does better than Mrs. Pollock, and the old Harry Hieover. An indirect association with the late Mr. W. R. Smith, of Washington, who was one of the best gardeners in the United States, and one of the greatest authorities on all things pertaining to Burns, was pointed out in a collection of perennial Peas (Lathyrus latifolius), which had been sent from America by Mr. Smith, all of which were growing luxuriantly and blooming freely in sunny corners of the finely-sheltered grounds. It will be a pleasure to many gardeners who love Burns's writings, but have not had the privilege of visiting his haunts, to know that horticulture is so well managed on the banks of Doon. Two men are responsible for this. Mr. J. R. Dickson, a true gardener, who came from Aberdeenshire 14 years ago to act as superintendent and manager of the grounds, and Mr. W. H. Dunlop, the secretary to the trustees, who could not take more interest than he does in the property of the trustees if it belonged to himself, and who does it all, I am told, as a labour of love. In the 14 years Mr. Dickson has had charge of the place over a million visitors have passed through the turnstile. It is a great matter that good gardening should be brought to the notice of such a multitude, who come from the ends of the earth to the shrine of Scotland's immortal bard. *W. Cuthbertson, Edinburgh.*

HOME CORRESPONDENCE

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

A Proposed Fruit Congress and the North of England Horticultural Society.—I have been asked recently by the Rev. J. Bernard Hall, of the North of England Horticultural Society, to fix up a congress on fruit or fruit and Potatos for the four northern counties of England, to be held in 1914, and, further, am requested to appeal to the Durham County Council for funds to meet various expenses. I am wondering if I may have the assistance (in the first instance) of your valuable paper to ventilate this scheme, and, as regards the congress, to get into touch with horticulturists and others in the north who would intimate their willingness to work with me to run the said congress. The Northern Fruit Congress of the past years has been, more or less, a one-man scheme, and a financial failure. In 1910, Captain Cuthbert had to pay a deficit balance of £50. In 1911, the Rev. J. B. Hall accepted the responsibility and dropped £30. In 1912, the Rev. J. B. Hall and Mr. W. B. Little ran in double harness at Carlisle. These two are going to turn up again at Kendal in 1913. If a congress on fruit or a horticultural congress in any form is wanted, why should there not be a proper representative congress committee or council to carry on such a movement, on similar lines to those on which any other congress is managed, and make it peripatetic—annual meetings in different centres? The second request, viz., to approach the Durham County Council, or any other county body for cash, and more particularly the Council in question, as not one of them is a horticulturist, is not the right move to take. Mr. Hall argues that the Yorkshire Agricultural Society arrange and provide many years in advance; they and other allied societies have the interests of the work at heart, understand and provide in advance: not so a county governing body. To ask a County Council (amongst whom no one is enthusiastic) to run a show or scheme two years hence and out of the rates is ridiculous. If a body of ladies and gentlemen can be found to work together, I will gladly work hard with them. Whilst writing in connection (although indirectly) with the North of England Horticultural Society, it may not be out of place to note the progress of this northern society. One wonders sometimes if it is wanted. The secretary often states that existing societies and others must invite them to come out if they are to visit a centre. The mission of the North of England Horticultural Society should be to tell societies that they are coming to their town on a given date, create interest, and partially finance the concern. If this is done horticulture will advance. The old custom to wait for folks to send for you is dead. *John Smith, Fellow of the N.E.H.S. and Horticultural Lecturer for County of Durham. September 27.*

The Autumn Colouring of Foliage.—In spite of the general impression that a considerable amount of sunshine is essential for the autumn colouring of the leaves of deciduous trees, this dull and moist season the foliage has coloured wonderfully well. This fact clearly indicates that sunshine is by no means the only essential factor for the bright colouring of leaves. Since the weather became fine and dry, many of the trees have changed their appearance very rapidly; in fact, the autumn colouring commenced quite as early as after a bright, hot summer. The excessive wet has nourished the trees and leaves and kept them in a healthy condition, and there are none of the dead, brown leaves on the trees that were so conspicuous last year. Amongst the more showy subjects in this garden Quercus coccinea is especially effective. Its bright scarlet foliage contrasts well with the more sober hues of many other trees. Liquidambar styraciflua, with its crimson and purple leaves, forms a handsome object when it has attained large proportions. Kœlreuteria paniculata is very showy, and Euonymus europæus has developed an effective crimson shade. The spreading branches of Parottia persica and their brilliant leaves are very conspicuous at this season. Citrus trifoliata is beautifully coloured, and the foliage of Paliurus australis has become a rich yellow. Cratægus Crus-galli, Pyrus Aucuparia, Ribes aureum, Viburnum plicatum and Azalea sinensis have all assumed telling shades of bronze and crimson. Few subjects surpass Rhus cotinoides, or R. Toxicodendron in effect; their leaves are now a brilliant crimson colour. Berberis Thunbergii is another beautiful shrub, and when planted in large beds nothing surpasses its effect in the autumn. The more-recently introduced B. acuminata also colours well, especially the leaves on the young growths. Many of the Japanese Cherries are richly coloured, and contribute bright patches of crimson. Large beds of Rosa lucida are very striking objects, and, later on, their coloured stems will be quite a feature. Aralia chinensis is seen to advantage now: its leaves vary in colour from deep crimson to yellow. Several of the ornamental vines are especially attractive. Vitis Coignetiæ and V. Thunbergii have glorious colours, and are admirable when rambling in large masses over Thorns and other common trees. Vitis Henryana has assumed a striking appearance, and Ampelopsis Veitchii coloured early. The Japanese Maples must not be overlooked, as some of them create delightful effects. Acer japonicum laciniatum, with its crimson foliage, is one of the best in autumn, and A. palmatum ampelopsifolium and A. rufinerve are especially attractive. The latter makes quite a large specimen, and its beautifully-shaded leaves, that vary in colour from yellow to deep crimson, give the tree a striking appearance. *J. Gardner, Batsford.*

Colour of Hardy Fruits (see pp. 234, 251).—Noticing *Southern Grower's* remarks, I am constrained to say that I cannot agree with him that solar influence alone is absolutely essential to high coloration, for this year's experience has proved otherwise. He also remarks that Colonial fruits are more highly coloured than our British fruits. There, again, I cannot agree with him, for in these gardens at the present time there are fruits that could not easily be excelled. I visited the International Show in Dublin some few years ago and saw the Colonial exhibits there, and they deserved the highest praise, but I venture to say our English growers can produce fruit as good both in colour and quality. I quite agree with him that a good summer is essential to produce the beautiful aroma and high flavour of Colonial fruit, but for colour it is not necessary. I would ask him how it is that I have seen all kinds of hardy fruit grown on north walls and in odd corners of cottage gardens, where the sun could only penetrate, perhaps, for a few hours each day, and in a season like the present all the trees have not only proved prolific, but the fruits have developed good colour? Some of our most beautiful flowers also show their most perfect beauty when shaded; indeed, they revel in shade. I noticed particularly this year that fruits under the branches were most brilliantly coloured, but those covered entirely with leaves were green, showing that light is essential, but not necessarily strong sunshine. Here, in these gardens, the soil is a good, stiff loam on a sandy subsoil, this, I have no doubt, being an important factor in coloration, especially in a wet season. *S. Gilthorpe, Nynehead Court Gardens, Wellington, Somerset.*

Large Plane Trees.—Probably the largest Plane trees in this country are those in the club grounds at Ranelagh. One in particular, near the croquet grounds, is of giant proportions, being fully 24 feet in circumference of stem at a yard from the ground, while the far-spreading branches cover a space of 90 feet in diameter. Another tree of the same kind, not far distant, is nearly as large, and there are many specimens of little inferior proportions in other parts of these beautiful and secluded grounds. These are not the true eastern Plane but what is known as the London variety (Plantanus orientalis aurifolia), which is readily recognised by the less deeply-divided leaves, and is distinguished from the western Plane (P. occidentalis) by the several heads of fruit which are attached to each peduncle, those of the western tree being usually produced singly. There are many fine Plane trees in and around London, but certainly those at Ranelagh, especially the one whose dimensions are recorded, have few or no equals in this country. *A. D. Webster.*

Fruit at Wrotham Park Gardens.—On a recent visit to Wrotham Park gardens, Barnet, I observed a number of trees of Sea Eagle and Princess of Wales Peaches planted against a south wall, carrying extraordinarily fine crops. The space from the ground to the coping was furnished with splendid fruits, which was all the more remarkable considering the unfavourable season. There were also fine crops of Pears, Plums and Apples. A Black Hamburgh vine planted in 1728 had borne a large number of choice bunches, whilst in another vinery was a large crop of various black Grapes, the variety Appley Towers being noticeable for its highly-finished berries. *V. H. L., Sheffield.*

A Curious Radish (see fig. 121).—Until this year I should not have thought the expression "getting tied up in a knot" could possibly be applied to a Radish. However, it appears I am under a misapprehension, for this has actually occurred to a Radish grown in my garden. *H. W. Sheldon, 78, Upper Richmond Road,*

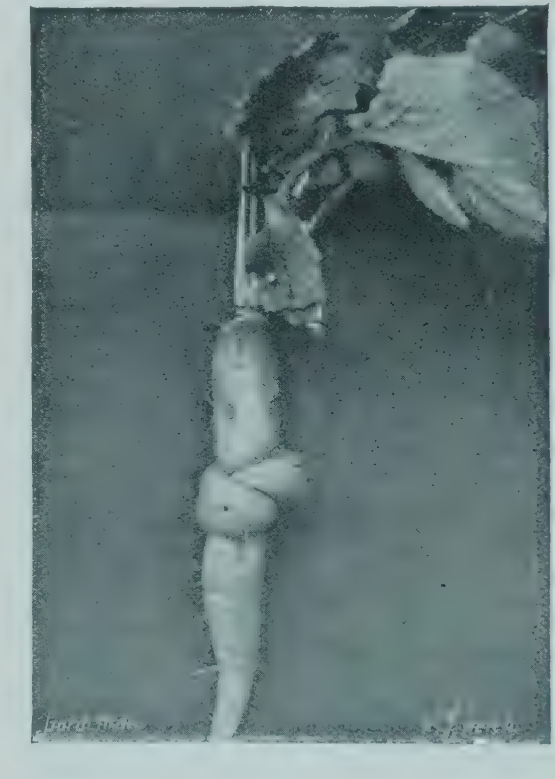


Fig. 121.—root of radish.

Leptospermum scoparium Nichollii.—The history of Leptospermum scoparium Nichollii (the Crimson Manuka), which won the 25-guinea cup presented by the *Gardeners' Chronicle* for the best novelty at the International Exhibition held in May last, will have interest to many of your readers. It is as follows:—In the summer of 1905 Mr. W. Nicholl, a well-known wool-buyer, of Belfast, Canterbury, N.Z., while visiting Nairn & Sons' Nurseries, wore a buttonhole of Crimson Manuka. The firm at once recognised a new thing, and asked its whereabouts and if it could be procured. This, however, was a secret, and all the information tendered by Mr. Nicholl was that the original plant was growing in the Manuka scrub between Chaney's Corner and the sea. Messrs. Nairn & Sons, however, would not be put off, and asked for cuttings, which were supplied by Mr. Nicholl. These cuttings were not very successful, as the growth was too hard, and only one or two plants were raised, these being stunted in growth. One branch, however, bore some seeds, which were sown, and as a result some 110 plants were raised. These, with the exception of seven, showed in their growth similar character to the old variety of the Manuka, and later, when in bloom, were mostly white. The exceptions, however, showed dark-reddish foliage and a difference in habit. When in bloom they proved to be crimson in colour, and from one of these (the best variety) the now famous Leptospermum Nichollii has been named and introduced to the horticultural world. Botanists locally have been much interested in this break, and have formed quite a number of theories for what Dr. Cockayne calls a mutant. Quite a number of plants have been successfully sent to the Old Country, and are doing well. Captain Dorrien-Smith, who has collected many plants in New Zealand, stated here that this crimson Manuka was the finest novelty in New Zealand plants that had left its shores for the last 30 years. An interesting point worth noting is that it was a Cornishman (Mr. Nicholl) who first brought this flower into notice, and it was from a Cornish garden that the flowers were shown at the International Exhibition. *L. Roberts (Nairn & Sons, Christchurch, New Zealand).*

Tits in the Garden (see pp. 197, 235 and 251)—My experience of the little blue tit may be of interest. The bird has not fed on the Sweet Pea buds in these gardens, but it has been very destructive to the culinary Peas, pecking the Peas from the pods, being especially busy towards the end of the summer, when the Peas were becoming scarce. The tits have also damaged many Apples, particularly such varieties as Red Quarrenden, Duchess's Favourite, and Cox's Orange Pippin. Many Pears were also spoilt, and it has been necessary to protect both fruits with netting or gauze bags. This year is the first time I have known the tits raid the Cobnuts, and the samples I send will show how the birds have pecked through the shells and eaten the kernels. At first I could not believe that this was caused by the tits, but I have watched them at work in the Nut bushes. The tits chiefly confined their attentions to one particular bush, which was loaded with Nuts, and now not more than one-half remains. I consider the tom-tit to be the most destructive bird in the garden, and I have yet to learn its redeeming virtue. *J. L. Waterman, The Gardens, Syndale, Faversham.*

Acetyline Gas Refuse.—During the last 12 months there have been many inquiries in the *Gardeners' Chronicle* as to the best methods of using the waste lime from acetylene gas generators. When I first took charge of these gardens there was no special place for clearing out the generator. Consequently, the old lime was found in different places, which made the gardens untidy. I chose a place near the rubbish heap, and enclosed it with a Privet hedge, with an opening large enough for a barrow to enter. A galvanised tank with a capacity of 100 gallons was installed for washing out the generator, and I found the same water would serve for months. During dry weather the lime in the generator was scraped out and placed in a heap; the generator was then washed and turned upside down to dry, but in wet weather this was done under cover, as it is necessary to replace the generator perfectly dry and free from grit. The spent carbide which accumulates during the summer becomes dry, when it is spread over vacant ground evenly, at the rate of one barrow full to every 12 square feet. After it has been dug in the ground for some time, say, about two months, Potatos, Cabbages, Lettuces, Peas, Beans and other kinds of vegetables may be planted; or it may be placed on vacant land to destroy insect pests, including wireworm. Acetylene gas refuse may be used in the place of slaked lime, but slaked lime is more beneficial. *F. R. Staddon, Sydmonton Court Gardens, Newbury.*

Outdoor Peaches in North Yorks.—In reference to Mr. Bunyard's note on outdoor Peaches at Barham Court, Maidstone (see p. 212), it may be recorded that there is a fine crop of these fruits at Gilling Castle Gardens, Malton. The trees are trained on a long terrace wall facing south. At the time of my visit, early in September, several of the trees were cleared of their fruits, but others were laden with clean, well-coloured Peaches. One tree in particular of the variety Stirling Castle had a crop of some 300 fruits, averaging 6 ounces each. Other varieties grown include Royal George, Noblesse, Hale's Early and Waterloo. During the four years that Mr. Elliott has been gardener at Gilling the trees have never failed to produce a crop. A treble thickness of netting is placed over the trees when they are in bloom. Picking commences early in July with Waterloo, closely followed by Hale's Early. Several young trees planted during recent years are making clean, robust growth. These will be lifted and root-pruned before being planted in their permanent positions. Established specimens are furnished with clean, fruitful wood to within 1 foot of the border. No pains are spared to keep the trees free from mildew and insect pests. Contrary to the usual practice the border, which is some 3 feet to 4 feet wide, is regularly forked over and planted with flowers. A top-dressing of lime rubble, wood ashes and manure is worked into the border each season when the bedding plants are rearranged. The garden at Gilling consists of a series of terraces made in a steep slope, and is well sheltered on all sides. The natural soil is a light, fertile loam of a good depth, which, owing to the formation of the ground, is warm and well drained. A range of glasshouses occupies part of one of the lower terraces. The castle, a plain, solid building of masonry, stands about 300 feet above the sea level, and dates back to the 13th century. It was for many generations the home of the Fairfax family until it was purchased by the present owner, W. S. Hunter, Esq., 10 years ago. Gilling is situated some 12 miles west of Malton, and lies amongst lovely scenery in the Vale of York, a district noted for fruit culture. *W. Davidson, Inspector to North Riding County Council.*

Reversion in Black Currants (see p. 234).—Reversion is common enough in the breeding of live stock, and it is not surprising, therefore, that this "throwing back" to a semi-wild condition happens in the vegetable world. Why Boskoop Giant Currant should be more subject to reversion than any other Currant is a mystery. Perhaps, if its origin were made known, there would be some explanation. Supposing for argument's sake that the variety originated from a chance seedling that may have been a cross between a wild Currant and a cultivated one, if there are any wild Currants in Holland. In that case the reversion would be explicable. A neighbour of mine has a few acres of Raspberries, and one of three varieties is Beehive. This variety alone reverted entirely in the second year after planting, the first fruiting season. If memory serves, there was not a perfect fruit on about one-third of an acre. Such fruits as there were were only pieces of a few pips each. This year there was a considerable improvement, which seems to indicate that recovery does occur in some cases. It would be interesting to try the effects of very heavy manuring and extra cultivation upon a few reverted Black Currants. If I do not forget it, I will be one to try the experiment. Perhaps Mr. Pearson will be another? *A Southern Grower.*

SCOTLAND.

EDINBURGH BOTANIC GARDENS EXTENSION.

The disputes in connection with the proposed extensions of the buildings at the Royal Botanic Gardens, Edinburgh, which have engaged the attention of the Scottish Law Courts, are not yet settled. A committee of the Edinburgh Town Council, after consideration of the question, recommended the Council to appeal to the House of Lords against the decision of the Court of Session, and this report was laid before a meeting of the Council. The latter body, after discussing the question in private, have decided to make the appeal.

THE NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.

This association, resuscitated some time ago, holds its meetings in Aberdeen, and is doing excellent work in advancing horticulture in the north. The report of the past year's work is exceedingly satisfactory, and the fact that the association has already 246 members on its roll shows that it is meeting with the hearty approval of horticulturists in and around Aberdeen.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

September 24.—*Present:* Mr. E. A. Bowles, M.A. (in the Chair); Dr. A. B. Rendle, M.A., F.R.S., Messrs. R. A. Rolfe, J. Fraser, W. Hales, R. H. Curtis, A. W. Hill, J. G. Wilson, J. O'Brien, and F. J. C. Chittenden (hon. sec.).

Lilium candidum.—Mr. Bowles exhibited a remarkably vigorous specimen of the double form of Lilium candidum.

Gall on Willow.—Mr. J. Fraser showed a rather small example of the gall on Salix fragilis produced by the mite Eriophyes salicis, collected on the bank of the Brent, near Ealing. Mr. W. Marshall, V.M.H., also sent an example of this gall collected on the bank of the Dart, Kent. It is only a few years since the first specimen recorded as British was shown before this Committee, but several specimens have since been received from various parts of south-east and east England.

"Wheat-ear" Sweet William.—Mr. J. Fraser also showed a specimen of Sweet William with the bracts multiplied as in the "Wheat-ear" Carnation.

Cirrhopetalum miniatum.—Mr. Rolfe drew attention to a Cirrhopetalum exhibited by Messrs. Sander & Sons, St. Albans, as having been introduced from Annam with Dendrobium Bronckartii. It resembled C. gracillimum, Rolfe, especially in its caudate, almost thread-like lateral sepals, and in the strongly ciliate dorsal sepal and petals, but differed in having vermilion-coloured flowers, with the hairs of the dorsal sepal and petals yellow. His first knowledge of the plant was in September, 1910, when it was sent to Kew for determination from the Royal Botanic Garden, Glasnevin, with the information that it had been purchased from Messrs. Sander & Sons as a plant imported with Dendrobium Bronckartii. It was then named and described as Cirrhopetalum miniatum, Rolfe. Afterwards a painting was received from M. Maurice Valcke, a collector for Messrs. T. Pauwels & Co., Meirelbeke, Belgium, who stated that he met with the plant at Haut Laos, between Siam and Cochin China.

Erica cinerea malformed.—Mr. A. W. Hill showed a specimen of Erica cinerea malformed in the same way as those exhibited by Dr. Rendle on a previous occasion, this time from wild plants collected in South Devon.

Green-berried Elder.—Mr. J. Bennett Poë sent specimens of the albino form of the Elder in which the ripe fruits are greenish (as in white Grapes). Some members of the Committee thought them sweeter than the black form.

Aristolochia clematitis fruiting.—Mr. Bowles showed fruits of Aristolochia clematitis from his garden at Myddelton House, Waltham Cross, containing ripe seeds.

Fruit of Pyrus Neidwetzkyana.—He also showed, on behalf of Canon Ellacombe, fruits of Pyrus Niedwetzkyana, in which the flesh is deeply coloured, as are all parts of the tree.

Verbascum with galls.—He also showed the curious proliferations which are sometimes noticed at the base of Verbascums, and which have previously been shown before the Committee, but which were, in the present examples, growing some distance up the stem.

Albino forms of Geranium Robertianum.—Mr. Bowles also showed the two albino forms of Geranium Robertianum, one with a red stem, the other with a green, which have maintained themselves for a long time in his garden. Almost all the plants of the latter form appear to be traceable to one or two sources, and the Committee would be glad to hear of its occurrence in a wild state.

Helenium cupreum virescent.—Mr. J. Hudson sent a specimen of a virescent and proliferous form of Helenium cupreum from the garden at Gunnersbury.

Alpine plants attacked by dodder.—Miss Willmott sent an interesting series of Alpine plants attacked by a species of dodder, including Sedum album, S. elongatum, Daphne alpina, a mossy Saxifrage, Thymus serpyllum, Campanula rotundifolia, Thalictrum minus, Phlox subulata, and Dianthus deltoides.

"Reversion" in Black Currants.—Mr. E. A. Bunyard sent an interesting series of specimens illustrating his idea that the "reversion" to which the attention of the Committee was recently directed was the result of the development of lateral branches after injury to the terminal bud. Among the specimens sent (which did not appear to be all of one variety) were shoots showing mechanical injury, shoots probably injured by the shoot-cutting weevil, and shoots injured by "big bud," all exhibiting the reverted foliage, with normal shoots for comparison (see *Gard. Chron.*, August 24, 1912, p. 159). The hypothesis, the Committee considered, hardly accounted for the persistence of the "reversion" so that whole bushes were affected season after season.

BRITISH MYCOLOGICAL AND SCOTTISH CRYPTOGAMIC.

September 13.—The autumnal meetings of these societies were held in combination this year at Forres—the scene of Shakespeare's "blasted heath"—when, under the most delightful weather conditions, a week of strenuous research work was spent in the surrounding country. The proceedings opened on Friday, the 13th ult., in the Moray Arms Hotel—the headquarters of the societies—and the first foray was to Glenferness, where an abundance of fungi was found, some of the specimens being entirely new to Scotland. On the same evening the annual business meeting of the British Mycological Society was held. Mr. A. D. Cotton, of the Herbarium, Kew, was elected president; Mr. D. A. Boyd, Saltcoats, vice-president; and Mr. Carleton Rea, Worcester, hon. secretary and treasurer. It was decided to hold the next meeting at Haslemere, Surrey. Professor M. C. Potter, D.S.C., was appointed to represent the society at the meeting of the British Association at Birmingham in 1913, and also to act as delegate to the first international conference of pathologists at Paris next month. On the 14th ult. the forest of Rothiemurchus was explored, and the foray yielded many valuable specimens. On the Monday the fine woods and policies of Cawdor Castle—the Thane's residence—were visited. In the evening Miss Gulielma Lister delivered the presidential address on "Past Students of Mycetozoa and their Work." On Tuesday the woods of Cluny Hill and Sanquhar were explored, and in the evening a capital paper was read by Mr. J. Ramsbottom, B.A., on the "History of Plant Diseases." On Wednesday Relugas and Darnaway Woods were visited with fine results, and in the evening the annual business meeting of the Cryptogamic Society of Scotland was held. On Thursday the members visited Blairs Loch, Altyre House, and the banks of the Findhorn, where many specimens were found. The collection of specimens was on view in the Moray Arms Hotel, and included several of the first of the kind to be found in Scotland and one species entirely new to science.

BIRMINGHAM AND MIDLAND GARDENERS.'

LECTURE ON PLANT DISEASES.

October 1.—Mr. Walter E. Collinge opened the autumn session of the Birmingham and Midland Gardeners' Association on Monday last with a lecture on "Plant Diseases."

Plants, like human beings, the lecturer pointed out, were liable to innumerable diseases, due to a variety of causes, such as insects, parasitic worms, fungi, bacteria, and poverty of soil.

When a human being was attacked by typhoid fever, people no longer felt content in knowing that the cause of the disease was a microscopic bacillus; such knowledge was exceedingly useful and important to the medical man, but immediately an outbreak occurred we asked ourselves, what about the drains; what were the causes that had led to the propagation and dissemination of the bacillus; and what was the most speedy and effective method of treatment? Slowly but surely this same spirit was beginning to enter into the treatment of plant diseases. It was not enough for the horticulturist, fruit-grower, or farmer to know that the disease that had ruined their crops and robbed them of their hard-earned profit, was due to a fungus, an insect, or a parasitic worm, and that this or that chemical would destroy it.

They wanted to know what were the conditions that had led up to the occurrence of the disease. How far poverty of soil, bad drainage, imperfect cultivation or lack of sterilisation had provided the suitable conditions for the pest or parasite to become a plague.

In this country plant pathology was more or less an academical study, often pursued by senior students possessing no practical knowledge of agriculture or horticulture, or, indeed, of plant cultivation in any sense whatever, whereas abroad the subject was being dealt with by men of long experience and wide training.

The question was often asked, "Have diseases of cultivated plants increased in number and virulence during recent years?" Undoubtedly there were more diseases in the country than ever before, for these reasons: Firstly, what was formerly known as "blight" was now known to be a general term for diseases due to both different species of fungi and of insects. Secondly, we were annually importing into the country fresh diseases. At present we lacked any effective control of pests or produce, and consequently such diseases as Bean Anthracnose, Yellow disease of Hyacinths, Tomato and Cucumber Wilt, Yellow Wart Disease of Potatos, and other pests had made their appearance amongst our crops and plants. Apart from the work at Kew, plant pathology in its higher branches and its practical application to the crops was not studied in this country as in others. Our conceptions of its possibilities were cramped and puny.

Dealing with certain specific diseases, Mr. Collinge described the peculiar disease known in the Midlands as May sickness in Wheat; wilt in Cucumber and Tomatos, Bean Anthracnose, and many others, all of which were illustrated by lantern slides. Methods of dealing with the various diseases on a practical scale were described, and much valuable information as to methods of prevention given.

NATIONAL VEGETABLE.

OCTOBER 2.—It has to be admitted that a vegetable show does not appeal successfully to the public, and least of all to town dwellers; therefore, no one was surprised when, after the very meagre attendances at the two London exhibitions, the Committee decided to hold this year's show in the provinces. Watford was selected as being the centre of an important gardening district, and the exhibition was accommodated in the spacious Clarendon Hall.

Of the show itself there can be only one opinion, namely, that it was much the best of the three held under the auspices of this society. But the meagre patronage was unworthy of such a fine event. In reviewing the exhibits it may be remarked that the season has suited kitchen-garden produce uncommonly well. Celery we have never seen finer, Onions were superb, Cauliflowers were of splendid size and quality, whilst root-crops, and especially Potatos, Beetroots and Turnips, were all of superb quality. The schedule comprised some 80 classes, but in only 23 were the prizes provided by the Society, the remainder being made up of various nurserymen's classes The majority of the Society's classes were for amateurs and cottagers, and an inspection of these belied the popular fallacy that these growers can produce as fine vegetables as the professional gardener. With these exhibits and those, say, from the gardens at Welbeck Abbey or Aldenham House, there could be no comparison.

The Duke of PORTLAND's exhibit in the premier class for a collection worthily upheld the traditions of the Welbeck gardens, and Mr. Gibson is to be congratulated on the manner of staging, as well as on the quality of the vegetables. The use of a dark background of velvet furnished a pleasing change from the stereotyped bed of Parsley, and was even more effective.

The exhibit from the Hon. VICARY GIBBS was a show in itself; it occupied a space of 250 square feet, with a depth of 8 feet, and comprised 120 dishes in 40 distinct kinds. It was the largest and most comprehensive collection ever put up by Mr. Beckett.

Displays by traders numbered only four, so that the show may be regarded as almost wholly competitive. The arrangements, under the supervision of Mr. E. G. Quick, the hon. secretary, and Mr. H. J. Wright, the treasurer, were all that could be desired.

SOCIETY'S CLASSES.

What must be regarded as the most important section of the competitive classes was that embracing the first five classes of the schedule, and these were open to all competitors. There were four exhibits, but the one from the Duke of PORTLAND's Garden, Welbeck Abbey, was preeminent, and gained the 1st prize easily. Taken as a whole, it was one of the finest competitive displays of vegetables we have seen, and comprised New Red Intermediate Carrots, Black Beet, Superb Pink Celery, Duke of Albany Peas, Student Parsnips, Ailsa Craig Onions, Snowball Turnips, Dwarf Gem Brussels Sprouts, Autumn Giant Cauliflowers, Eclipse Tomatos, Superlative Potatos, and Prizetaker Leeks. The Carrots and Beets were magnificent produce. The 2nd prize was awarded to Mr. J. HUDSON, Eunson's Road, Leicester. This exhibitor had remarkably good Ailsa Craig Onions, Autumn Giant Cauliflowers, Giant White Celery, and all splendid, and this exhibitor was finally declared the winner. Taking these exhibits generally, Celery, Onions, Leeks and Cauliflowers were the finer produce. Carrots lacked the smooth exterior of the best exhibition roots, Potatos were too large, and Parsnips were uneven in contour. One exhibitor showed splendid Leeks.

The best dish of nine Tomatos was shown by Mr. J. HUDSON, Leicester, who exhibited large fruits of the variety New Emperor; the 2nd prize was awarded the Duke of PORTLAND. There were eight competitors in this class.

There were only three exhibitors in the class for six Leeks. Mr. T. JONES, Ruabon, exhibited the 1st prize collection, these being amongst the finest Leeks in the exhibition. The variety was Champion. The 2nd prize was also awarded to this variety.

AMATEURS' AND COTTAGERS' CLASSES.

The most important of these classes was for a collection of six distinct kinds, in which 11 competed. In several instances the amateurs showed they knew how to exhibit as well as grow good vegetables, but others had much to learn in these respects, and especially in exhibiting. One display was accommodated in a flat tray, whilst others were arranged flat on the table.

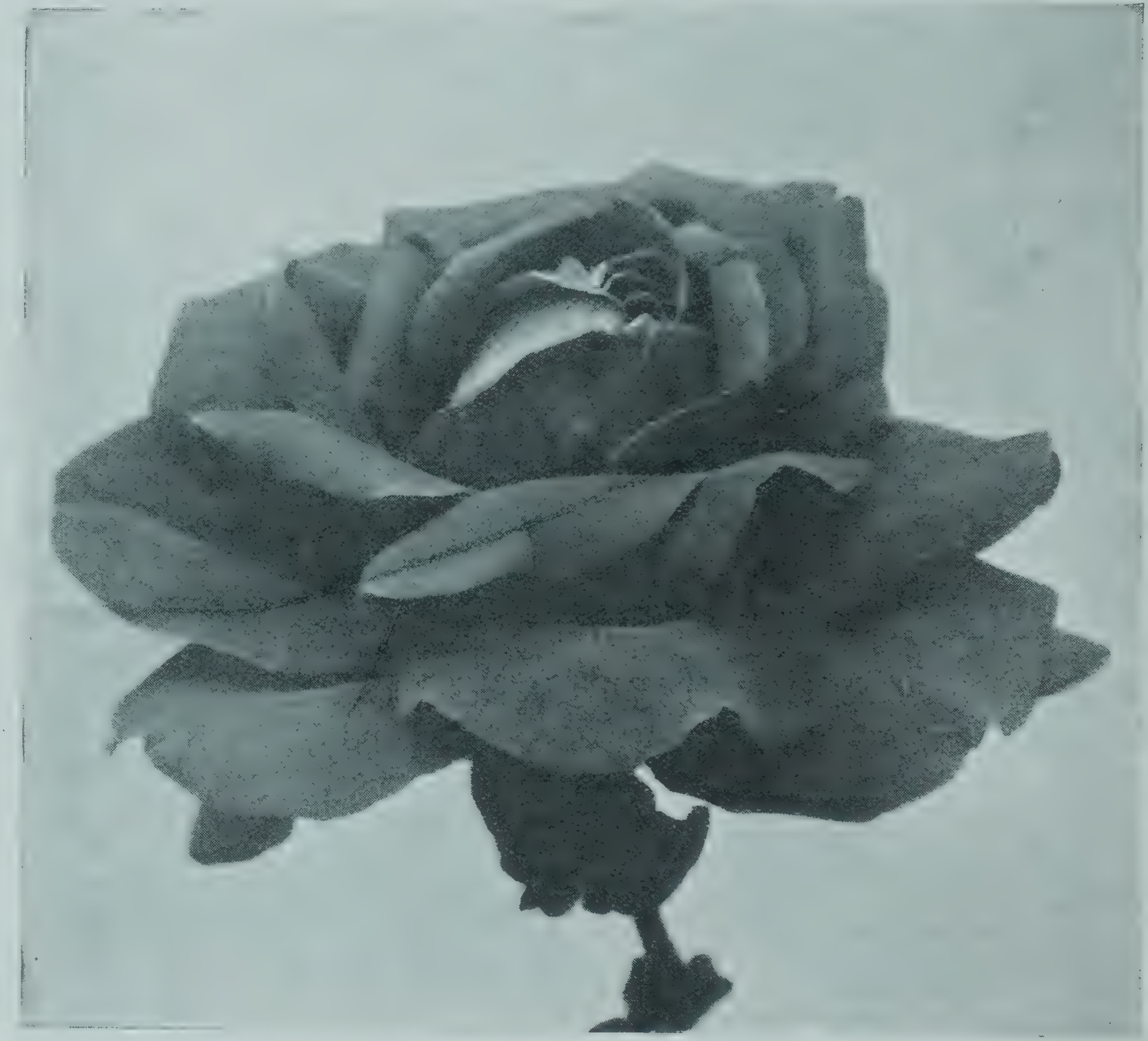


FIG. 122.—HYBRID TEA ROSE EDWARD BOHANE: COLOUR RICH CRIMSON.
(Received R.H.S. Award of Merit, September 24, 1912.)

New Red Intermediate Carrots. 3rd, W. H. HENDERSON, Esq., Serge Hill, King's Langley (gr. Mr. F. L. Pike), whose best dishes were Giant Pink Celery, Ailsa Craig Onions, and Early Autumn Giant Cauliflowers.

In the class for a collection of nine kinds there were three exhibits, and the 1st prize was awarded to H. T. TATHAM, Esq., Kendall Hall, Elstree (gr. Mr. W. Gaiger), for excellent vegetables, including Long Red Surrey Carrots, Prizewinner Runner Beans, Superb Pink Celery, and stout-stemmed Prizetaker Leeks; 2nd, JOHN KERR, Esq., Loudwater, Rickmansworth (gr. Mr. T. Avery), his Premier Onions being extra fine.

Prizes were offered for a collection of six distinct kinds of vegetables shown by cottagers or allotment holders in the county of Hertfordshire. There were 12 competitors, who contributed a good display of useful vegetables. The 1st prize was originally awarded to Mr. A. E. DAWES, Watford, but the finest collection was shown by Mr. W. HUMPHREYS, Elstree, whose Celery, Onions, Cauliflowers, and Potatos were

The 1st prize collection, shown by Mr. H. KEEP, Aldermaston, comprised splendid produce, and it was arranged in the best exhibition style. Ailsa Craig Onions were extra large and solid; Cauliflowers were white and compact; Leeks well blanched, but not extra stout; Tomatos, of the Conqueror variety, were well coloured and graded; and there were good Potatos and Prizewinner Carrots. Mr. W. COLEMAN, Buckingham, who was placed 2nd, exhibited excellent Celery, Onions, Beans, and Tomatos.

In the smaller class for three kinds there were eight exhibits, in which nothing remarkable was seen, the 1st prize being awarded to Mr. H. ANDREWS, Berkhamsted, for Onions, Cauliflowers, and Celery of moderate quality. The 2nd prize collection consisted of Factor Potatos, Intermediate Carrots, and Sunrise Tomatos, all generally excellent and not coarse.

Potatos.—The 1st prize for three dishes of Potatos was awarded to large tubers of the variety Dreadnought, Swinard's Seedling (a fine white oval Potato with smooth skin), and The Factor, shown by Mr. Hoad, Willesborough, Kent. Mr. Coleman, who was placed 2nd, showed a splendid dish of The Factor.

There were 16 exhibits in the class for two dishes, and Mr. Coleman was awarded the premier prize for large, clean, well-matched tubers of the varieties King Edward VII and The Factor.

Onions.—The variety Ailsa Craig was most numerously shown by the 22 competitors, and all the three prizes were awarded for this variety. The best bulbs were shown by Mr. H. Keep.

Carrots.—Mr. J. White, Bampton, Oxford, showed the finest roots; the variety was Red Intermediate, and this variety was also placed 2nd and 3rd.

Beetroot.—Smooth, solid, medium-sized roots of Black Beet were placed 1st of 13 exhibits. The successful exhibitor was Mr. E. Deakin, Birmingham.

Parsnips.—These vegetables were shown splendidly. Mr. Tom Jones, Ruabon, excelled with magnificent roots of the Hollow Crown variety. Maltese, shown by Mr. T. King, Chippenham, was placed 2nd.

Turnips.—Sixteen exhibitors competed, and they showed white varieties chiefly, but yellow and purple roots were included in some instances. The 1st prize was awarded for model roots of a white green-top variety, shown by Mr. F. J. Gentle, King's Langley; 2nd, Mr. W. Coleman, with Snowball.

Celery.—Mr. Jones excelled with clean, large, solid heads of Prize Pink variety; there were 18 entries, and all the exhibits were of excellent quality.

Cauliflowers.—Nothing could be finer than the exhibit of three Cauliflowers shown by Mr. Coleman. The heads were of very large size, compact and white, as though blanched. Mr. Gentle was placed 2nd with smaller heads.

Mr. Keep showed the best Runner Beans; Mr. Cady, Sudbury, the best Leeks; Mr. Coleman the best Peas; Mr. Jones the best Tomatos; and Mr. Holdstock, Luton, the best Marrows. There was a class for Herbs, but it was not well represented.

NURSERYMEN'S CLASSES.

Robert Sydenham Limited.—There were 12 classes for produce grown from seeds supplied by Robert Sydenham Limited. For a collection of nine kinds the sum of £16 10s. was offered in six prizes. This proved a splendid class, five exhibitors all showing finely. The best collection was staged by Mr. T. Jones, Ruabon; 2nd, Mr. J. White, Bampton, Oxford. For a collection of eight kinds, the better of two exhibits was shown by Mr. E. Deakin, Birmingham. The largest Parsnips in the show, exhibited by Mr. J. White, were placed 1st in a class for these vegetables; other exhibitors also showed well in this class. Carrots and Beetroots were both excellent; and the Celery shown by Rev. T. McMurdie of gargantuan proportions—the variety was Bibby's Defiance. The best Cauliflowers and Leeks were shown by this exhibitor; whilst Mrs. Jenner, Wenvoe Castle, near Cardiff (gr. Mr. W. Wheeler), had the finest Onions.

Messrs. Barr & Son's Classes.—This firm offered prizes in ten classes. Those best contested were for Onions and Carrots. The Carrots, of the stump-rooted, scarlet variety, were shown best by Mr. A. Evans, Moor Lodge, Presteign, whilst Mr. H. Tatham, Elstree, excelled for Crimson Globe Onions.

Messrs. W. Cutbush & Son's Classes.—This firm offered prizes in 12 classes. New Red Intermediate Carrots, shown by Mr. T. King, Chippenham; magnificent Prizetaker Leeks exhibited by Rev. T. McMurdie, Woburn Park, Weybridge (gr. Mr. A. Basile); Barnet Hero Onions, shown by Mrs. Dennison, who also showed the finest Parsnips of the variety Model; and Crimson Beet, exhibited by A. B. H. Goldschmidt, Esq., Mildenhall (gr. Mr. G. Hatch), were the best vegetables in these classes.

Messrs. Dickson, Brown & Tait's Classes.—This firm offered prizes in no fewer than 18 classes. Celery Prize Pink was of remarkable size. Miss Allcard, Horsham (gr. Mr. T. Sparks), was awarded the 1st prize. Premier Onions were exhibited well by nine competitors, the best by Mr. John Kerr. Splendid Carrots were shown in a class for Perfection Intermediate variety, and Mrs. Dennison was placed 1st for magnificent roots. Two bunches of Moneymaker Tomato, shown by Mr. H. W. Henderson, King's Langley (gr. Mr. F. L. Pike), bore 33 fruits.

Messrs. Dickson & Robinson's Classes.—This firm gave prizes in 14 classes. Here were seen some of the best Beans in the show; the variety was Giant Exhibition. Mr. Coleman was placed 1st with magnificent pods. The Lord Kitchener variety of Lettuce is evidently a splendid late variety, judging by the fine produce shown. It is a Cabbage variety, and those shown by Mr. Henderson, for which the 1st prize was awarded, were of remarkable size. Standwell Cauliflower was shown well by 11 exhibitors. Manchester Market Turnip is a good, solid, green-top, white variety; the best were shown by Mrs. Dennison. Cabbages, Parsnips and Potatos were also shown well in their several classes.

Mr. W. E. Sand offered prizes for two dishes of Potatos of the varieties Erin's Queen and Irish Hero, the former a flat oval and the latter a round variety. The 1st prize was won by Mr. Henderson.

Messrs. Clay & Son's Class.—This firm offered substantial money prizes in a class for six dishes of Potatos, distinct. There was an excellent competition amongst 11 competitors. Mrs. Dennison won the 1st prize easily, having magnificent tubers of such fine sorts as King Edward VII, Snowball, Emperor, and Long Keeper. 2nd, Mr. M. Hoad, Willesborough, Kent.

Messrs. Watkins & Simpson's Class.—This was for a collection of six kinds, open only to market gardeners. There was only one entry, from Messrs. W. J. Lobjoit & Son, Hounslow, and it was awarded the 1st prize.

The Marquis of Northampton, Castle Ashby (gr. Mr. A. R. Searle), excelled in Messrs. Gleeson & Co.'s class for a collection of 10 kinds; whilst Mr. G. Prickett, Croxley Green, the only exhibitor in Messrs. J. K. King & Sons' class for a collection of six kinds, was awarded the 2nd prize. Seventeen competed in Messrs. H. Lane & Son's class for three dishes of Potatos, distinct, the 1st and 2nd prizes being awarded to Mrs. Dennison and Viscount Goschen, Hawkhurst (gr. Mr. J. Gilmour), respectively.

NON-COMPETITIVE EXHIBITS.

The display of vegetables from the Hon. Vicary Gibbs' Garden, Elstree (gr. Mr. E. Beckett), was awarded a large Gold Medal. Among the choicer kinds were Tender and True Parsnips, Superb Pink Celery, Prizetaker Leeks, Early Giant Cauliflowers, and New Red Intermediate Carrots; besides these were such uncommon vegetables as Golden Waxpod French Bean, Silver or Sea Kale Beets, Capsicums, Chilies, Aubergines, Finocchio or Florence Fennel, Kohl Rabi, purple-podded Beans, American Land Cress, and Corn Salad.

Messrs. Barr & Sons, King Street, Covent Garden, showed the largest trade exhibit, and it was made very attractive, being well and tastefully arranged. It occupied 150 square feet, and embraced 100 dishes of all kinds of vegetables. (Gold Medal).

Messrs. Dobbie & Co., Edinburgh, showed 40 varieties of Potatos, arranged very attractively in baskets on a black velvet background with sprays of Ampelopsis. Amongst the varieties were noticed Exhibition, Red Kidney, King Edward VII, Midlothian Early, British Queen, Milecross Early with very clear skin, Dobbie's Favourite, and The Factor, a splendid main crop variety. (Silver-gilt Medal.)

Messrs. H. Lane & Son, Great Berkhamsted, Hertfordshire, were awarded a Silver-gilt Medal for a collection of Apples and Pears.

Messrs. Dickson & Robinson, Manchester, exhibited splendid bulbs of Premier Onion, for which a Silver Medal was awarded.

NATIONAL CHRYSANTHEMUM.

October 2, 3.—The exhibition of early-flowering varieties, held in the transept of the Crystal Palace on the above dates, will rank as one of the most successful the National Chrysanthemum Society has held. The entries were greatly in excess of last year, and many of the exhibits reached a high standard of excellence. For the most part the exhibits were confined to blooms grown in the open air, and these were exceedingly fresh and well coloured, and there was a marked absence of weather-stained flowers. The excellent trade exhibits, which were not for competition, and the various stove and greenhouse plants arranged by Mr. C. Caselton, the Superintendent of the Crystal Palace grounds, contributed largely towards making this show very attractive.

There were fewer novelties than usual: to these the Society awarded two First-class Certificates and a Card of Commendation.

OPEN CLASSES.

There was only one "Floral Display" of Chrysanthemums, that shown by Mr. F. Brazier, Caterham, to which the judges awarded the 2nd prize. This semi-circular group included, amongst other good blooms, excellent examples of the varieties Nina Blick and Ethel Blades.

The best collection of 12 Japanese blooms was shown by G. L. Wigg, Esq. (gr. Mr. H. Sargent), Rockshaw, Merstham. The varieties Mrs. R. Luxford, Mrs. A. T. Miller, and Mrs. L. Thorn were very fine. 2nd, E. J. Mocatta, Esq. (gr. Mr. T. Stevenson), Woburn Place, Addlestone.

The exhibits in the class for six Japanese blooms were not so evenly matched. The 1st prize was won by A. T. Miller, Esq. (gr. Mr. Geo. Mileham), Emlyn House, Leatherhead, who showed an excellent set of blooms. 2nd, H. Runciman, Esq., Nightingale Lane, Wanstead.

The premier 12 bunches of undisbudded Chrysanthemums grown in the open air, shown by Mr. G. Bowness, Riverside Nursery, Glasgow, were far away the best, and made an attractive display. 2nd, Mr. J. Emberson, Grove Road Nursery, Walthamstow.

Mr. J. Emberson showed many exceedingly good flowers in his 1st prize collection of 12 bunches of disbudded blooms, which were grown in the open air. 2nd, Mr. G. Bowness.

The best vase of single-flowered Chrysanthemums was shown by Mr. J. Emberson; 2nd, Mrs. A. C. Brown, Brokes Lodge, Reigate.

Mr. J. Emberson showed six exceedingly good vases of blooms in the class for Japanese or decorative varieties; 2nd, Mr. G. Bowness.

The competition in class 17, which provides for one vase containing 3 Japanese blooms, was exceedingly good. The 1st prize was awarded to the Rev. T. Sheepshanks, Stokelake House, Chudleigh, Devon (gr. Mr. A. Dunkley), for three splendid blooms of Frances Jolliffe; 2nd, E. G. Mocatta, Esq., who showed very good blooms of White Queen.

The best vase of any yellow or bronze single-flowered variety was shown by Mr. F. Brazier, High Street, Caterham; 2nd, Mr. G. Bowness.

The best vase of any other colour was that of the variety Kitty Riches, shown by Mr. J. Emberson; 2nd, Mr. G. Bowness.

Mr. J. Emberson showed the best vase of single Chrysanthemums, arranged with suitable foliage; 2nd, Mr. G. Bowness.

The 1st prize hand-basket of Chrysanthemums and foliage, shown by Mr. L. Wheeler, The Gardens, Wood Hall, Dulwich, was very attractive; 2nd, Mr. J. Emberson.

Mr. R. Bagden, Gipsy Hill, Upper Norwood, won the 1st prize for a basket of autumn foliage; 2nd, Mr. A. R. Bide, Highlands, Farnham.

AMATEUR CLASSES.

The only exhibitor of 12 bunches of disbudded, early-flowering Japanese blooms, Mr. H. Dunkley, St. Peter's Avenue, Kettering, was awarded the 2nd prize. There was good competition in the class for undisbudded sprays, where Mr. H. Dunkley won the 1st prize, and Mr. C. Fox, Linden Garden, Tunbridge Wells, was placed 2nd.

Mr. D. B. Crane, Wood View, Highgate, was awarded the 2nd prize for six bunches of Pompon Chrysanthemums.

The 1st prize offered for three vases of undisbudded early-flowering varieties was awarded to Mr. C. Fox. Mr. F. W. Stevens arranged a very tasteful epergne in class 26; and the 2nd prize epergne, shown by Mr. C. Fox, was also very pleasing.

Decorative Classes.

The best table of bouquets, wreaths, sprays, &c., illustrating the decorative value of Chrysanthemums, was arranged by Mr. A. H. Cole, Camberwell New Road, London. The second best was shown by Miss A. Fyfe, Grove Park Nursery, Lee.

The competition in the open class for dinner-table decorations with Chrysanthemums was very keen, but, unfortunately, from a spectacular point of view, 10 of the 11 competitors confined themselves to the use of yellow and bronze-coloured varieties. The 1st prize was awarded to Mr. A. W. Trossell, The Parade, Beckenham; 2nd, Mrs. A. Robinson, Vorhyrst, Carshalton; 3rd, Mr. F. W. Stevens, The Gardens, Donnington, Sydenham.

In the amateurs' class there were only three competitors, and the 1st prize was won by Miss A. Bashford, Barrow Hedges Farm, Carshalton; 2nd, Mr. Webb, The Gardens, Melrose, Sydenham.

The exhibits of three epergnes of Chrysanthemums and suitable foliage in the open class were very pretty. The 1st prize was won by Mr. F. W. Stevens; 2nd, Mrs. A. Robinson.

In the class for a vase of Chrysanthemums for table decoration (the trade excluded) Mr. F. W. Stevens was awarded the 1st prize for a very tasteful arrangement.

AWARDS.

First-class Certificates.

Mrs. G. Lloyd Wigg.—A gigantic Japanese variety with exceptionally broad canary-yellow flowers, which have very long, narrow florets. Shown by Messrs. W. Wells & Co.

Bob Pullen.—A rich, yellow Japanese variety, with very broad, drooping florets. Shown by Mr. H. J. Jones.

Card of Commendation.

Juliet.—A beautiful decorative Chrysanthemum of a shade of colour approaching to "Old Rose." Shown by Messrs. Cragg, Harrison & Cragg.

Non-competitive Exhibits.

Messrs. W. Wells & Co., Merstham, arranged a fine group of Chrysanthemums. Amongst the Japanese varieties there were immense blooms of Hon. Mrs. Lopes (11 inches across), Thorp's Beauty, White Queen, and Mrs. G. Lloyd Wigg. This exhibit contained excellent flowers of the different varieties, and was exceedingly well arranged. (Gold Medal.)

Messrs. James Carter & Co., Raynes Park, had a most attractive stand, which well deserved the medal bestowed upon it. A huge crown, supporting very many vases of "China Asters," rose above a base of Cactus Dahlias, Michaelmas Daisies, and batches of Asters artistically arranged.

Mr. H. J. Jones, Ryecroft, Lewisham, contributed a very large exhibit of excellent Chrysanthemum blooms flanked by good sprays of Michaelmas Daisies and other border flowers. (Gold Medal.)

Mr. Norman Davis, Framfield, Sussex, exhibited a splendid display of tall stands containing exceedingly good cut blooms of Chrysanthemums, interspersed with many Michaelmas Daisies arranged in a very successful manner. (Gold Medal.)

Mr. A. H. Cole, Camberwell New Road, London, was awarded a small Gold Medal for a semi-circular group of Chrysanthemums and foliage.

Messrs. Cragg, Harrison & Cragg, Heston, Hounslow, Middlesex, exhibited fresh, clean blooms of many choice varieties of Chrysanthemums. (Large Silver Medal.)

Messrs. H. B. May & Sons, Ltd., Upper Edmonton, showed a very good collection of stove and greenhouse Ferns, Ixoras, and Begonia Mrs. L. de Rothschild. (Small Gold Medal.)

Messrs. David Russell & Son, Essex Nurseries, Brentwood, contributed a good group of Tree Ivies, tall Cupressus Lawsoniana, and heavily-berried plants of Pernettya mucronata. In another part of the show Messrs. Russell exhibited a collection of Apples and Pears. (Small Gold Medal.)

Mr. F. Brazier, Caterham, showed Michaelmas Daisies and a few border Chrysanthemums.

Messrs. D. Dowell & Son, Hammersmith, exhibited garden sundries.

Mr. Jas. B. Riding, Chingford, showed many excellent Dahlias, chiefly of the Collerette section. (Silver-gilt Medal.)

Messrs. T. S. Ware, Ltd., Feltham, had a long table filled with good Dahlias and many border flowers. (Silver-gilt Medal.)

J. A. Nix, Esq., Tilgate, Crawley (gr. Mr. E. Neal), showed a very fine collection of fruit, decorated with excellent Crotons and Palms. There were six varieties of Grapes, 56 of Apples, and 44 of Pears. (Gold Medal.)

NORTH OF SCOTLAND HORTICULTURAL AND ARBORICULTURAL.

September 18.—The annual meeting of this association was held in the Botanical Class-room, Aberdeen University. Mr. Robson, the vice-president, occupied the chair. He congratulated the members on the success which had attended the first year of their resuscitated association after lying dormant for 17 years, and hoped it was a happy augury of still further prosperity. Mr. William Reid, the hon. secretary, stated that there were 246 members, and that during the year seven meetings had been held at which papers of very considerable professional interest had been read. The session closed with an excursion to Brechin Castle Gardens and Bearshill, which was well attended. Mr. W. Wylie, the hon. treasurer, said the association had a credit balance of £8 3s. 5d.; there had been a considerable outlay in connection with the resuscitation of the association. Mr. C. I. France read an account of the excursion to Brechin Castle, which will appear in the next volume of the association's *Transactions*. The office bearers for the ensuing session were appointed as follow:—Hon. President, His Excellency the Earl of Aberdeen, Haddo House; President, Mr. J. McKinnon, The Gardens, Haddo House; Vice-President, Mr. Alexander Robson, Aberdeen; Secretary, Mr. W. Reid, Aberdeen; and Treasurer, Mr. W. Wylie, Aberdeen.

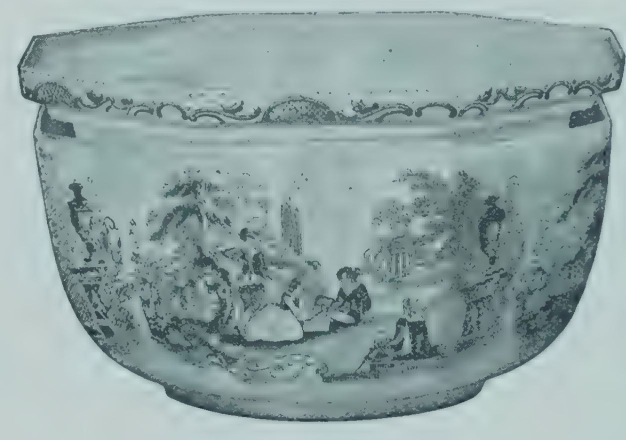


Fig. 123.—A new bulb bowl.

DEBATING SOCIETIES.

BRISTOL AND DISTRICT GARDENERS'.—The monthly meeting was held on September 26, at St. John's Parish Rooms, Clifton, Mr. Baston presiding over a large attendance of members. A lecture was delivered by Mr. I. C. House, on "Useful Perennials for Cutting Purposes." Mr. House gave the best method of treating cut flowers and the most suitable time to cut them. Prizes were offered for four bunches of hardy perennials, and the 1st prize was awarded to Mr. Scott.

BATH GARDENERS'.—A meeting of this association was held on September 23, when there was a good assembly of members. Prizes were offered to under gardeners for the best paper on the "Cultivation of Violets." Mr. Matthews, of Coombe Royal Gardens, Bath, was awarded the 1st prize. In introducing his subject Mr. Matthews stated that the flowering season of the Violet extended from September to May. A partly shaded position suits them, where they are not exposed to the sun during the hottest part of the day. A very important fact was that the plants should not be allowed to get dry or they would soon be attacked by red spider. Decayed leaves and runners should be removed and the soil should be constantly stirred between the plants. The lecturer described the different methods of cultivating the Violet, including the growing of the plants in pots.

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending October 2.

A remarkably wet night after four very dry weeks.—Another cold week, and the ninth in succession. In fact, there has not been a single unseasonably warm day for nearly 10 weeks, and during September there occurred but five unseasonably warm nights, three of which were in the past week. The ground is now 2° colder than is seasonable, both at 1 foot and 2 feet deep. Rain fell on four days of the week, and to the total depth of nearly 3 inches, which is about half an inch in excess of the average amount for the whole of September. During the 12 hours ending 9 a.m. on September 30 2½ inches of rain was deposited, or a greater quantity than in any single day or night, with three exceptions, during the last 26 years. Rain began falling at 9 p.m. on the 29th ult., and continued without intermission until noon on the following day. During the 9 days ending the 28th ult. there was no percolation at all through either of the soil gauges, but since then 8½ gallons of rain-water has come through the bare soil gauge, and 8 gallons through that on which short grass is growing. The sun shone on an average for 4 hours a day, which is about the mean duration for the same period of the year. At the beginning of the week the weather remained calm, but since then the wind has been at times of moderate strength, and has come principally from some easterly point of the compass. The mean amount of moisture in the air at 3 p.m. fell short of a seasonable quantity for that hour by 5 per cent.

September.

The coldest September recorded here for twenty-six years.—This was the coldest September of which I have here any record, the mean temperature being as much as 5° below the average for the month. Both the day and night temperatures, taking the month as a whole, were equally exceptional, but the days were much more unseasonably cold than the nights. On the warmest day the highest temperature in the thermometer screen was only 65°, and on the coldest night the exposed thermometer registered 9° of frost. Both of these extreme readings are colder than any previously recorded here in September. Rain fell on only nine days, and to the total depth of 2¾ inches, which, although only a quarter of an inch in excess of the average for the month, is greater than that for any September for 16 years. Almost the whole of the rainfall of the month was deposited on the last two days of it. The sun shone on an average for 3½ hours a day, which is 1½ hours a day short of the September average, and, with three exceptions, less than in any September during the past 26 years. The winds were, as a rule, high; indeed, higher than in any September for 13 years, and yet in no hour did the mean velocity exceed 14 miles. The average amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by 2 per cent. *E. M., Berkhamsted, October 2, 1912.*

GARDENING APPOINTMENTS.

Mr. Robert Spence, for the past 3½ years Gardener to the late Colonel E. H. Kennard, Gt. Tangley Manor, Surrey, as Gardener to the Marchioness of Crewe, at Crewe Hall, Crewe.

Mr. Walter Checkley, for the past 8 years General Foreman at Overstone Park Gardens, Northampton, as Gardener to Lord Hotham, West Hill Park, Titchfield, Hampshire.

Mr. J. W. Funge, previously for 4 years Foreman at the Warren House, Stanmore, also at Silverlands, Luton Hoo, and Mentmore, as Gardener to the Bethlem Royal Hospital, St. George's Road, Southwark, S.E. (Thanks for 1s. which has been placed in the R.G.O.F. box.)

Mr. David Dunn, for nearly 2 years Foreman at Beech Holme, Colwyn Bay, North Wales, as Gardener to T. J. Waddingham, Esq., Hafod, Aberystwyth.

Mr. F. T. Woodfield, for the past 12 months Gardener at the County New High School for Girls, Leytonstone, and previously at Bedgebury Park, Goudhurst, and Glympton Park, Woodstock, as Gardener to the Venerable Archdeacon Potter, Rake Manor, Milford, Surrey.

Mr. George Johnson, for the past 18 months General Foreman at Tilgate Forest Cottage, Crawley, as Gardener to E. C. Dennler, Esq., Oakwood, Crawley, Sussex.

Mr. J. Powell, for the past 3 years Gardener to Mrs. Kyrle Chapman, Shillingstone Grange, Blandford, and previously Foreman at Kilkenny Castle, Ireland, as Gardener to Sir Ralph Lethbridge, Sandhill Park, Taunton, Somerset.

Mr. J. Roberts, for the past 6 years Gardener to F. Ogilvy, Esq., Rowbarns Manor, East Horsley, Surrey, as Gardener to John Macgregor, Esq., Ersham, Hailsham, Sussex.

Mr. R. Lay, for the past 5 years Gardener to G. C. Elliot, Esq., Hull Place, Sholden, Deal, and previously for 7 years Foreman at Hartham Park, Corsham, Wilts., as Gardener to E. Wormald, Esq., Grass Farm House, Church End, Finchley, London, N. (Thanks for contribution which has been placed in the R.G.O.F. box. —Ed.)

NEW INVENTION.

BULB BOWL.

Messrs. Hunter & Gow send us a sample of a new double octagon bulb bowl (see fig. 123). Its novelty consists in the fact that it contains an inner bowl, with holes in the bottom, which enables the water to drain from the fibre or soil in the outer bowl. The inner bowls are supplied separately, which enables the cultivator to get a succession of bulbs for the same outer bowl. The bowl has a white body, and the design is in blue.

MARKETS.

COVENT GARDEN, October 2.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	2 0- 2 6
Asters, white ...	1 6- 2 0
— coloured, per doz. bunches...	1 6- 2 0
— single, mixed	2 0- 3 0
Bouvardia, per dz. bunches ...	6 0- 7 0
Carnations, per dozen blooms, best American varieties ...	1 6- 2 0
— smaller, per doz. blooms ...	0 8-0 10
— Carola (crimson), extra large	3 0- 4 0
— Malmaisons, p. doz. blooms:	
— — pink ...	8 0-15 0
Centaurea (Sweet Sultan) mauve and white, per doz. bunches...	2 0- 3 0
— yellow	1 0 —
Chrysanthemums, per dozen:	
— white	1 0- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze... ...	1 0- 2 6
— white, per doz. bunches ...	3 0- 4 0
— coloured ...	3 0- 4 0
— maximum, per doz. bunches...	0 9- 1 0
Coreopsis, per doz. bunches ...	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Daisies (Michaelmas), various	3 0- 4 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per dozen	2 0- 2 6
Gaillardia, per doz. bunches ...	0 6 -0 9
Gardenias, per box of 15 and 18 blooms... ...	1 6- 2 6
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
Lapagerias, white, per dozen ...	2 0- 2 6
Lilium auratum, per bunch ...	2 6- 3 0
— longiflorum, per doz., long	1 9- 2 0
— — short ...	1 6- 2 0
— lancifolium alba, long ...	1 0- 1 6
— — short ...	1 3- 1 6
— speciosum rubrum, per doz.:	
— long	1 3- 1 6
— short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0-18 0
— special... ...	10 0-12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches...	3 0- 4 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	12 0-15 0
— Cattleya Harrisonæ, per dozen	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum ...	3 0- 4 0
Pancratiums, p. dz. spikes	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Physalis, per doz. bunches ...	5 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 6
— C. Mermet ...	0 9- 1 6
— Frau Karl Druschki ...	1 0- 1 6
— General Jacqueminot ...	— —
— Liberty ...	1 6- 2 0
— Madame A. Chatenay ...	1 0- 2 6
— Niphetos ...	1 0- 1 6
— Richmond ...	1 0- 2 6
— Sunburst ...	3 0- 5 0
— Sunrise ..	0 9- 1 0
— President Carnot	1 6- 2 0
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	0 9- 1 0
— Franz Deegen	1 0- 1 6
— Kaiserine ...	0 9- 1 6
Scabiosa caucasica, per doz. bnchs.	2 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, per dozen bunches:	
— mauve, ..	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	2 6- 3 0
Stock, p. d. bnchs:	
— white	4 0- 5 0
Tuberose, p. doz. blooms, long...	0 8- 0 9
— — short ...	0 6- 0 7
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches ...	1 6- 4 0
— double, pr. dz. bunches ...	3 0- 5 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0 18 0
— Sprengeri ...	10 0 12 0
Carnation foliage, doz. bunches...	4 0 —
Croton foliage, various, dz. bchs.	12 0 15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, per gross bunches ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, per dozen... ...	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated ...	30 0-60 0
Asters, per dozen	4 0- 5 0
Begonia Glore de Lorraine, 48's, per dozen ...	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ..	2 6-10 6
Croton, per dozen	18 0-30 0
Cyclamens, 48's ...	10 0-12 0
Cyperus alternifolius, per dozen	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0-12 0
Erica nivalis ...	15 0-18 0
— — 60's ...	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's ...	12 0-15 0

Plants in Pots, &c.: Average Wholesale Prices (Contd.).

	s.d. s.d.
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, per dozen	6 0 —
— choicer sorts per doz. ...	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen ...	15 0-18 0
— lancifolium alba. in pots, per dozen ...	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's ...	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 3 0
— Cox's Orange, ½ bushel ...	6 0- 8 0
— Cooking, per bushel	3 0- 4 0
— Californian Newtowns, case	7 6-10 6
— Gravensteins, per case ...	7 6 —
Bananas, bunch:	
— Doubles ...	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured...	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Blackberries, peck	2 6- 3 0
— chip	1 0- 1 6
Figs (Guernsey), per dozen ...	1 0- 1 6
— English ...	1 0- 1 6
— (Italian), boxes	0 8- 1 0
Cranberries, p. case	14 6 —
Grape Fruit, case:	
— 96's	24 0-26 0
— 80's	
— 64's	
— 54's	
— per dozen ...	6 0 —
Grapes (English), per lb.:	
— Hamburgh ...	0 6- 1 6
— Canon Hall ...	1 6- 5 0
— Muscats ...	1 3- 4 0
— Gros Colman	0 8- 2 0
— Black Alicante	0 6- 1 6
— Madresfield Court	1 6- 2 6
— Gros Maroc ...	1 0- 1 6
— Almeria, barrel	12 0-1[illegible] 0
— Lisbon, case...	7 0- 8 6
Lemons, per case:	
— Messina ..	10 6-12 0
— ordinary ...	6 0- 7 0
Lemons, per case:	
— Naples ...	20 0-30 0
Limes, per case ...	2 6 —
Melons (Guernsey)	1 6- 2 0
— (English) ...	1 6- 2 0
— Canteloupe ...	2 0- 3 0
— (Spanish), case	7 0-12 0
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt....	50 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 2-0 2½
— Walnuts per lb.	0 3- 0 6
— — French, per bag ...	8 0- 9 0
— English doubles per lb.... ...	0 10-1 0
Oranges:	
— Cape, per case	13 6-14 6
— Jamaica, case	12 6-16 0
— Naartjees, per box	2 0- 2 6
Peaches	
— English, dozen.	
— selected ...	6 0-24 0
— best ...	4 0- 6 0
— seconds	
— Canadian, per box	3 0- 4 0
Pears:	
— French, pr. box	3 0 —
— — per crate ...	6 0- 8 0
— English, ½ bus.	1 0- 3 0
— Californian, p. case	6 0- 7 0
— Dutch Catalac, ½ bushel ..	3 6 —
Pineapples, St. Michael ..	2 6- 5 0
Plums:	
— (Californian), crate	6 0-12 0
— Switzers, ½ siéve	2 6- 3 0
Pomegranates, per case ...	8 6- 9 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen ...	2 6 —
— English ...	2 0 —
— ground, ½ bus.	1 6 —
Aubergines, per dozen... ...	2 0 —
Beans:	
— French, ½ bshl.	1 0- 1 3
— Scarlet Runners, per bushl.	1 0- 1 6
— — per bag ...	2 0- 2 6
Beetroot, per bushel ...	2 0 —
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	1 6- 2 0
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun....	1 6 —
— dirty, per bag...	2 6 —
— washed, bag...	3 0 —
Cauliflowers, per — tally	2 6- 4 0
Celery, per dozen	12 0-14 0
— dirty	8 0-12 0
Cucumbers, per flat	4 6- 6 0
Endive, per dozen	1 6 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles ...	15 0-18 0
Leeks, per doz. ...	2 0 —
Lettuce (English), Cos, per box ...	1 6 —
Cabbage, per dozen	0 3- 0 6
Marrows, per tally	4 0- 5 0
Mint, per dozen bunches ...	2 6 —
Mushrooms, cultivated, per lb.	1 6- 2 0
— field, per peck	3 6- 4 0
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag ...	3 6- 4 0
— (Spring), per doz. bunches	3 0 —
— (Spanish). case	6 0 —
— Dutch, bags ...	2 9- 3 0
Parsley, ½ sieve ...	1 0- 1 3
— per doz. bun.	2 0 —
Parsnips, per bag	2 6- 3 0
Peas (English), per bushel	5 0 6 0
— bags	9 0 12 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen ...	0 3- 0 6
Sage, per dozen ..	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel...	1 9- 2 6
- bags	2 6- 3 6
Tomatos, per doz. lbs.:	
— (Guernsey), ...	2 6- 2 9
— (English) ...	2 6- 3 0
— seconds ...	1 0 —
Turnips (English), per dz. bunches	1 6- 2 6
— per bag	2 0- 2 6
Watercress, p. dz. bunches ...	0 4- 0 6

Remarks.—There still continues to be a full supply of home-grown dessert varieties of Apples. Culinary varieties arrive in unlimited quantities. We are acquainted with one grower who is marketing from 40,000 to 50,000 bushels; which will give an idea of the abundance of the crop this year. The first shipment of Nova Scotian Apples is to hand, and consists of 3000 to 4000 barrels of the varieties Blenheim Pippin, Gravenstein, and Ribston Pippin. Newtown Pippins from California are also to hand, and this country has sent about 4000 boxes of Pears. The market is well supplied with English Pears. French Pears consist of the varieties Duchesse d'Angoulême, Louise Bonne of Jersey, and Doyenné du Comice. These are well graded and packed in crates containing from 15 fruits upwards. Two thousand boxes of Oregon Italian Prunes have arrived this week; the fruits are packed in trays weighing 6 lbs. net, 4 to each box. German Switzer Plums are now a full supply. Black varieties of English hothouse Grapes continue a very heavy supply; many have sold for as little as 4d. per lb. Prices for the best samples of Muscat of Alexandria and Canon Hall are firmer, and there is a slightly-increased demand for them. A few samples of English Peaches are still obtainable, and those from America are arriving in fairly large quantities packed in boxes containing from 18 fruits upwards. There is now a limited supply of English Melons. Italian Figs continue to be very plentiful. Tomatos from English and Channel Islands growers are about equal to to the demand. Shipments of Tomatos from the Canary Islands are expected weekly. Some very fine samples of Walnuts are arriving from Ghent via Dutch ports for the English market. Home-grown Walnuts are plentiful and good. Cobnuts were never so plentiful, and their prices have fallen as low as 2d. per lb. Mushrooms are still scarce; best samples are making from 1s. 6d. to 2s. per lb. Ordinary vegetables continue to be very plentiful with the exception of Peas. *E. H. R., Covent Garden, October 2, 1912.*

New Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 4 6
Kents	4 3- 5 3
Blacklands ...	3 6- 4 0
Lincolns	4 0- 5 0

Remarks.—Trade is not very good, and prices rule about the same as last week. Good tubers are difficult to obtain; many Potatos are arriving which exhibit disease. *Edward J. Newborn, Covent Garden and St. Pancras, October 2, 1912.*

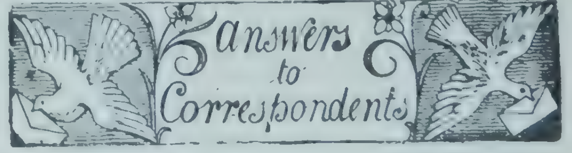
SCHEDULES RECEIVED.

Women's Agricultural and Horticultural International Union.—The show and sale of this association will be held at the Royal Horticultural Hall, Vincent Square, Westminster, S.W., on Wednesday, October 23. Secretary, Miss Ella Gill, 45, Queen's Chambers, London, S.W.

The British Dairy Farmers' Association.—The thirty-seventh annual Dairy Show will be held at the Royal Agricultural Hall, London, on October 8, 9, 10 and 11. Secretary, Mr. F. E. Hardcastle, 12, Hanover Square, London.

Obituary.

W. R. Guilfoyle.—The death of Mr. W. R. Guilfoyle, on June 26 last, is recorded in the *Kew Bulletin.* Deceased was born in Chelsea, but proceeded to Australia early in life. He succeeded the late Baron Ferdinand von Mueller as director of the Melbourne Gardens in 1873. His first botanical appointment was as botanist to H.M.S. "Challenger," during her cruise among the South Sea Islands in 1868.



⁂ *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

Alicante Grapes Shanking: *M. S.* The present trouble is caused by shanking, which is generally the result of some unsatisfactory condition of the border. During the approaching season give the roots a thorough overhauling, to ascertain where the trouble is. It may be that the border is inefficiently drained, or that the soil is unsuitable. After putting the drainage in proper order, afford some fresh, sweet compost, using good loam as the basis, and give the vines every inducement to make roots near to the surface. During the growing season these roots should be fed by mulches of suitable materials. The specimens you sent last year were affected with the fungus Botrytis.

Apple and Peach Leaves: *F. H.* The leaves received are affected with the Shot-hole fungus (Cercospora circumscissa), so-called because the small, circular portions affected shrivel and fall away leaving holes which appear as though the leaves had been perforated by small shot. It is too late to apply any remedy, but next spring just as the leaves are expanding you may spray the trees with the ammoniacal solution of copper and repeat the spraying at intervals. The Bordeaux mixture is injurious to the leaves of Peaches even in a diluted condition. In the *Gardeners' Chronicle* for October 14, 1905, p. 282, a correspondent stated that he had used Campbell's Sulphur Vaporiser with good results.

Begonia Unhealthy: *W. H. P.* The plants are not diseased, but have been subjected to an excess of moisture and insufficient ventilation. Keep the plants drier, and ventilate the house whenever the conditions are favourable. There are indications of mite, which may be destroyed by dipping the plants in a nicotine extract.

Coloured Potatos: *A. S. T.* Many of the Potatos with purple or red skins to the tubers are quite as good eating as the ordinary brown-skinned varieties. In fact, some epicures claim that the red varieties are superior, whilst the long violet, or purple, tubers are highly esteemed for preparing Potato salads.

Crab Stock: *H. P. B.* Stocks of the Crab Apple intended for grafting or budding next season should be about a quarter of an inch in diameter, if they are to be planted this autumn. With regard to their value per 1,000, this depends on the quality, and prices quoted are no guide unless you see the plants or a sample. The figures you give would be average prices. Stocks such as you describe should be suitable for your purpose.

Dredging Mud from Shallow Stream: *C. T.* As you have given no particulars as to how you propose carrying out your dredging operations, it is impossible to give a correct estimate of the probable cost. If you have the means of diverting the water from the bed of the stream during the time you are removing the silt, the cost will be considerably less than would be the case if the work has to be carried out with the flow of water to contend against. If you propose removing the mud by means of barrows, you should be able to do so at about 1s. 6d. per cubic yard, provided the water has been drained away and the barrow run is on an easy gradient. If you use small skips, run on a 13-inch-gauge railway; you may be able to do it cheaper if you have a large quantity of silt to remove. Should it be necessary for you to remove the mud while the water is flowing over it the work will probably cost 2s. 6d. per cubic yard. In the event of you possessing a flat-bottomed barge with a dredging bag on chains and pulleys, the cost will be slightly less. Taking the 1s. 6d. basis, it will cost 2s. 3d. per yard run of your stream to clear away the silt to a depth of 1 foot 6 inches, whereas if the 2s. 6d. basis is taken, the cost will be 3s. 9d. per yard run. We understand you do not require to tip the material any distance from the stream, therefore it is not necessary to add the cost of wheeling. These prices are estimated on the assumption that workmen are paid at the rate of 6d. per hour. A local contractor would be much better able to advise you on this matter.

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Insect: *E. M.* The insects you send are millepedes. They are most common in ground containing decaying vegetable matter. If the land is bare of crops, apply a dressing of gas-lime at the rate of 1 ton to the acre. It is not advisable to plant on ground that has been treated with gas-lime until several weeks have elapsed. There are numerous specifics on the market, such as Vaporite, which are very useful for destroying such ground pests as millepedes. See *Gardeners' Chronicle*, April 27, 1912, p. 276.

Kew Gardens: *Eighteen.* For admission as gardeners to the Royal Botanic Gardens, Kew, application must be made on a form to be obtained from the director of the gardens. Applicants must be unmarried, between the ages of 19 and 24, and must have been employed for not less than four years in good gardens or nurseries. They must also be healthy, free from physical defects, and not below the average height. Applicants will be informed whether their names have been entered for admission, and on a vacancy occurring will receive a notice to that effect. If an applicant is not appointed within three months after the date of his application, he should write again if he still desires admission. Those selected for appointment as gardeners, who are British subjects, are eligible to remain at Kew for a period of two years from the date of joining, if they render approved service. A gardener ceases to be employed at Kew at the termination of two years' experience in the Royal Botanic Gardens, unless he has been selected for service as a sub-foreman for a further definite period. Whilst at Kew an allowance of 21s. per week is received by the gardeners to meet the cost of subsistence. Sub-foremen are allowed 27s. per week.

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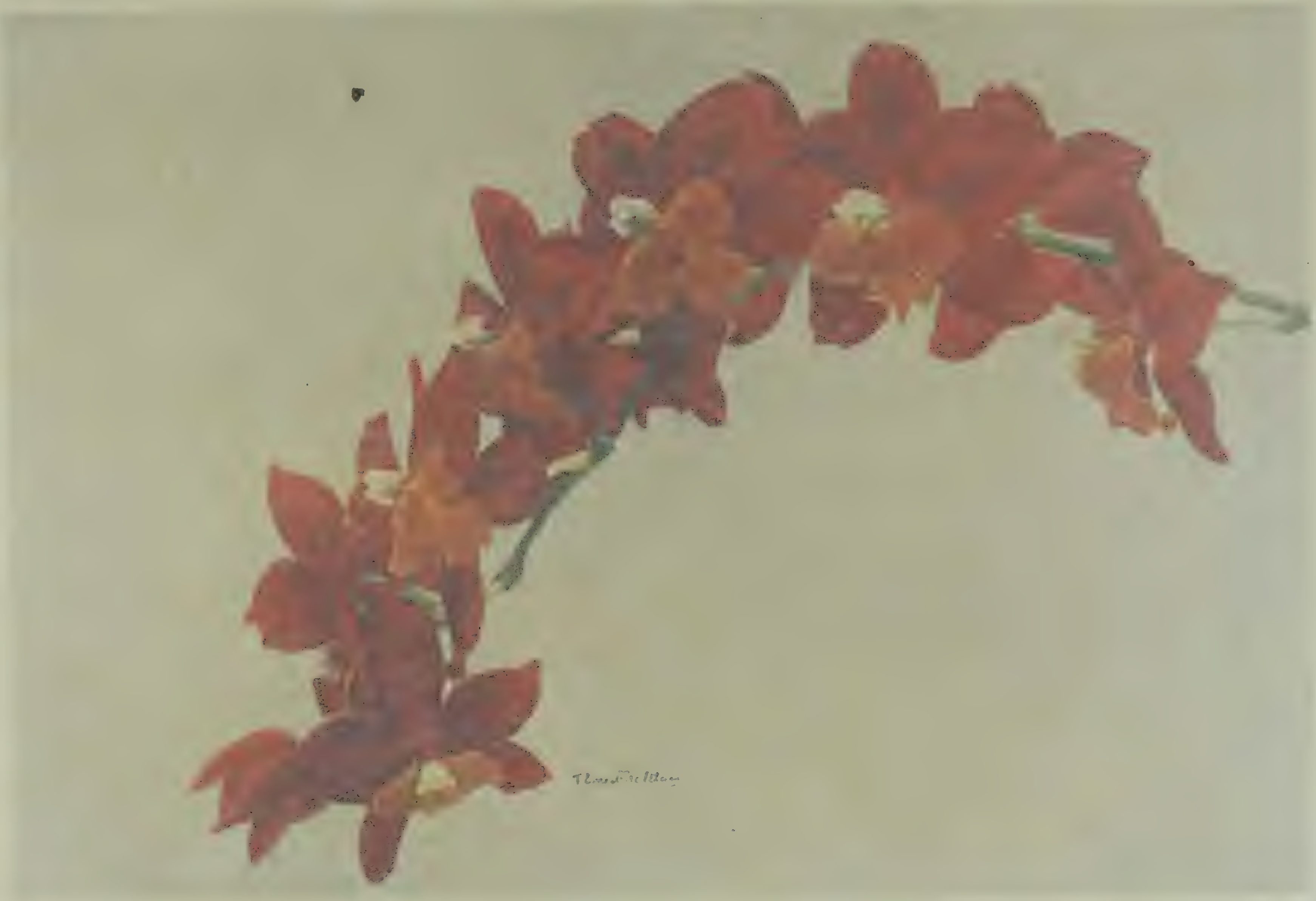
Supplement to the "Gardeners' Chronicle."



ODONTIODA LAMBEAUIANA, "WESTONBIRT VARIETY" apply any remedy, but next spring just as the leaves are expanding you may spray the trees with the ammoniacal solution of copper and repeat the spraying at intervals. The Bordeaux mixture is injurious to the leaves of Peaches even in a diluted condition. In the *Gardeners' Chronicle* for October 14, 1905, p. 282, a correspondent stated that he had used Campbell's Sulphur Vaporiser with good results.

Begonia Unhealthy: *W. H. P.* The plants are not diseased, but have been subjected to an excess of moisture and insufficient ventilation. Keep the plants drier, and ventilate the house whenever the conditions are favourable. There are indications of mite, which may be destroyed by dipping the plants in a nicotine extract.

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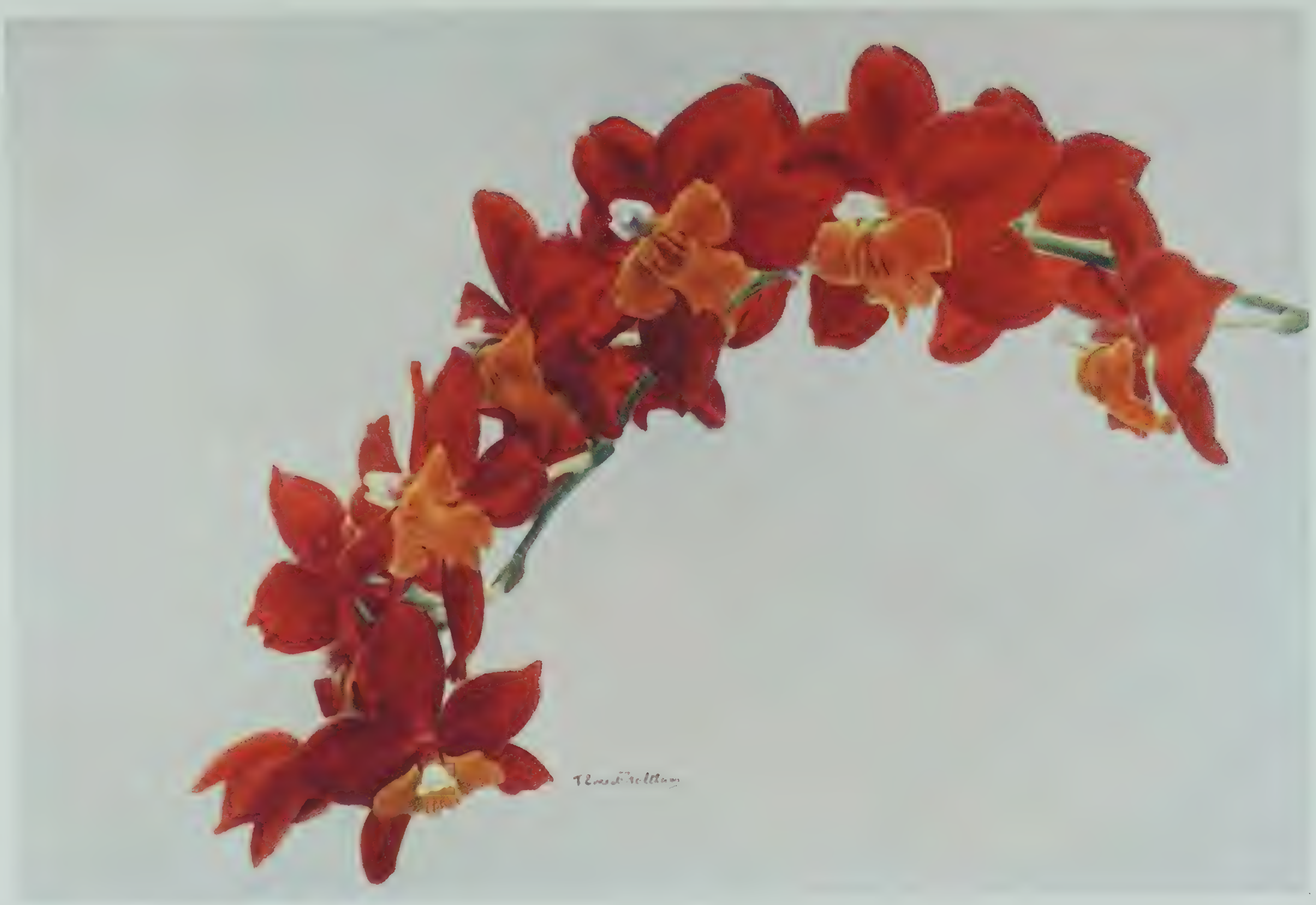

ODONTIODA LAMBEAUIANA, "WESTONBIRT VARIETY"

THE
Gardeners' Chronicle
No. 1,346.—SATURDAY, October 12, 1912.

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THE MARKET FRUIT GARDEN.

EXCEPT for the last two days of the month, during which a great quantity of rain fell, a dry and cold September followed a wet and cold August. Between September 1 and 28 my rainfall measured only 4-100ths of an inch, but over an inch of rain fell in the day and night of the 29th, and more on the 30th, making the total for the month 3.48 inches. During nearly the whole of the time the wind was in a cold quarter from north to east. East wind was welcome, however, as the best security for dry weather, and as a great help towards the destruction of weeds turned up by the hoe or the cultivator. Previous to the 29th, again, there had been complete immunity from the gales which are usual in September and which did so much harm in August in blowing fruit off the trees. Gales accompanied the rain of the 29th and 30th, but nearly all the Apples in my orchards had then been gathered.

Weedy Orchards Cleaned at Last.

During the whole of the spring and summer the foul condition of the orchards was a trial to the fruit-grower who strives to keep them clean. In March the rainfall was so nearly continuous that weeds were necessarily left to grow unchecked. In April there were arrears of digging to be made good, while spraying in the latter part of the month was a hindrance to hoeing. Some good work was done with the horse cultivator, but in the latter part of April and in the greater part of May the land had dried into so hard a condition that hand-hoeing was merely scraping. In June the rainfall was frequent enough to set weeds afresh after they had been chopped up, and this was also the case in July to a great extent, while August was a month of almost daily rainfall. On the other hand, after the first day of September there were four complete weeks of splendid weather for the destruction of weeds, and it is a source of great satisfaction to see the orchards in a clean condition at last.

Costly Hoeing.

Never before have I known the hoeing of fruit plantations to be so costly as it has been this season. In the first instance the soil had been run into a compact mass by the extreme wetness of the winter and the first month of spring. When it dried it was almost as hard as cement, and hoeing was very slow and hard work. As a rule, to hoe the whole of the land among trees and bushes costs me 12s an acre, the understanding being that the whole surface is to be cut. In some Kent fruit districts, where the soil is more friable than mine, the price is often only half as much; but work that I have seen in progress in those places left much to be desired. This season, however, the first hoeing in a grassy plantation cost over £1 per acre, and even so the men earned only 3s. a day, which is not enough for piecework. They "took" the job at 15s., but could not earn day wages (2s. 8d.) at that price. In other cases, where the horse-cultivator does all but a small square of land around each tree and bush, the cost of hoeing was 50 per cent. more than is usual.

A Needed Implement.

As a rule, the horse-cultivator cannot be used without damage to the fruit trees after the fifth year from planting in the case of bush-shaped trees set 12 feet apart, or the sixth season in the case of short half-standards planted at the same distance apart, Gooseberries or Currants being 6 feet apart from each other and an equal distance from the trees. The damage is done mainly by the chain traces, which slant up from the whipple-tree to the level of the horses' shoulders and scrape the bushes and the lower branches of the trees. Injury is also done to a less extent by the harness and by the heads of the horses. What is wanted is a very low motor-cultivator, all the parts being as close to the ground as they can be. Something of the kind, it appears, has been brought out and tried at Evesham, but whether successfully or not I cannot say. If any reader can give information on this point it would be useful. The work of horse cultivation is much more effective than that of hand-hoeing, as well as very much cheaper. One great advantage of the former is that by means of it an orchard of eight or nine acres can be cultivated in a couple of days, if done in only one direction, or in four days if done in two directions, so that it can be dealt with whenever there is a spell of settled dry weather. On the other hand, unless a great gang of men can be obtained, hand-hoeing an equal area takes twice as long as the cultivation up and down and across, so that rain is usually experienced before a job is finished. It is true that there is a narrow space up each row of trees or bushes to be done by hand after the horse cultivation in one direction, or a small square around each tree or bush where it is done in two directions, but this work is quickly performed. If a motor-cultivator of the kind mentioned were available and effective, it could be used without material damage until the bush fruit was removed as over-aged or too much shadowed by the trees to be worth retaining. After that, there would be, of course, double the space for cultivation by motor power, and the work could be continued during the whole life of an orchard if the trees were pruned sufficiently to keep overhanging branches from trailing close to the ground.

Planting in View of Horse Cultivation.

As planting time is approaching, it is reasonable to refer to a point of importance in relation to distances of setting trees and bushes. My earliest plantings were done with a view to horse cultivation up and down and across between the rows of trees and bushes. This necessitated equal distances apart for trees of all varieties, whether of compact or spreading habit of growth, and it also necessitated the placing of small fruit bushes not less than 6 feet from each other or from a tree. In some later plantings the plan has been altered, horse cultivation in only one direction being contemplated, in order that the bushes may be set more closely, whilst the distances of trees apart in the rows may be varied in accordance with their respective habits of growth if desired. In my soil I find that a distance of 4 feet between Gooseberry and Black Currant bushes suffices at least for nine or ten years, and it appears to me that if severe cutting is necessary for the rest of their lives to prevent interlacing, the loss is less than that involved by having the bushes much fewer in number than they need to be for many years. When cultivation only up and down between the rows is contemplated, trees of a compact habit of growth can be set 12 feet apart in the rows, while those of spreading habit can be allowed 16 feet. In each case there would be a space of 4 feet from bush to bush or from bush to tree. Even so, the space between compact and bushy trees would be uniform in one direction; but when they are angled—a tree in one row being opposite to a bush in the next tree row—there would be more than 12 feet from tree to tree crossways, whilst the variation in distances in the rows would be a great advantage to varieties of spreading habit. Another advantage of this plan over that in preparation for horse cultivation in two directions is that pruning to prevent side growths being in the way of the horses or their harness needs to be done only on two sides of each tree instead of on four sides, if needed at all. An alternative plan in relation to the small fruit would be that of planting the bushes at distances of only 3 feet, with the intention of grubbing up every other bush when they have become too crowded, or, in the case of Black Currants, cutting every other bush down to the ground level, to allow of its shooting afresh, and treating the remainder in a similar way when those first cut-back have become well furnished with branches. Never having seen this latter plan tried, I mention it without venturing to recommend it. If adopted, the distances of the trees apart in the rows might range from 12 feet to 15 feet, instead of 12 feet to 16 feet, as in the case of the 4 feet bush planting. The chief doubt in the case of the close planting of bushes is as to whether there would be space enough for the full ramification of the roots.

APPLES DROPPING UP TO THE LAST.

The dropping of Apples referred to in previous notes was bad enough in the cases of early varieties, but the loss from this cause was greater still with late and long-keeping sorts. It led to the gathering of the late Apples before the usual time, and this may affect injuriously their keeping capacity. Moreover, it helped to keep up the glut in the markets, so that prices continued miserably low till the end of September. To get no more than 3s. 6d. a bushel for the best lots of such fine Apples as Lord Derby and Warner's King is unpleasant, to say nothing of seconds sold at 2s. to 2s. 6d. Rail and marketing expenses have to be deducted in all cases.

INFERIOR LATE APPLES.

Bramley's Seedling Apples this season are the worst lot I ever grew, most of them being small, and many of the rest mis-shapen. Lane's Prince Alberts are also lacking in size, and include a large proportion of tail. A mis-shapen Apple has been lately declared to be the result of imperfect pollination. If this be true, the shortness and inferiority of most late varieties may be attributable to defects in the pollinating season. My best crops of late Apples are those of Royal Jubilee and Gascoyne's Scarlet Seedling, and the fruit of each is well up to the average in size. By the way, one well-known fruit nurseryman declares Royal Jubilee to be in season from October to December, while another says October to March. Never having tried to keep the variety for more than a few weeks after gathering the crop, I am not able to confirm or dispute either statement. But the variety does not look like a long keeper, as its skin is very thin and liable to show the slightest bruise, and the fruit turns quite yellow shortly after being gathered. It is desirable to store every Apple that can be kept until the supplies of home-grown fruit in the markets have been greatly reduced, but although I have a properly-constructed fruit chamber, I shall be agreeably surprised if my large crop of Royal Jubilee keeps in marketable condition up to Christmas. *A Southern Grower.*

DESTRUCTIVE INSECTS AND PESTS

SCHEDULED BY THE BOARD OF AGRICULTURE AND FISHERIES.

II.[*]—THE NARCISSUS FLY.

A FLY of the genus Merodon of the family Syrphidæ has long been known to live in the larval stage in certain bulbs. According to Verrall (*British Flies*, vol. viii, 1901) only one species of Merodon occurs in Great Britain, this being M. equestris Fabricius, of which there are three varieties, namely, narcissi, validus, and transversalis. Another species, M. clavipes Meigen, is included by Walker in his *British Diptera*, and is also recorded as British by Curtis, but this is probably owing to an error, and doubt is thrown by Verrall on the accuracy of the identification. Larvæ in Narcissus bulbs sent from Cornwall in 1896 are described (*Journal* of the Board of Agriculture, December, 1896, p. 287) as "clearly those of a species of fly known as Merodon clavipes Meigen," but this species was apparently considered identical with M. narcissi F. It may at any rate be said that a species of Merodon, almost always M. equestris Fabricius, has become a most serious pest of Narcissus bulbs in this country, and is very widely distributed. It is remarked by Verrall that, until he caught a specimen at Denmark Hill, in South London, on June 8, 1869, M. equestris was not known to be a British species. Theobald, however, says: "There is little doubt that it has always existed as a native insect amongst the wild Daffodils in the west and other parts of the country." [It seems fairly certain that in the past many larvæ found in bulbs were wrongly identified as those of M. equestris, but were really those of Eumerus strigatus, Fln., a related syrphus fly, and named by Theobald the Small Narcissus Bulb Fly. A very full account of the two species is given by Theobald in his *Report on Economic Zoology* for the year ending September 30, 1911 (South-Eastern Agric. Coll., Wye), pp. 107-117.]

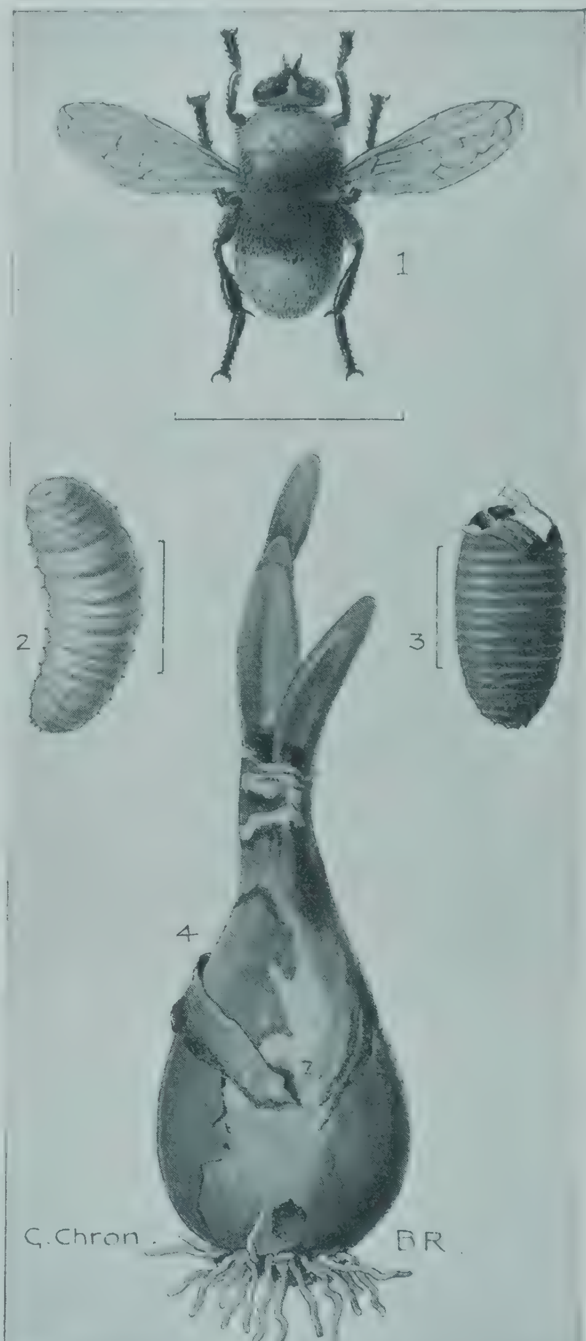

FIG. 124.—THE NARCISSUS FLY (MERODON NARCISSI).

1, The perfect insect (magn. 2); 2, Larva (magn. 2); 3, Pupa (magn. 2); 4, Affected bulb arrested in development (nat. size).

An extensive attack was recorded from Cornwall, in October, 1896,[†]. bulbs submitted for examination being much decayed, two larvæ occurring in some bulbs, but generally only one. Five per cent. of bulbs at Penrhyn were found to be infested, and several thousand bulbs of Narcissus stella, N. gloriosa, and other varieties had to be destroyed. Since that time, with the great increase in the growth of Narcissi in Great Britain, the Narcissus fly has become so widely distributed that it occurs almost wherever these bulbs are grown in this country. It is commonly held that it was introduced into England from Holland, but, as stated above, Theobald believes it to be native. In the *Journal* of the Royal Horticultural Society (1901-2, p. 249) it is stated that "the fly was first noticed by Reaumur in 1738, but at that time it had probably not spread further northwards than the centre of France, and even there it was rare; and it was only in 1840 that it was noticed as a pest in Holland, and was handed on in due course to England and even America." It is certainly now prevalent in British Columbia, and Hewitt (*Report* of the Dominion Entomologist, 1911, Canadian Dept. Agric.) considers that it has been introduced into Canada on imported bulbs, and he found it on bulbs imported into Ontario from Holland. It was found in Montreal in 1903. Prof. Ritzema Bos informed Dr. Hewitt that in Holland the fly chiefly attacks N. tagetta and Jonquillas. In British Columbia Mr. G. Norman observed that the early varieties of Daffodils, such as "Golden Spur" and "Henry Irving," are not attacked, but such varieties as N. poeticus ornatus and N. poeticus poetarum suffer considerably. Wilks states that the pest is undoubtedly imported from Holland, and to his own knowledge also from Spain, as he once found "no fewer than seven young grubs of the fly in a single imported bulb of Johnstonii, 'Queen of Spain.'" The same authority expresses the opinion that no garden exists in this country where 1,000 bulbs are grown in which M. equestris could not be found among them.

The fly causes a great deal of loss among bulbs; it is undoubtedly very prevalent in England. It is imported every year in Dutch bulbs in great numbers. It has been recorded[‡] as attacking bulbs of Atamasco Lilies (Habranthus pratensis), and Scarborough Lilies (Vallota purpurea), while cases of the fly attacking Liliums and Hippeastrums are also mentioned. Theobald says that the larvæ are common in Hyacinths, Tulips, and

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[*] The previous article appeared in the issue for September 28, 1912, p. 241.

[†] *Journal* of the Board of Agriculture, Dec., 1896, p. 287.

[‡] *Journal* of the Royal Hort. Society, Oct., 1911.

Narcissi, and he has found them in Vallota purpurea (1897), Galtonias, and wild Hyacinth or Bluebell.

The fly (fig. 124) is a fairly large insect, nearly three-fourths of an inch in length and an inch in spread of wings. It more nearly resembles a small bee than a fly, and is conspicuously pubescent or covered with a dense soft velvety "pile" which obscures the ground colour. It varies considerably in colour, having bands which may be tawny, golden yellow, black, or greyish. In three specimens before me one appears, at first sight, almost black, save the hinder part of the abdomen, which is yellowish; a second has the front of the thorax tawny, centre of body black and hind portion of the abdomen golden yellow; while in the third the thorax is tawny and the abdomen greyish. Verrall states that in M. equestris the thorax has grey or tawny pubescence in front, with a broad black fascia behind, while the abdomen is all fulvous except about the grey base; in var. narcissi the thorax is covered entirely with a fulvous pubescence, and the abdomen is grey haired; var. transversalis is all grey haired, except that the third abdominal segment is black haired; and in var. validus the pubescence is nearly all black except on the end of the abdomen—this last seeming to be the usual form of the species in England.

The thorax is robust, and rather longer than broad; the abdomen varies a good deal in shape, though usually "short, ovate, and rounded behind." The eyes are moderately hairy all over, and in the male "touch for about half the length of the frons or vertex"; in the female the eyes are well separated. The wings are almost transparent, and are without any markings other than the veining, though darker near the veins at the base. Verrall remarks "I have no reason for supposing that any of the variations are seasonal or in any way affected by diet, but so far as I know all or any of the forms may appear at any place and at any time." The fly on the wing flies in the manner of a humming-bird hawk moth, or a drone bee, hovering with swiftly-moving wings, or darting rapidly to right or left. When at rest it is somewhat sluggish.

The larva is about half an inch in length when active, but at rest appears shorter, as it lies in a curved position; its cylindrical body, tapering at the extremities, is much wrinkled and folded, clearly showing the divisions of the body. In colour it is cream or dirty greyish-brown. It has no distinct head, but under the pointed and somewhat flattened upper extremity is the retractile mouth furnished with two dark-coloured mouth hooks. The larva pupates in the soil, the pupa being oval and darkish brown, much wrinkled, but with no marked divisions.

The females are very active on the wing, but when pairing or at rest they are sluggish. Wilks says that "the greatest peculiarity of the fly is the noise which it makes when flying about. I can only describe it as something between a shriek and a whistle; it is, of course, a small sound in itself, but great in comparison with the size of its author, and you can often hear it at a distance at which the fly itself is unperceived." The eggs (perhaps 100 in number) are laid on or near the bulbs, among the foliage of the bulbs, or possibly in the surrounding soil, between the months of May and July, and, whether the resulting grubs enter from above or from the base, they eat their way into the bulbs and cause great damage, reducing the tissue to an oozy decayed pulp. The larvæ feed and grow in the bulbs, remaining in them for some months, finally pupating in the soil from about March to May and giving rise to the flies in May and June. Typically there is one maggot to each infested bulb, but seven maggots have been found in a single bulb. Mr. Leney, of Chertsey, informed Theobald that on lifting the bulbs to have them examined and to kill the larvæ no more than two full-grown larvæ occurred in each bulb, but more frequently only one in a bulb; when, however, the larvæ are in a younger stage and about half the size of those fully matured he invariably found from seven to eight in a single bulb. The larvæ certainly seem to leave one bulb and pass to another, and Theobald says§ "Those I have kept attacked as many as ten bulbs before becoming mature. When one bulb is destroyed they crawl through the soil and enter the next one at its base." Further, bulbs in store in quantity are similarly treated, Wilks stating (*Journal* of the Royal Horticultural Society, 1902-3, p. 184) that under such conditions a grub will often eat its way out of the side of one bulb and into the side or top or any part of another in contact with it, and he has found a grub with its head buried in the side of one bulb and its tail in the neck of another.

As regards preventive or remedial measures several plans may be adopted. In the first place lifted bulbs should be carefully examined several times before planting—and lifting may usefully be a little early and planting a little late to allow more time. Infested bulbs will usually be found to be rather soft, and all infested bulbs should be burnt. Beds in which attacked bulbs have been grown should be deeply dug several times, and lime may usefully be dug in. The advantage of destroying bulbs is proved by the experience of a large Irish grower; seven or eight years ago Merodon proved a great pest in Narcissus bulbs, but the practice was adopted of destroying all sickly, infested bulbs, with the result that the pest was rarely found (*Journal* of the Board of Agriculture, 1909, p. 295). Further, the flies may be caught with a net when they settle, though care is necessary, as they are easily disturbed, settling, however, after flying a few yards. When caught in the net the flies should be crushed. On the wing they are caught in the net only with great difficulty owing to their rapid and variable flight. It has also been suggested that the flies may be trapped by placing plates filled with treacle, and the edges smeared with honey, near the bulbs: the honey attracts the flies, which are caught in the treacle. Mr. George S. Saunders suggested that if bulbs could be placed for 20 minutes or half an hour in water kept at a temperature of 115° F. the heat would probably kill the grubs without harm to the bulbs.

Soaking affected bulbs in cold water at the natural temperature is stated to have been successful in some instances in drowning the contained larvæ, which emerged from the bulbs and were found in the vessel holding the water and bulbs. Theobald, however, writes (1911 *Report*) as follows:—"Ritzema Bos suggests soaking the bulbs which are suspected for eight days in water, so as to drown the grubs. Some I treated in this manner did not yield good results." *H. C. Long.*

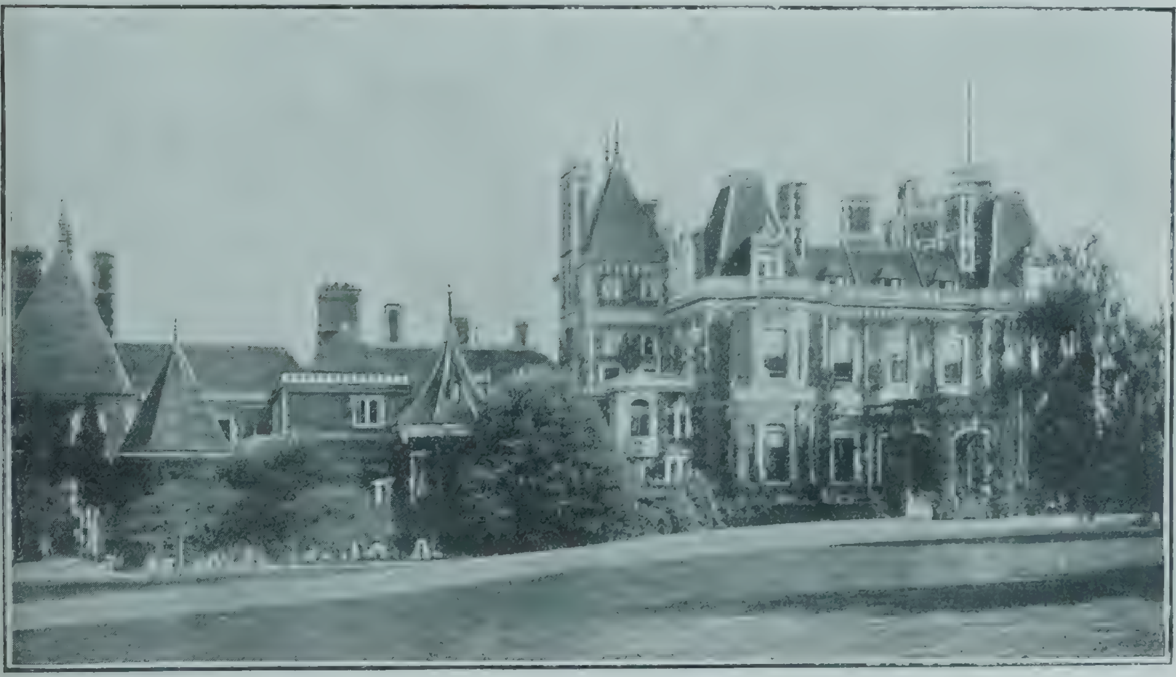

Fig. 125.—NORMANHURST, THE RESIDENCE OF EARL BRASSEY.

NORMANHURST.

The residence of Earl Brassey is separated from that of the Earl of Ashburnham (see p. 208) only by a country lane. Or, to be more correct, the lane is a bond of union between the two estates. The houses themselves are a couple of miles apart, and the one is entirely hidden from the view of the other. Here we are surrounded by contrasts. Ashburnham lies in a dell, Normanhurst on the southern slope of a hill; the former cannot be seen till you are within a stone's throw of the warm, brick pile, the latter, formed of stone, is a landmark for miles. As Ashburnham speaks of age, ripeness and almost of decrepitude, Normanhurst throbs with the beat and energy of youth. Yonder we find relics of the Carlovingian, here of the Victorian age.

Hare speaks of Normanhurst as a very ugly house of bastard Renaissance, in a beautiful situation, with lovely views over sea and land. His statement doubtless is true, so far as his own taste goes, but who that sees the house from below the lake with the rustic bridge in the foreground but will admit that the effect is picturesque in the extreme? Here, then, where the Vetches and Clovers, Dandelions and Hawkweeds, Broom and Gorse, Bracken and Herring-bone grow in wild profusion, as they have grown for ages, we may wander along beautiful roads or well-kept paths, tread the softest of lawns, and gaze upon bed and border filled with choicest of horticultural gems. With the whole country for choice, it would surely have been difficult for anyone to select a more charming spot for a retreat. The district is full of historic interest. To the geologist and botanist the surroundings are as fascinating as to the antiquary.

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§ *Report* on Economic Entomology, Natural History Museum, 1902-3.

In the matter of flowers, the Sweet Pea is a great favourite. At the time of my visit they were just past their prime, but the autumnal glory showed what that of summer had been. The Poinsettia is popular here, and flourishes better than in many places. The brilliancy of the scarlet bracts, when the colour is developed by effective culture, renders it very attractive. I saw some very fine Chrysanthemums and Begonias, but perhaps Carnations may be looked upon as the most favoured of flowers. Plants of Souvenir de la Malmaison were in perfect health, and on July 16 I saw upwards of 400 blooms each in exquisite blush and beauty.

No county can excel Sussex in the matter of Figs. In good seasons they ripen freely out-of-doors, and Normanhurst is no exception. Peaches and Nectarines also succeed well out-of-doors. Of the latter fruit, Victoria and Lord Napier are favourites. Gourds, Melons, Cucumbers, and Tomatos are brought to a high standard. There is little trouble with diseases here, which shows that right methods of culture, ventilation and general treatment have been mastered. The vineries occupy considerable space. Black Hamburghs had done well, and I learnt that Muscat of Alexandria from these gardens had won many first prizes. *Hilderic Friend, Swadlincote.*

NOTICES OF BOOKS.

The Grama Grasses.*

Both "Grama" and "Bouteloua" are unfamiliar words to most of us. Grama is a Spanish word, and Grama Grasses might be rendered gramineous Grasses. Bouteloua is a large genus confined to America, and belonging to the tribe Chlorideæ. Its nearest relation among our native Grasses is Cynodon Dactylon, which grows on sandy shores from Dorset to Cornwall. Mr. Griffiths defines 36 species of Bouteloua, with which he associates the genera Triæna, Pentarrhaphis, and Cathestecum, comprising jointly half-a-dozen species, all restricted to the Mexican region. Bouteloua ranges from Canada to the Argentine, and certain species are specially characteristic of dry regions in the west, both in the north and the south. The author says: "It is doubtful whether there is another group of native pasture Grasses which is of as much economic importance as this, when both quality and quantity are considered. In the northern prairie region, Bouteloua gracilis forms a very large part of the so-called Buffalo-Grass formations, and makes a very fair sod over thousands of square miles." In the arid south-west, the species of Bouteloua are not turf-formers, except at altitudes of 5,000 to 7,000 feet, but they furnish the greater part—and the better part—of the feed from 7,000 feet down to the driest desert mesas and lowlands. Some half-a-dozen species include the main pasture Grasses over very large areas of the highlands of Mexico. With regard to their adaptability to cultivation, the author states that many efforts were made from about 1892 to 1900 in the United States to cultivate the different species of Bouteloua. But, although they all respond readily to cultural treatment, they have not a good seed habit, hence he is doubtful whether even the most valuable species can become of importance in cultivation. Apart from the fact that they are not free seeders, there are difficulties in collecting and cleaning such seed as there is, and the whole spike has to be sown. Nevertheless, good yields of hay can be secured from the perennial B. curtipendula. The plates illustrating this admirable and comprehensive monograph are mostly reproductions of photographs of landscapes in which the various species of Bouteloua are characteristic features. Others represent areas of Bouteloua curtipendula and B. gracilis under cultivation. The analyses of the flowers and inflorescences in the text have all the appearance of being correct and sufficient. From a practical standpoint, Mr. Griffiths' account of these Grasses is worth the attention of the farmer in South Africa and Australia. *W. Botting Hemsley.*

The Early Naturalists.*

This account of the lives and work of the early naturalists will be read with profit by all who are interested in the study of nature. There will be, however, perhaps one class who will not view with entire satisfaction its appearance, and those are collectors of old books on this subject, for we have no doubt that many new converts will be made to this fascinating pursuit, and market prices will rise in sympathy with the demand.

The scope of the work includes writers from the early 16th century, when interest in natural science began to awaken after its prolonged slumber, and ends with Darwin, when, as the writer justly remarks, a new page was turned. Whilst a considerable portion deals with zoology, there is much on botanical and, incidentally, horticultural subjects likely to interest readers of this paper.

The writer emphasises the remarkably slow growth of observation and experiment, and this is not without its applications even in the present time, when the multitude of books tends to make a superficial talk easy and real investigation scarce. Space will not permit any detailed examination of even the botanical portions of the work: suffice it to say that the reader will find in a condensed form the progress of the development of botanical science written in an easy and lively style.

A few points of criticism may be noticed. On p. 149 it is related of Henshaw that he exhibited at the Royal Society "Spirals of Nut trees, showing that they grow snailwise." The author remarks that these must have been Hazel stems strangled by Honeysuckle. We consider it more likely that they were stems of the variety of Hazel which grows naturally corkscrew-wise, and which may still be found "in gardens of the curious."

In writing of the microscopical work of Swammerdam, we are told, on p. 178, that "he knew how to render anatomical preparations transparent by balsam." It is somewhat of a surprise, therefore, to read, on p. 187, that the same investigator "gives as good a representation of the eye of a bee as could be obtained in the days *when there were no transparent sections.*"

A good account is given of the work of Linnæus, and the author endeavours to dispel the opinion commonly held that the credit of the system of binomial nomenclature we use is due to the great Swedish botanist, whereas, like all great systemists, he owed this and much else to previous workers, but to him is due the credit of obtaining for it a general acceptance. The great influence of his name and work threw, as the author points out, a devastating influence over European botany, as its aim and end for many long years were mainly an accurate disposition of labels rather than any real study of plants, and the traces of this influence, we fear, still remain. We miss, in the account of Linnæus, any mention of the great and valuable work done in this country by James Lee, of Hammersmith, in popularising the sexual system: the fact that this was considerable was acknowledged by Linnæus himself. But these criticisms are small matters in view of the pleasure naturalists will feel in reading this most fascinating history. We hope that a second volume, in due course, may carry on the story up to modern times. *E. A. B.*

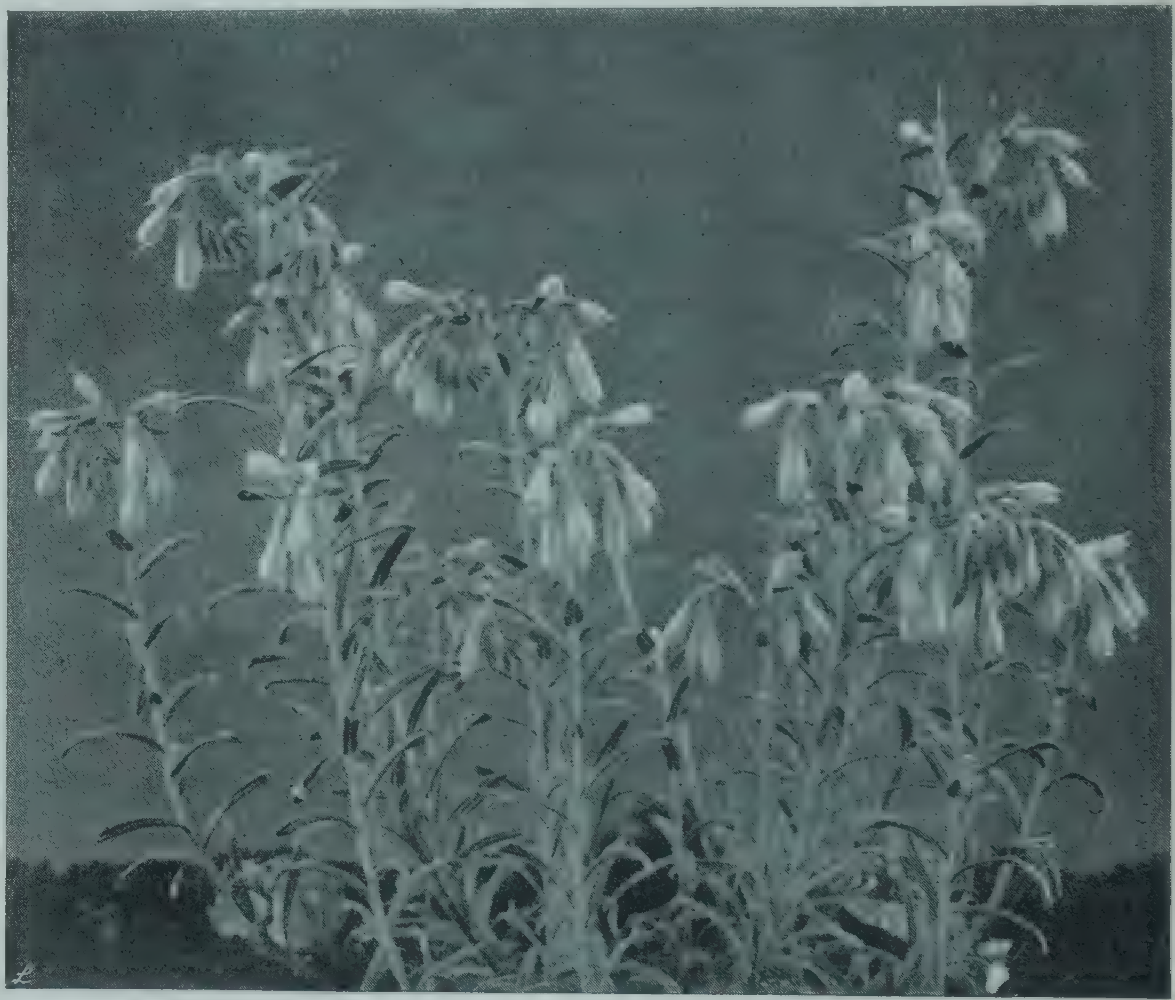

Fig. 126.—onosma helveticum.
(See p. 281.)

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* *The Grama Grasses: Bouteloua and Related Genera*, by David Griffiths. Contributions from the United States National Herbarium, xiv, pp. viii + 343–428, plates 61–83, with numerous analytical figures in the text. 1912.

* *The Early Naturalists*, by L. C. Miall, D.Sc., F.R.S.

ONOSMA.

The Onosmas have their headquarters in south-eastern Europe and Asia Minor, but what perhaps is the most distinct species, O. pyramidalis, which has scarlet or crimson flowers, is a native of the Himalayas. This species is very rare, and I am not aware that it is at present in cultivation. Fifteen species are found in Europe, but probably not more than ten in all are grown in gardens. The Onosmas are all essentially plants for sunny places, and should be planted in poor, stony soil with perfect drainage. In rich ground they make luxuriant growth in summer, but are very liable to damp off during the winter. Most of them are easily cultivated and are readily raised from seed, but, as a rule, they dislike transplanting when they have attained a moderate size. It is, therefore, advisable to grow the seedlings in small pots, and plant them as soon as they are well rooted. One of the exceptions to this rule is the beautiful O. albo-roseum, which makes plenty of fibrous roots, and may be transplanted with success if the work is done carefully. Of the species in cultivation the following are six of the best :—

O. albo-roseum.—This species, a native of the mountains of Asia Minor, is of spreading, subshrubby habit and forms in cultivation a cushion-like plant about 6 inches high. The evergreen, silver-grey leaves are covered with stiff hairs. The handsome flowers, which are freely produced in clusters, are somewhat Pear-shaped in outline, white, tinged with rose at first, but changing to pink. During the month of June it is a most attractive plant, the white and pink flowers harmonising well with the hoary foliage. Seeds are freely produced and germinate readily. There is a form with white flowers, known as O. album.

O. arenarium.—This species is of somewhat bushy habit, with branching stems about 1 foot in height. The lower leaves are some 8 inches long, and less than ½ inch broad; they are covered with stiff, bristly hairs. The stem-leaves are broader and sessile; the flowers are pale-yellow or nearly white. The plant is a native of Eastern Europe and the Caucasus, and is usually found in arid, stony places.

O. Bourgæi is a handsome species, native of Armenia, producing large, white bell-shaped flowers in June. Like A. arenarium, the plant is strong-growing, and possesses hairy foliage. Being a biennial, stock must be raised from seeds annually; seeds are produced somewhat freely.

O. echioides.—The well-known "Golden-drop," with its masses of large, bright-yellow flowers, is one of the most popular plants in the rock garden in June. It is a widely-spread species, its habitat extending from Western Europe into Asia Minor.

O. sericeum (see fig. 127).—This species is a comparatively recent introduction from Asia Minor. The plant has a suffrutescent base, with freely-branching stems, bearing rosettes of silky, grey leaves from 3 inches to 4 inches long. The leafy flowering stems are from 6 inches to 9 inches high. The flowers vary in colour from pale-yellow to white, tipped with pink. O. sericeum is a free-growing plant, and does well on sunny ledges planted in stony soil.

O. stellulatum.—The habit of this plant is somewhat like that of O. sericeum, but taller. The pale-yellow or citron-coloured flowers appear in May and June. The species is a native of Eastern Europe. Plants are easily grown from seed, and, like all the others, succeed well in poor soil in sunny situations. O. helveticum (see fig. 126), the Swiss form of this species, has rather broader leaves, and is not so tall as the type. Both plants are very apt to damp off in winter, and are not so long-lived as O. echioides. *W. I.*

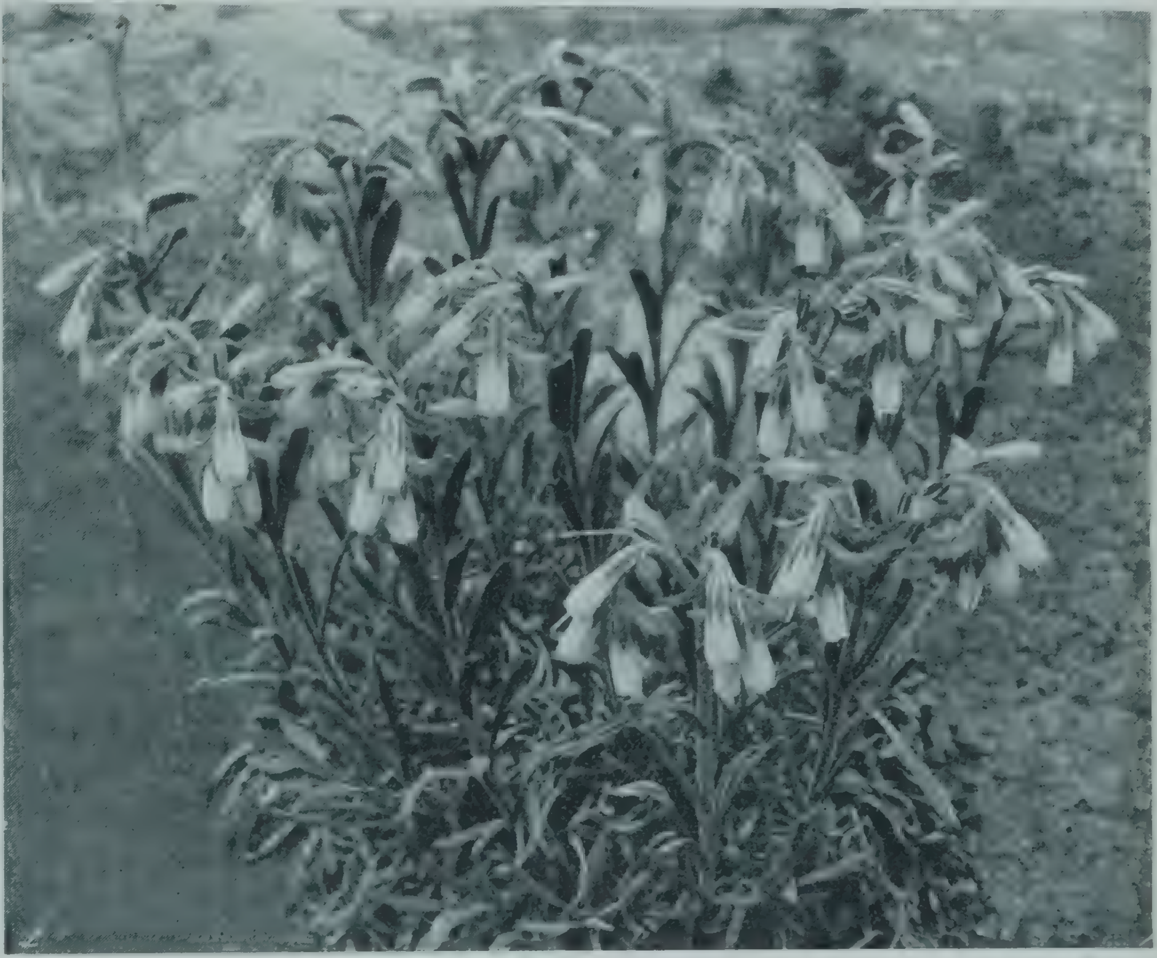

Fig. 127.—Onosma sericeum.

PLANT NAMES FROM ANIMALS.

(Concluded from p. 258.)

Beside these bird-names given to particular plants, there are other more general names drawn from bird life, but not from any particular bird, such as Bird-cherry, Bird's-eye Primrose, Bird's-foot, Bird's-nest Fern, Bird's-tongue (Ornithoglossum), and Ornithogalum, from ornis and gale, a plant so named by Dioscorides and Pliny, probably from its white flowers, and now called by us Star of Bethlehem.

There are also some plants named from the wing or feather of a bird, pteron. The name Pteris is applied to the whole family of Ferns, and was given to a Fern by Theophrastus. It is found in the Ferns Oreopteris, Thelypteris, Cystopteris, Phegopteris, Dryopteris, and in the Bracken, Pteris aquilina, which is another plant-name for the eagle, and points to the figure of the bird shown when the stem is cut across.

From the birds I go to the beasts, meaning chiefly quadrupeds. I omit all names derived from man or human nature, and I go at once to the king of beasts, the lion. From the Greek leon, and the Latin leo, and the English lion, we get many names, but it is rather curious that the name leo has been generally given to low-growing plants and to plants we may call weeds. Thus the lion is best known in the Dandelion, Dens leonis, Dent de lion, a very beautiful plant, but we rank it as a weed. Then we have Leonotis or Lion's Ear, Leontopodium or Lion's Foot, the botanical name for Edelweiss, and Leontice, from leon and eikos, resemblance, because the leaf is like the stump of the lion's foot. From the tiger we get Tigridia and the Tiger Lily, and from the leopard we get the Leopardsbane (Doronicum), Pardanthus and the Lilium pardalinum. Wolf, lupus, has many plants named from him, as the Lupin, named by Virgil and Pliny, but the connection with the wolf is not clear; Lycopsis, which, however, has for its English name Bugloss, i.e., Ox-tongue, the Club Moss (Lycopodium), the Wolf's Berry (Symphoricarpus), and the Wolf's-bane (Aconitum), said to be used to poison wolves. The bear, arctus and ursus, is seen in Arcteum, the Bearberry (Arctostaphylus Uva-ursi), the Bear's-breech or Cow Parsnip, Bear's-ears (Primula ursi Auricula), but the ursi is now dropped, and the Bear's-foot (Helleborus fœtidus). The ox, bos, gives its name to the Bugloss, i.e., Ox-tongue, apparently to the Bullrush, but the derivation is wrong; to the Ox-eye Daisy, Buphthalmum, to the Cow-bane and Cow-itch, the Cowslip, the Cow Parsnip, and the Oxlip, and Vaccinium is from the Latin vacca, the cow. The horse is found with its Greek name hippos and its Latin equus in Equisetum, the Mare's Tail, in the Coltsfoot, and in Hippobroma and Hippophaë. It is used to express coarseness in the Horse Chestnut, Horse Bean, Horse Radish, and Horse Thistle. The ass, onos, is seen in Onobrychis, from onos and brychis, a trumpeting or braying, but I do not know how the name and the plant are connected. Onoseris, Onosma, Onopordon, and Ononis, the Rest-harrow, all get their names from the onos, but they are all far-fetched. In the Rest-harrow, I suppose that when the harrow is stopped by the plant, rest is given to the ass that draws it. The stag is found in the Harts-tongue Fern and buck in the Buckthorn, a Plantain, and in the Roebuck Berry, but the Buckbean is more likely Bogbean. The cat is in Catmint, Cat's Ear, and Cat's Tail, but has many more derivatives. The Greek cyon, cynos, a dog, is in Cynorchis, Cynara, Cynanchum, from its poisonous qualities; Cynodon, the Dog's-tooth Grass; Cynoglossum, Hound's-tongue; Cynosurus, Dog's-tail, also a Grass; and the English is in Dog's-tooth Violet from the root, Dogwood, and Hore-hound; and, as a term of contempt, we have the Dog Violet and the Dog Rose, which was almost the same in the Greek cynosbatos, i.e., Dog-bush; and the Dog's-bane, which gets its name from the Apocynum of Dioscorides, a plant that was supposed to be poisonous to dogs, and not exactly identified. The fox gives its name to the Foxglove. The connection is not at all clear, and folk's-glove is suggested, but the N.E.D. decides in favour of the fox, and that settles the question. Under its Greek name, alopex, the fox occurs in Alopecurus, the Fox-tail Grass. The goat, with its Greek tragus and the Latin caper, is in Caprifolium, Tragopogon, Goat's Beard, Tragacanthus, Tragopyrum, Goat's Wheat, Goat's Rue, and Goatsfoot. The hedgehog, erinaceus, is found in the pretty blue-flowered Erinacea pungens of the Pyrenees, and the sea hedgehog, echinus, is in Echinops, Echinocactus, Echinocereus, and Echinospermum. The hare's Greek name, lagos, is in Lagurus, the Hare's-tail Grass, and in Lagopus, hare's foot, and the English name is in the Hare's-foot Fern, the Hare's-ear Grass, the Hare's-tail Grass, and the Harebell. The dolphin occurs in Delphinium. The Greek name of the pig, hys, is found in the Hyoscyamus, in Hyophorbe, a Palm, of which the fruit is eaten by pigs, while the English names are found in Sowbread (the old name of the Cyclamen), Sow Thistle, Hognut or Pignut, Hog Plum, Swine's Succory, and Swine's Cress. The Greek for the lamb is arnos, and it gives the name to Arnoglossum, probably the Plantain; the English name is in Lamb's Lettuce and the sheep in Sheep's Scabious or Sheepsbit. The squirrel is in the Squirrel-tail Grass. And I finish this part of my subject with the mouse, who carries his Greek name into Myosurus, the Mousetail, and into Myosotis, formerly known as Mouse Ear and now as Forget-me-not. The zebra has of late years given its name to the Zebra Pampas Grass.

There are a few which I cannot rank as quadrupeds, but cannot pass over. There is the mythical dragon, which gives us the Snapdragon and whose Greek name is in Dracæna, or the dragon's blood, and in Dracocephalum, Dracontium, and Dracunculus. The monkey tribe keeps its Greek name, pithecos, in Pithecolobium, the monkey's ear-ring; in English we have the Monkey Flower, Mimulus, and there is good authority for the derivation of the pretty African bulbous flower, Babiana, from the baboon, who eats the bulbs.

I cannot recall any plant-names from amphibious animals, such as the rhinoceros, the hippopotamus, the crocodile, seal, or otter, but the tortoise gives its Greek name to the Chelone and its Latin name to Testudinaria, which has the elephant (Elephantipes) for its specific name. Nor can I recall any plant-names from fishes, except the Fishbone Thistle and the Salmon Berry (Rubus), probably so called in Canada from being found in the places where salmon abound.

I go to the reptilia. From the Greek names, echis, echitis, ophis, and echidna we get Echium, the Viper's Bugloss, Echinopsis, Ophioglossum, the Adder's-tongue Fern, Ophiopogon, the Snake's Beard, the Viper's Grass, the Fern Ophiopteris; and in English only the Snake's-head Iris, the Snake's-head Fritillary, and the Snake's-foot, the fruit of the Arum. The lizard's name is seen in the Lizard's Orchid, and its Greek name, saurus, in the Sauropus and Saururus. The scorpion has its name in the Scorpion Grass, and Scorpion Senna (Coronilla emerus). The frog, rana, is in Ranunculus, in the species morsus ranæ of Hydrocharis (Frogbit), and in the Frog Orchid, while the toad is in the Toad Flax (Linaria), and the Toad's-stool, with its older name of Paddock-stool.

Among the molluscs, I can only find the Medicago or Snail-plant, and the Oyster plant (Mertensia) found on our north-eastern coasts.

I finish with the insects and crustaceans. From its Greek name, melissa, the bee has given its name to the British balm, Melissophyllum, and we have the Bee, Fly, and Butterfly Orchids. The fly is also in the Flycatcher, the Flywort, and perhaps in the Bluebottle.

Cimex, the bug, gives its name to Cimicifuga, the Bugwort. Fleawort and Lousewort either point to the curative power of the plants against the insects, or, according to Pliny, in his account of the Pedicularis, from pediculus, a louse, from the supposed fact that they attract the insects.

From the crustaceans we get the spider, the crab, and the lobster. The spider is in the Spiderwort (Tradescantia) and the Spider Orchid, and his work in the lovely Spider-web (Sempervivum arachnoideum) of the Alps. The lobster is in the bright Lobster-claw shrub (Erythrina), and the crab is perhaps in the Crab-apple, though the name may be from the old word that is found in crabbed, meaning something unpleasant, and in an old account of the fruits they are called Mala amara.

I do not pretend to have given all the plant-names from animals; I know there are more. But I give this list in the hope that, so far as it goes, it will interest some readers, and perhaps induce some to carry the search further. I shall be very thankful to hear of any omissions or corrections, sent either to myself or the Editors of the *Gardeners' Chronicle*, and, in conclusion, I have to thank the Provost of Eton for his valuable help, especially in the Greek and Latin derivations. Having had his help, I have the comfort of knowing that the information I have given on these points is correct. *H. N. Ellacombe, Bitton Vicarage, Bristol.*

The Week's Work.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Viola.—Plants intended for use as summer bedding should be raised from cuttings inserted now. The rains of August started the plants into fresh growth, so that there will be no difficulty in obtaining plenty of basal shoots, which are the best for propagating purposes. In a few favoured districts Violas may be struck and wintered in the open ground, but usually cold frames are necessary. Any old shallow frames are suitable, and there is no necessity for them to be entirely weatherproof, as Violas are best wintered with as little coddling as possible. A light, sandy soil should be used, and this should be made firm. The cuttings should be dibbled in fairly thickly, as they will not grow much before the time comes for transplanting them into their permanent quarters in the spring. Water the cuttings, and, if necessary, shade them lightly during the brightest part of the day, especially if it is sunny when drying winds prevail. Damp the shoots occasionally, and increase the amount of air after the sun has set. The cuttings will root readily, and when roots are formed the plants should be exposed to the air in favourable weather.

Clearing the Flower Beds.—Frost may now occur without much warning, and plants required for use another season must not be allowed to remain in the beds longer than is necessary. Standard and pyramidal plants are too valuable to risk losing from frost, and should be lifted carefully and potted without delay. They should be placed in a cool house, and watered very sparingly during the winter. If the stock of cuttings of bedding Pelargoniums is insufficient, some of the old plants should be potted. These may either be grown on for furnishing vases or large beds next season, or they may be placed in a fairly warm house and started into growth to supply a stock of cuttings early in the new year. Grevilleas, Cordylines, Heliotropes, Abutilons, Agaves, Fuchsias, and other more or less tender subjects that have been used as dot plants should also be lifted and housed.

Plants in Tubs.—Specimen plants in tubs employed on terraces, verandahs, and other prominent positions, are beginning to look shabby, and should be removed to a place where they may be protected when necessary. If it is not convenient to bring them in the glass-houses for the present, the hardier subjects may be stood in a sheltered yard or corner, where they may remain for some weeks to come. Hydrangeas and similar subjects may be left out-of-doors for some time, and will come to no harm if a little tiffany or shading material is thrown over them when frost is expected. If house room is limited, these plants may be wintered in a barn, stable, or similar structure. Certain deciduous plants, such as Aloysia, the lemon-scented Verbena, and Fuchsias, may be wintered under similar conditions.

Preparations for Spring Bedding. — As soon as the summer occupants are removed, the beds should be prepared to receive the spring-flowering plants. The ground should be trenched or dug deeply, for many summer-flowering plants are gross feeders, and soon exhaust the soil. Ground intended for Polyanthuses, Wallflowers, and Myosotis should be well manured. As a general rule, the beds should be trenched and manured now, so that, when the time arrives for clearing the beds and preparing for summer bedding next May, a moderate digging and the addition of leaf-mould or spent manure from an old Mushroom bed will be all that are necessary. In any circumstances, the work of preparing the beds should be pushed on, as such plants as Wallflowers, Polyanthuses, and Aubrietias should be planted in their permanent quarters without delay. The ground is still fairly warm, and the plants will quickly re-establish themselves, whereas, if planting is left till late in the autumn, the frost finds the ground soft and unsettled, and the plants tender, so that many are killed.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Preparations for Planting.—In gardens where it is intended to plant a large number of fruit-trees, a quantity of fine compost should be prepared and wheeled on the ground near the stations during dry weather, for scattering among the roots. The site for the trees should be well prepared; the soil should be well drained and, for dwarf trees, dug to a depth of 2 feet, but for standards and other tall trees it should be worked to a greater depth. Dwarf trees are the most profitable, and the most convenient for small gardens. Do not plant in heavy, cold land if it can be avoided; where the soil is naturally unsuitable, much may be done to improve it by adding road-scrapings, lime rubble, wood ashes, and similar materials that will provide a more open texture. In the case of such fruits as Apples and Pears, manure should not be used at the time of planting, but it may be freely incorporated in the soil when Gooseberries, Currants, and Raspberries are planted. Thorough preparation of the ground is necessary to obtain the best results in fruit culture, and trenching is to be recommended, as its good effects are lasting. An important matter, especially in the case of heavy soils, is efficient drainage. In the case of wall trees, a layer of rough lime-rubble, broken bricks, or similar material should be placed at the bottom of the trench, which should be from about 18 inches to 2 feet deep. Where young trees are planted in the place of worn-out specimens, the soil should be removed entirely, and replaced with fresh compost, as the food constituents will have been exhausted by the older trees. Stone fruits require plenty of calcareous matter in the soil, but this is not so necessary in the case of Apples and Pears. If the materials are mixed in readiness and stored under a shed, it will save much time when the work of planting is being done. Select only varieties which are known to do best in the district, and purchase good trees from a reliable source. Another important matter is the kind of stocks on which the trees are grafted, for cheap trees are not always grafted on the most suitable kinds. For general purposes the broad-leaved Paradise is the best stock for Apples, while Pears do best on the Quince and Cherries on the Mahalab. But large Pear trees need to be grafted on the free stock, and standard Apples on the Crab, as these stocks have a strong, deep root-system which enables the trees to withstand strong wind. Certain varieties of Pears do best when they are double-grafted, and this point must be taken into consideration. It is best to plant only a few varieties, selecting those that are known to do well in the particular neighbourhood. A trial should be given to a few of the novelties each season, to ascertain if they are capable of giving better results than the older varieties.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Cucumbers. — To maintain a continuous supply of Cucumbers during late autumn and winter, close attention must be given to the plants' requirements. One of the chief points is to keep the temperature as equable as possible without using too much fire-heat. A minimum temperature, ranging between 65° or 70°, according to outside conditions, is suitable. Less moisture, both at the roots and in the atmosphere, must be used than during the summer months; an excess of moisture during winter is likely to result in an attack of "spot" disease. Should this complaint appear, syringing should be discontinued, though the atmosphere must be kept moist by damping the paths and walls of the house. Red spider must be guarded against; should it appear, syringe the foliage with a solution of soft soap and sulphur, as it is very important to keep the plants free from this pest during the winter months, when growth is slow. Stop the shoots at the second or third leaf, and train them evenly over the trellis, allowing plenty of room for the leaves to develop. Keep the glass, both inside and outside, quite clean, so that all the light available may reach the plants. Avoid overcropping, and cut the fruits before they become too large; if not required for immediate consumption, place them in a cool cellar, where they will keep fresh for a considerable time. Apply a top-dressing of fibrous loam, decayed leaves (which should be clean and sweet), and a little well-decomposed horse manure as often as roots appear on the surface. It is better to add a little of these materials at frequent intervals than to apply a heavy dressing at one time. Admit air carefully through the top ventilators whenever the weather permits. On cold nights it is good practice to place coverings over the glass to conserve the heat.

Tomatos.—Old plants which have nearly finished cropping should be thrown away, cutting off any fruits which are likely to ripen. Plants which are swelling their fruits must be liberally fed with stimulants, such as liquid manure from the farmyard, soot water, and an occasional sprinkling of fertiliser. Apply a top-dressing of rich materials when there are plenty of roots on the surface. Side shoots should be removed regularly, and leaves which are likely to prevent the sun ripening the fruits should be cut back. Attention must be given to the setting of the fruits on the later plants, as the flowers do not set readily at this time of the year. Maintain a free circulation of air in the house, but avoid cold draughts. Pollinate the flowers about noon. During bright weather a sharp tap on the stem will be sufficient to distribute the pollen, but when the weather is dull and cold the flowers should be dusted with a brush. Sufficient artificial heat must be employed to keep the temperature at about 60°. When plants with plenty of roots have set one or two trusses of fruits, stimulants should be given as advised above. Towards the end of this month seeds may be sown for raising a batch of plants that will fruit early next year. Sow the seeds very thinly in shallow pans in a light compost, and place them in a warm, moist atmosphere till the seedlings are well through the soil. The young plants should be placed in a light, airy structure quite near to the glass. A temperature of about 55° or 60° will be suitable during the winter months. Select a free-setting variety of good constitution, such as Winter Beauty, Sunrise, or Dwarf Red.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Begonia Gloire de Lorraine.—These plants make a considerable amount of growth even after they have commenced blooming, therefore the shoots must be tied constantly in order to secure shapely specimens. Plants of later batches that have not been afforded stakes should be attended to in this respect at once; a single stick placed in the centre of the plant will suffice in most cases. Plants intended for exhibition purposes must receive regular attention, training the shoots free from each other, so that they may develop to their fullest extent. This variety of Begonia should always be allowed plenty of space, especially when the plants are coming into bloom, at which stage they should receive rather more air and less warmth than before, for the blooms develop better and keep in a good condition longer under cool conditions. Begonias of the Winter Cheer type should be growing freely, and the flowers, being rather heavy, need to be supported at an early stage. Each main shoot should be secured to a light stake. All winter-flowering Begonias have made plenty of roots, and may be afforded liquid manure whenever moisture is required, which will not be very often at this season, unless the plants are near to the hot-water pipes. The roots may also be fed frequently with a little fertiliser, such as Valsal, which adds colour both to the foliage and flowers.

Cineraria.—These plants are ready for transferring to their flowering pots. Select receptacles suitable to the size of the individual plants, those of 6 inches or 8½ inches in diameter being the most useful sizes. By potting now the plants will have time to form new roots, and get well established before the winter.

Primula.—If this work has not been done already, Chinese Primulas should be potted at once in their flowering pots, receptacles of 4½ inches and 6 inches being suitable: the smaller pots are preferable if the plants are required for purely decorative purposes. Primulas need a higher temperature than Cinerarias, and may be accommodated in a glasshouse if the space is available, or they may be placed in a heated frame for a time. The earliest plants will soon be in bloom; if they are growing in moderately-small pots they may be given liquid manure. Although P. malacoides is almost hardy, the plants are liable to lose a considerable amount of foliage if they are allowed to remain too long in a damp frame. When the plants are coming into bloom, they should be allowed plenty of air.

Calceolaria.—Greenhouse Calceolarias also need potting. The plants may still be left in a cold frame, but they should be removed to a warm greenhouse during times of severe frost.

Propagation.—Certain decorative plants, including Panicum, Tradescantia and Lycopodium may be propagated from cuttings now, and will provide useful little specimens by the new year to take the place of old and worn-out plants.

Watering.—All kinds of indoor plants need to be watered with extra care at this season, especially those of a soft-wooded nature. Syringing also must be reduced, and if overhead syringing is necessary in the warmer houses to keep down insect pests, it should only be done once a day, and in the morning after the temperature has risen a little. Even then syringing must be done very lightly or the water may run down the stems, and cause the roots to become too wet. As the weather becomes colder, it will be wise to drop the temperatures of the houses also, rather than resort to an excess of fire-heat.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Leaves for Forcing Purposes.—The trees will be shedding their leaves freely, and a supply should be procured for the making of hot-beds. It is very necessary that fallen leaves are promptly removed from the kitchen garden, as, besides being untidy, they may smother young growing plants. In nearly every establishment there is a demand for early vegetables, and where heated pits are not available (and even to augment the supplies produced by means of these), cold frames placed upon a bed of leaves will be found of excellent service. The leaves will provide sufficient heat of a lasting and mild nature for gentle forcing. An enclosure should be made, if one does not exist already, for storing the leaves. Stout posts and boards are necessary for the purpose, and those creosoted last the longest. Old railway sleepers are splendid for the purpose, and will last for years. The leaves should be well trodden down; large pieces of boughs or other rubbish should be discarded. Leaves when decayed are excellent material for wheeling on to vacant ground. Each year we remove the older half of our stock and fill up with new material.

Frames.—Excepting those that are required for wintering the various crops, the surplus portable frames should be stored during the winter months. If they are not placed under cover they should be raised off the ground; during inclement weather they may be brought into a shed, dried, repaired if necessary, and painted. I have before emphasised the great value of having them of a standard size, so that the lights may be transferred from one frame to another as required.

Maincrop Potatos.—Maincrop Potatos are badly diseased, and even those that were clamped some time ago have become more diseased. It will be prudent to examine the tubers in the clamps and reject all that are unsound. Keep the ridges protected from heavy rains by means of tarpaulins or other suitable material, removing the covering on dry days, and delay soiling the clamps permanently for a time. Sprinkle lime freely amongst the tubers as I advised in a recent Calendar.

Seakale.—This vegetable is generally in request for November parties, and for the earliest supplies the use of retarded crowns is to be recommended. In such a season as this the plants in the ground have a tendency to continue growing at this period. Seakale is conveniently forced in the same manner as recommended for Chicory, but should, for preference, have the warmest position in the house. If a darkened place is formed in a warm house, retarded crowns will furnish a supply of stems in from three weeks to a month.

Runner Beans.—When the plants are destroyed by frost they should be pulled up, the haulm stripped from the sticks and the ground cleared. Protection on frosty nights will often prolong the cropping for a considerable time, but if protective material is used care must be taken to keep it away from the foliage, otherwise the leaves are bruised, and the damage is worse than that from exposure.

Leeks.—Late Leeks that were planted in holes bored in well-prepared ground have done exceptionally well this season, and little attention beyond an occasional hoeing of the soil has been necessary. Watering with farmyard manure will assist the stems to swell and improve the quality of the Leeks for cooking purposes.

Winter Greens.—A few late plants may be planted on vacant ground, and, provided the winter is not too severe, will prove useful later. The earliest-planted Kales have made wonderful growth owing to the wet season, but they are rather tender, and fine weather is needed before sharp frosts set in. Stir the land occasionally and support any plants that need this attention. Remove decaying foliage so that the air and light may reach the plants.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Cleansing the Houses.—The glass, both inside and outside, and the woodwork of the plant houses should be thoroughly washed, in order that the inmates may receive all the light available. Before commencing the work, if it is convenient to do so, the plants should be moved to an adjacent compartment to prevent the foliage from becoming soiled with the water. Where this cannot be done the house should be washed in sections, and the plants protected with shading material suspended next to them. Soft soap should be mixed with tepid rain-water, but not in sufficient quantity to damage the paint. The soapy water should be syringed from the paint-work with clean water after the scrubbing is finished. The stages and walls should be scrubbed, and if the former are covered with shingle, this should be washed as well. The pots should be scrubbed, the plants cleansed of scale and all other insect pests, and diseased pseudo-bulbs and leaves removed. Any young growths that are in need of support should be neatly tied to stakes, but not so tightly as to prevent the future development of the pseudo-bulb or young growth.

Restaging.—In rearranging the plants on the stages take into consideration their various requirements. They should not be placed too near to the roof-glass—no part of the plant should be nearer than 8 inches—and those that are suspended should be placed midway between the bars of the roof to escape dripping moisture, as this often causes serious injury to the foliage.

Temperatures.—From now onwards for the next few weeks the night temperatures of the various compartments should be maintained as nearly as follow:—East Indian house, 70° to 75°; Cattleya house, 65° to 70°; intermediate house, 60° to 65°; and Odontoglossum house, 52° to 55°. The higher readings should be maintained only when the outside temperature does not fall below 45°. If the outside conditions are colder the lower readings are preferable. Frost may occur suddenly, especially in the early mornings, causing the temperatures of the various houses to fall a little below the proper degrees. On such occasions no water should be afforded the plants, neither should damping be done until the houses are sufficiently warm again, as a cold, moist atmosphere is invariably the cause of "spot" and disease appearing in many kinds of Orchids. It is safer to err a trifle on the warm side at night rather than to run the risk of low temperatures in the morning, as a little extra heat may be regulated by ventilation. With the advent of cold nights slugs will become more plentiful in the houses, and if not destroyed will do great damage to the roots of the plants, and destroy the flower-spikes. These pests should be trapped by means of Lettuce leaves or damp bran placed between the plants and searched for after it is dark, with the aid of a lantern. Cockroaches, also, become more troublesome as soon as extra fire-heat is employed. These pests may be destroyed by Ramsden's beetle paste, or some other suitable poison placed in their haunts.

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Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, OCTOBER 14—
United Hort. Benefit and Prov. Soc. Com. meet.

WEDNESDAY, OCTOBER 16—
North of England Hort. Soc. meet. at Leeds. (Lecture by Rev. J. B. Hall on "Apple Culture.")

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—49·7.

ACTUAL TEMPERATURES:—

LONDON.—*Wednesday, October 9* (6 P.M.): Max. 61°; Min. 42°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, October 10* (10 A.M.): Bar. 30°; Temp. 52°; *Weather*—Slight fog.

PROVINCES.—*Wednesday, October 9:* Max. 54° Spalding; Min. 52° Aberdeen.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY, WEDNESDAY AND THURSDAY—
Dutch Bulbs, Rose Trees, Shrubs, Perennials, &c., at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

MONDAY TO SATURDAY—
Nursery Stock, at The Nurseries, South Woodford (by order of Mr. John Fraser), by Protheroe & Morris, at 11.30.

WEDNESDAY—
Trade Sale of Bulbs, at 1; Palms and Plants, at 4, at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

WEDNESDAY AND THURSDAY—
Nursery Stock at Lindfield Nurseries, Haywards Heath, by Protheroe & Morris, at 11.30.

FRIDAY—
Established Orchids, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12.45.

Our Food Supplies. The extent to which this country is dependent on foreign supplies of food-produce has recently been the subject of considerable controversy. Some experts have computed that so little as one-fifth of our total food is raised at home; others have put the home-grown food-stuffs at one-half of the total. The former estimate is based, probably, on the fact that, of Wheat, including grain and flour, about one-fifth or less is grown at home. That this is the case is shown by the statistics issued recently by Mr. Rew, the assistant secretary of the Board of Agriculture, who computes that the value of home-grown Wheat, &c., is £10,000,000, and that of imported Wheat £48,000,000. This ratio, however, is by no means an index of that which obtains between home-raised and imported food-stuffs of other kinds. Thus, from the same statistics, we learn that the value of home-raised meat is £78,000,000, and that of imported meat only £51,000,000. Making allowance for the fact that the meat raised at home commands a higher price than that which is imported, it yet appears true that we raise more cattle for food purposes than we import.

In the matter of poultry, eggs, rabbits, and game, considerably less than half comes from abroad. Nevertheless, the fact that £10,000,000 worth of these commodities is obtained from foreign countries shows that a market awaits the enterprising smallholder of this country if he can compete in price with the foreigner. The same remark holds good for dairy produce, the imports of which realise the gigantic sum of £35,000,000 per annum. The extent of the foreign fruit trade may be gauged by the figures supplied in the statistics. Whereas the home produce realises yearly only £6,000,000 sterling, foreign fruit fetches £16,000,000.

The only vegetable food stuffs with respect to which the home grower appears to hold his own are those classed as vegetables, and it will come as a surprise to those who know the extent of imports from France, Italy, Sicily, Algiers, and elsewhere that the value of the imports of vegetables is only £4,000,000 sterling, as compared with £20,000,000, the value of the home-grown produce. The cash price paid for the larder of this country is nearly £350,000,000 per annum, and of this sum we pay one another £167,000,000, and the foreigner £180,000,000, so that, roughly speaking, about half of our food supplies for which money is paid comes from overseas. A careful perusal of these interesting statistics brings to light many other facts of interest. Thus it appears that, under the pressure of economic force, our tastes are changing. We eat less cheese than formerly, because it pays the farmer better to sell his milk than to make butter and cheese. For the same reason, 70 per cent. of the butter which we consume is of foreign origin. Again, it will be a matter of congratulation to those who believe in meat-fed men, and a matter of regret for those who favour vegetarianism to learn that we each consume, on the average, 130 lbs. of meat per annum. Ominous and striking is the way in which our imports of fruit advance year by year. A comparison of the fruit imports of 1910 with those of 1911 shows that the practice of buying more and more foreign fruits applies to Apples, Pears, Cherries, and Grapes, as well, of course, as to the ubiquitous Banana, of which no fewer than 6¾ million bunches were imported last year.

Farm Orchards. An interesting *Bulletin* (*Farmers' Bull.*, 491) has been issued by the U.S. Department of Agriculture under the title of "The Profitable Management of the Small Apple Orchard on the General Farm." The purpose of the *Bulletin* is to draw the attention of farmers who possess orchards to the fact that there is considerable profit to be made by the proper exploitation of their fruit-quarters. Many of the statements in the introduction to the *Bulletin*, which is written by Mr. M. C. Burritt, apply with equal force to the small farm orchards of this country.

Mr. Burritt points out that in earlier days farmers knew little of scientific orchard management and cared less. The orchard was not looked on as a source of profit, hence was left to take care of itself. As a result, where conditions were unfavourable, the trees became stunted, scrubby, diseased and unproductive. The trees, set too thickly, pushed up till they reached an unmanageable height. Often planted in grass, the hay was taken and nothing returned, or else, when not in grass, rotations of crops were taken and the trees starved. The traveller in this country may also have seen such orchards.

Now, as the writer of the *Bulletin* points out, conditions have changed. Apples are in increasing demand and a certain measure of profit is to be made even out of the small orchard. Hence he asks and answers the question: "Will it pay to rejuvenate the old orchard trees?" The answer, which is based on data collected from orchards in West New York State, is in the affirmative. These data show that average yields obtained from orchards which have—at all events recently—received proper treatment range in different years from 50 to 225 bushels per acre and the price from 2s. to 4s. a bushel. That is, these orchards produce an annual gross return of from £7 10s. to £33 15s. per acre. The last figure appears high, even for America, and the author is careful to point out that the estimates represent returns greater than can be expected from an ordinary farm orchard.

The first step to be taken by anyone who contemplates improvement of his orchard is, of course, as Mr. Burritt points out, to ascertain whether it is one which will pay to rejuvenate. Orchards with a poor stand of old trees, with unprofitable varieties in unsuitable situations, and those with trees wasted by disease, are hopeless. But if the orchard pass these tests it may be made more profitable, and the latter part of the *Bulletin* is concerned with the methods whereby this end may be achieved. Advice is given under four heads: Pruning, fertilising, cultivating, and spraying.

Before giving details of these several operations Mr. Burritt lays down a general scheme of operations: if in sod, plough in autumn about 4 inches deep; if not in grass, plough in late autumn or spring. Spread manure in winter, 12 to 15 loads of farmyard manure to the acre, or give a complete artificial manure in spring. Cut out all dead and diseased wood before growth starts, head back the high limbs and thin to admit air and light. Lime the soil (1,500 to 2,000 lbs. to the acre) and work it and the manure into the soil with a disc harrow or spring-tooth harrow. Keep up this cultivation till midsummer. After cultivation ceases for the season, sow a cover or green manure crop to plough in the following spring. Clover may be used or Rye or Buckwheat. Spray according to instructions given in State and Government publications. Then follow detailed recommendations under the heads we have mentioned. With these, however, it is unnecessary for us to deal, our purpose being accomplished in showing how thoroughly the interests of the farmer are looked after by the U.S. Department of Agriculture.

Supplementary Illustration.—The "Scarlet Odontoglossum," mentioned in a letter by the collector Bowman, in 1867, which was supposed to be based on an erroneous conception of the colour of Miltonia vexillaria, was a standing joke among orchidists for many years, but the advent of the charming Cochlioda Noezliana gave the opportunity to the hybridist to cross that plant with Odontoglossum, and in effect give us the "Scarlet Odontoglossum." Certain of the Odontiodas approach in size and shape so nearly to Odontoglossum crispum, with the scarlet colour predominating, that for garden purposes they are of similar value, especially as the Cochliodas and Odontiodas are like the Odontoglossum, cool-house plants and of easy culture. Most orchidists will remember the first of the race, Odontioda Vuylstekeæ (Odontoglossum Pescatorei × Cochlioda Noezliana), which evoked such great interest at the Temple Show, 1904, when it was shown by the raiser, Monsieur Chas. Vuylsteke. Odontioda Bradshawiæ (O. crispum × C. Noezliana), raised by Messrs. Charlesworth & Co., followed in 1907, the same firm exhibiting as a grand novelty at the Temple Show, 1908, O. Charlesworthii (C. Noezliana × O. Harryanum) of a deep, blood-red colour, and these two are still amongst the best of all the Odontiodas. Then came O. Goodsoniæ, of unknown parentage; O. gattoniensis (C. Noezliana × O. Kegeljanii), and in 1909 O. Lambeauiana (C. Noezliana × O. Lambeauiana), the Westonbirt variety of which, by the kindness of Lieut.-Col. Sir Geo. L. Holford, K.C.V.O., is reproduced in the Supplementary Illustration. Its merits as a brilliantly-coloured, cool-house Orchid may be seen readily by reference to the plate. A peculiarity in these crosses of Cochlioda Noezliana is the persistence with which the progeny retains the red colour of that species, either unbroken or diffused, and seldom in clear blotches, as might be expected when crossed with blotched Odontoglossum as in the Odontioda Lambeauiana, whose parent Odontoglossum Lambeauianum results from crossing O. Rolfeæ (Harryanum × Pescatorei) with a blotched O. crispum. Odontioda Cooksoniæ (C. Noezliana × O. ardentissimum) was one of the attractions of the Temple Show, 1909, and since that time there has been a steady increase of these brightly-coloured hybrids, the last being the pretty scarlet and rose-pink Odontioda Margarita, shown by Monsieur H. Graire at the meeting of the Royal Horticultural Society on September 24 last, and raised from Odontoglossum madrense and Cochlioda Noezliana. Secondary crosses have also been made, one of the best being Odontioda King George V (Odontioda Vuylstekeæ × Odontoglossum laudatum), which was illustrated in *Gardeners' Chronicle* May 28, 1910, p. 349. In this and some other secondary hybrids the colour is more broken up and displayed in large blotches, but the red tint is retained, and in time the counterparts of the existing purple and brown-blotched Odontoglossums may be secured with scarlet or some shade of red in their markings. The future of these desirable Orchids is promising. Mr. de Barri Crawshay, who has produced already improved forms of the best types, and, by way of experiment, has made various crosses which could not be in advance of known kinds, has yet many to develop; Sir Jeremiah Colman, Mr. William Thompson, Mr. R. G. Thwaites and others are still raising crosses, whilst many Orchid nurserymen are also actively engaged in this promising field.

Royal Horticultural Society.—In connection with the show of autumn-blooming Orchids to be held on November 5 and 6 next, there will be a conference in the Lecture Room of the Royal Horticultural Society at Vincent Square, Westminster, on Wednesday, November 6, from 11 a.m. to 4 p.m., when Mr. J. Gurney Fowler, the treasurer of the Society, will occupy the chair. The following papers have been promised:—(1) "Some Epiphytical Orchids," by Mr. H. G. Alexander; (2) "The Physiology of Fertilisation," by Professor Keeble; (3) "The Application of Genetics to Orchid Breeding," by Major C. C. Hurst; (4) "Albinism in Orchids," by Mr. R. G. Thwaites. As the seating accommodation of the Lecture Room is limited, seats should be secured beforehand by application to the secretary, who will be pleased to forward reserve seat tickets to those applying for them as far as the accommodation will allow. *W. Wilks, Secretary, R.H.S.*

National Vegetable Society's Show.—The secretary informs us that the attendance at the recent exhibition at Watford was much more satisfactory than at either of the shows held in London. Mr. Owen Thomas has been appointed chairman in succession to the late Mr. Alexander Dean. Messrs. Dickson, Brown & Tait offered prizes in only four classes; the exhibits credited in our report to this firm were shown in Messrs. Dickson & Robinson's classes.

Flowers in Season.—Messrs. Hugh Low & Co. have forwarded a box of Carnation blooms of several varieties. Baroness de Brienen is a very large flower, of soft, salmon-pink colour, developed on a stout stem; Rosette has fimbriated petals of a beautiful rose-cerise shade; Benora is a white-ground Fancy, tipped and striped with red; and Cinnabar, a shade of terra-cotta red.

Flower Gardening at Battersea.—For the ninth year, with a view to encouraging the cultivation of flowers and plants by the tenants of their houses and tenements on the Latchmere and Town Hall Estates, the Battersea Borough Council arranged competitions for the best-kept outdoor and indoor flower gardens on the estates. There were competitions for (1) upstair window-sill garden; (2) indoor window gardens; (3) back gardens (central); and (4) back garden (side of houses). The entries numbered 43, and the prizes and certificates will be presented by the Mayoress on the 22nd inst.

Presentation to Mr. C. S. Fuidge.—The two special exhibitions instituted by the Royal Southampton Horticultural Society last year, to mark the occasion of the society's jubilee, involved much extra secretarial work, and Mr. C. S. Fuidge, the secretary, has been the recipient of presentations, including a gold medal, from the members. The committee arranged an evening fête, the proceeds of which were handed to Mr. Fuidge at a meeting of the council on the 1st inst. Mr. E. K. Toogood in making the presentation alluded to the fact that Mr. Fuidge had been connected with the management of the society since 1867; having served five years on the committee before undertaking the duties of secretary, which office he has held for 40 years.

Harmless Bees.—According to the *Times* a strain of bees harmless to handle has been successfully hived by Mr. Burrows, of Loughton, Essex. The bees, which have been obtained by mating a Cyprian drone with an Italian queen, are very active workers, and Mr. Burrows claims that they are less liable to disease than the ordinary English bees. The new bees are not stingless, but the sting is innocuous. One hive this year yielded over 200 lbs. of honey.

Wart Disease of Potatos in Canada.—The following amended regulations regarding the importation of Potatos into Canada have been issued by the Deputy Governor-General in Council: "Whereas it is deemed advisable and in the public interest that the importation of Potatos from Europe should be prohibited, therefore the Governor-General in Council is pleased to order and it is hereby ordered as follows:—Section 13 of the Regulations established by Order in Council of February 27, 1911, in accordance with the provisions of Chap. 31, 9-10, Edward VII, entitled 'An Act to prevent the introduction or spreading of insect pests and diseases destructive to vegetables,' is hereby amended by inserting after the word 'from' in the first line thereof the word 'Europe,' so as to read:—'13. The importation of Potatos into Canada from Europe, Newfoundland or the Islands of St. Pierre or Miquelon is prohibited.' —Rodolphe Boudreau, Clerk of the Privy Council, Government House, Ottawa, September 19, 1912."

Hard Seed of Leguminous Plants.—It is a fact well known to seedsmen and others that the seeds of many leguminous plants contain among their number a certain proportion which either germinate slowly or not at all. Such seeds are known as hard seeds, and various methods of treatment are employed in order to encourage their germination. The methods in current use are of two kinds, chemical and mechanical. The latter consists in scratching or rubbing the seed-coat, and for this purpose appropriate machines are in existence. The former method consists in treating the seeds with a strong chemical, that usually employed being concentrated sulphuric acid (sp. gr. 1.84). Although it would appear at first sight strange that seeds should be able to resist such a powerful reagent, the fact remains that many do possess this power. This appears from the experiments of Adrian Brown to be due to the existence in the seed-coats of resistent seeds of a layer which is impermeable to the acid. Such seeds, when treated with sulphuric acid, do not allow this substance to pass beyond the membrane, hence the embryo is protected from its destructive action. A recent *Bulletin* (No. 312) of the Agricultural Experiment Station (Cornell University) describes experiments which confirm the fact already fairly well known, that hard seeds of many leguminous plants such as Red Clover, White Clover, and Alsike, may be induce to germinate after immersion in concentrated sulphuric acid. The chemical method is scarcely likely to supersede the mechanical method, although it has, perhaps, certain advantages over the latter. Thus, according to the authors of the *Bulletin* cited above, immersion in the acid—which may last so long as two hours without causing injury to the Clover seed—effects a destruction of the seeds of certain weeds occasionally associated with samples of Clover. Among the seeds killed rapidly are those of Daisy, Wild Carrot, Bracted Plantain (killed after 15 minutes), and Sorrel, Curled Dock and Old Witch Grass (killed after 60 minutes). The seeds of Dodder (Cuscuta sp.) are, unfortunately, as resistant as those of Clover itself, hence the sulphuric-acid method is useless for the purpose of freeing Clover seed from the seed of this pestilent weed. The method of using sulphuric acid is simplicity itself. The seeds are put in a glass vessel or stone jar, enough acid is poured over to cover them completely, stirred with a glass rod, and allowed to stand. After about half-an-hour the vessel may be stood beneath a tap in an earthenware (not a metal) sink. The tap is then opened and the acid washed away. Seeds so treated may be planted at once, or dried and planted subsequently.

"INTERNATIONAL YEAR BOOK OF AGRICULTURAL STATISTICS." — The International Institute of Agriculture has just published in French its first *International Year Book of Agricultural Statistics* (*Annuaire International de Statistique Agricole,* 1910), which is a collection of statistical tables, systematically grouped, and containing figures of area and production of the principal crops and the numbers of live stock, during the decennial period 1901-1910, in the countries adhering to the institute, which are now 50 in number, and include almost the whole of the civilised world. The scope of this Year Book is twofold: in the first place it shows what progress has been made up to the present time in the organisation of agricultural statistics, and, secondly, gives the results obtained from such statistics. The tables, which extend over a period of 10 years, and include a long list of countries, show the area and production of a number of crops, and the years for which figures exist. Figures for all countries are expressed in the same measures, and grouped into concise and intelligible tables so as to enable the reader to form an opinion of the evolution of agriculture either in individual countries or in the whole group of countries adhering to the institute. The volume may be obtained from the Board of Agriculture and Fisheries, 8, Whitehall Place, London, S.W., price 4s. 2d. post free.

MANURES. — An interesting example of the need for a proper comprehension of the mode of action of artificial manures is supplied in an anecdote related in Part VII of *A Pilgrimage of British Farming.* The writer of this interesting series of articles, now appearing in *The Times*, gives an account of a farmer who, as a concession to new ideas, determined to apply 10 cwt. to the acre of superphosphate to one of his fields. This he did, with excellent results. Thus encouraged, he increased the application to 16 cwt. in the following year on the same field, and, not unnaturally, got little or no crop. He then reverted to the use of dung, and obtained a magnificent return, because, with the nitrogen of the dung, the hitherto unused phosphate came into action. The conclusion which the farmer drew was that superphosphate and such like manures were foolishness, and that dung alone was good. The anecdote illustrates the need for the constant reiteration of the fact that the mineral needs of plants are various, and that it is not possible to satisfy a plant hungry for nitrogen with an excess of phosphates or something else. The wise gardener makes use of both dung and artificials.

CAPTAIN COOK. — The memorial erected at Whitby to the memory of that great navigator, Captain COOK, may remind us that this wonderful man was not only a great sailor and a great geographer, but also a botanist of considerable attainments. The basis of his greatness lay no less in his fearless and adventurous courage than in his wonderful powers of observation—powers never more beneficently exercised than when they led him to the discovery that change of diet may prevent the outbreak of scurvy—that gravest of diseases incident to sailors.

LIFTING PEACHES AND NECTARINES.

ON several occasions I have lifted large trees of Peach and Nectarine early in October, when the leaves were still quite green and fresh, transferring them to glasshouses with perfect success. One of the most important details in the work is to have everything in readiness, so that the roots may be restored to the soil after as little exposure to the air as possible. For many years I have trained young trees on walls expressly for the purpose, and have utilised them to replace trees that are worn out or that have given unsatisfactory crops. It is well known that trees that have been trained out-of-doors in the way I have described soon yield heavy crops of fruit when transplanted carefully under glass, and produce shoots of a medium growth, which is best for the production of large crops of first-class fruits. Borders intended for planting Peach trees need not exceed 2 feet 6 inches in depth; the subsoil should be well drained, nothing being more harmful to the roots than a cold, water-logged soil. This is all the more important seeing that, however carefully other details are attended to, trees in an unsuitable rooting medium never succeed satisfactorily. After the drainage materials have been placed in position, and covered with turves placed grass-side downwards to prevent the finer particles of soil from filling the interstices, the trees may be planted in sweet, mellow loam procured from an old pasture, mixed with a quantity of old mortar rubbish, wood ashes, and well-decayed manure, these ingredients serving to keep the compost open. As the soil is often dry at this season, it is well to give the roots a good soaking with water a few days previous to lifting the trees. Plant rather firmly, and, when the work is finished, shade the trees for a few days and syringe them overhead daily during bright weather. One good watering at the roots should suffice for some time after planting, and will settle the soil in position. The following varieties may be recommended in the order of their ripening:—*Peaches:* Hale's Early, Rivers's Early York, Stirling Castle, Royal George, Dymond, Bellegarde, Crimson Galande, Barrington, Nectarine Peach, Sea Eagle, and Princess of Wales. *Nectarines:* Lord Napier, Stanwick Elruge, Pine Apple, and Humboldt. There are other excellent varieties than those named, but I have not included them, as they would not extend the season. *H. Markham, Wrotham Park, Barnet.*

SCOTLAND.

GUNNERA MANICATA.

NOWHERE does Gunnera manicata flourish so well in the United Kingdom as in Ireland, where the generally mild climate and the presence of a good deal of atmospheric moisture prove congenial to this noble foliage plant. In the south-west of Scotland, parts of which have a climate approaching that of Ireland, there are some fine plants of this species, and its cultivation appears to be extending. I know of plants which have been established for several years, and some of these are of considerable size. The largest specimen is one of two plants at St. Mary's Isle, Kirkcudbright, in Captain Hope's lovely garden, where so many good plants are grown. Several of the leaves were 8 feet across, and the plant was 10 feet high, with a circumference of 60 feet. The other plant was smaller, but it had been removed last spring; eventually it will probably rival its neighbour. I am aware that this specimen, which is on a lawn, does not equal in size some of the plants grown in Ireland, but it must be remembered that, after all, the climate of Scotland is not quite the same as that of Ireland, and that some of the Irish Gunneras have been longer planted. There is, or was, a magnificent specimen at Narrow Water Castle, and another fine specimen at St. Anne's.

PRESENTATION TO A GARDENER.

ON October 2 a public presentation was made to Mr. William Thomson, who has for a number of years been gardener at Cally House, Gatehouse, Kirkcudbrightshire. The movement originated with the members of the local horticultural society, but it was warmly supported by others. The presentation was made by the Provost of Gatehouse, and consisted of a purse of sovereigns. Mrs. Thomson was given a silver teapot. *S. Arnott.*

HOME CORRESPONDENCE.

(*The Editors do not hold themselves responsible for the opinions expressed by correspondents.*)

THE NORTHERN FRUIT CONGRESS AND THE N.E.H.S.—I was rather astonished to see Mr. Smith's letter in your paper, and would have passed it by in silence, but I feel compelled to make one or two statements. (1) It has all along been assumed by the Central Hexham Committee that the congress would "go the rounds." (2) Naturally, I approached Mr. Smith, the Durham County Council instructor, with regard to a congress in Durham. The question is: Does Durham, and Darlington in particular, desire the Northern Fruit Congress in 1914? One county nobleman has already publicly expressed a wish for it to visit Darlington. (3) Mr. Smith has never been asked to request his county council for cash. He has been invited to approach his county secretary for co-operation, such as has been so courteously accorded to us at Hexham, Newcastle, and Carlisle. (4) If certain people are foolish enough to part with hard cash to pay up deficiencies, it does not follow that the Northern Fruit Congress is a failure—educationally. The promoters of it were out, and are still out, for education. We think we have been of some use. (5) I fear that Mr. Smith has—to use a midshipman's phrase—got hold of the "sticky end of the stick." Good luck to him, however, in his endeavours to arouse Durham. *J. Bernard Hall.*

———I was hoping that I would never again have cause to question any of Mr. Smith's statements, but really I cannot let the letter on page 269, under the above heading, go unchallenged. If he had taken part in the recent congresses and shows, he would, perhaps, have been better qualified to write on the subject. The statement that the Northern Fruit Congresses of the past few years have been more or less a one-man scheme and a financial failure is entirely false, and reflects on the working committees, which were formed at Hexham, Newcastle, and Carlisle. Certainly there was a deficit on the first year's meeting, owing to the enormous expenditure incurred by having the programme carried through on a somewhat elaborate scale, but this was the first year of such a congress and show, and more or less an experiment. Moreover, it was not a case of Captain Cuthbert "having" to pay a deficit of £50. It was given generously without solicitation, and, so confident was Captain Cuthbert of the good work done by the congresses that he visited and took an active part in the Newcastle meeting of 1911, and this year, at Carlisle, he made a capital speech at the opening ceremony in support of such meetings. As regards the Rev. J. B. Hall dropping £30 at Newcastle (!), all I can say is that I received a letter from Mr. Morrison, the Newcastle secretary, saying that the Chrysanthemum Society had finished up with a good balance in hand, largely owing to the interest created by the fruit show and congress. This year, at Carlisle, in spite of the adverse weather conditions, we are also in the fortunate position of being able to declare a balance. So far from it being a one-man scheme, I might say that Mr. Hall had practically nothing to do with it this year. A local committee was formed, and included well-known growers like Messrs. J. Millican and R. Leslie, who, together with myself, drew up the schedule and made all arrangements, even selecting the subjects of the papers to be read and collecting the donations. The N.E.H.S. was then invited to send delegates to take charge of the judging, and this it did gratuitously. Mr. Hall also came down and rendered valuable assistance. I know that the Newcastle Committee were responsible for the organisation of the show, &c., there, but need not give details. With regard to the Kendal meeting in 1913, perhaps the following information will interest Mr. Smith. Long ago, a well-known local lady, Mrs. F. W. Crewdson, Levens, kindly undertook to make all preliminary arrangements and act as secretary pro tem. Up to date she has about £100 guaranteed, and a meeting is being convened for October 19 to form a working committee. The Director of Education in Westmorland is also taking an active part in the scheme. Surely this system of forming local committees, to organise each congress according to local requirements, is a good and sound one. Mr. Smith assumes that none of the Durham County Council representatives are enthusiastic. Can he really be in earnest when making such an assertion? I must say I found the Cumberland and Westmorland County Councils only too pleased to further our efforts here, and when, 12 months ago, I approached them for a grant towards defraying the out-of-pocket expenses of two lecturers, I was asked for an estimate. This I put down at £10, and this sum was immediately recommended. I do not wish to encroach on your space further, but must express regret that Mr. Smith was only present at one of the three congresses, and also emphasise the fact that the Carlisle Committee invited the N.E.H.S. to visit its exhibition, and doubtless the Kendal Committee will do the same, so, apparently, the old custom referred to by Mr. Smith at the conclusion of his letter is not yet quite dead. *W. B. Little.*

———As one greatly interested in the Fruit Congresses held at Hexham in 1910 and Newcastle in 1911, I was pleased to see from Mr. Smith's letter that someone was moving in the matter of continuing the congresses. Many of us in the north would gladly co-operate in making them a success. The 1911 Congress was a great success, and the statements that there was a loss of £30 and that the Rev. J. B. Hall accepted any responsibility are incorrect. *Frederick Fox, Newcastle-on-Tyne.*

Sweet Peas in April (see p. 266.)—It might be said that Devon's genial climate favours the autumn-sown Sweet Peas, but I believe that in many another county cultivators would be successful provided care and attention were given the seedlings for some time after they appear above the ground. On October 17 last year I took out a trench 18 inches in width and as much in depth, forked up the bottom soil, and then placed a moderate layer of well-decayed stable manure in the trench. I returned part of the soil, and then scattered a good layer of wood-ashes with another layer of soil on the top. The soil was pressed moderately firm and the seeds sown. As soon as the seedlings appeared, and at short intervals, a mixture of wood-ashes and fresh soot was scattered amongst the little plants to ward off slugs and sparrows. Out of two rows, 28 and 20 yards in length respectively, I did not lose a score of plants. In December small shoots of Holly and the green Euonymus were inserted on both sides of the row as a protection against winds and frosts. Early in January we experienced 18° of frost and a heavy fall of snow for Devonshire, but the cold did not injure the plants in the least. I staked them early, and by May 12 I was able to gather good, stout flower-spikes each carrying three and four blooms, which realised good prices in Covent Garden Market up to the middle of June. Successional sowings in early March and the end of April continued the supply up to the frost of last week. *James Mayne, Mill Roy, Budleigh Salterton, October 5.*

———The interesting directions contained in the leader on p. 266 will be very useful to growers who have to provide Sweet Peas as early in the year as possible. I remember when living in Kent some years before 1864, and for many years after, we had the plants in flower early in the spring by sowing early in the previous autumn in the open. I cannot remember the date when the first flowers usually appeared, but most likely some reader of the *Gardeners' Chronicle* living in that beautiful county will be able to supply it. After reading the particulars given on p. 266 it seemed to me much easier to continue the old plan of sowing outside in the autumn; few gardeners can spare room under glass for Sweet Peas in the early spring, and they are also occupied with other matters at that time. In the year 1864 there were, I believe, no named varieties in existence, for the first one I remember was Scarlet Invincible, which was sent out soon after. We grew a mixture which included very similar colours to that which is sold at the present time. We obtained plenty of flowers by successional sowings, but not so large and perfect as the named varieties of to-day. Some of the recent varieties are not so hardy as the earlier kinds. Venus, Gladys Unwin, Flora Norton, and Miss Willmott survive the winter outside here, and flower splendidly in the early summer; this year the first flowers were open on May 23, and a very large quantity of bloom was gathered from a row 160 feet long in the succeeding weeks. Other varieties that have survived the winter in previous seasons are Mars and Gorgeous. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

Curious Radishes (see p. 270). — Mr. Sheldon's illustration of a Radish tied into a knot is not the first instance, for I possess an excellent water-colour drawing of a similar Radish by Mr. W. G. Smith, and given to me by the late Dr. M. T. Masters. It grew in Mr. Saunders's garden in 1866. Two Carrot roots, spirally twisted, have been illustrated in the *Gardeners' Chronicle* (reproduced in fig. 128); also, that of a forked Carrot root, the two branches being spirally twisted together. Perhaps Darwin's discoveries of the way roots try to avoid obstructions may explain the process, as shown by his figure of Zea Mays, D. (*The Movements of Plants*, p. 179, fig. 69), of which the root has twisted itself into a knot, as fully explained by the author. *George Henslow.*

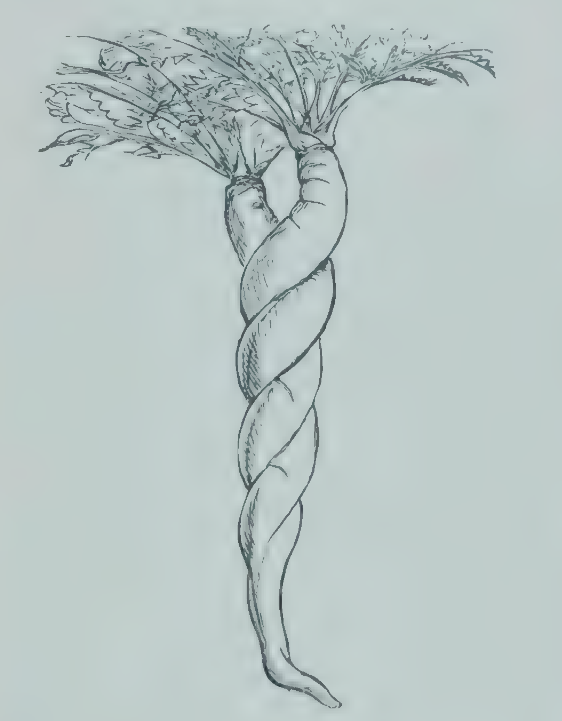


Fig. 128.—Two carrot roots spirally twisted.

Leonardslee Rockery in September.—The weather during September was drier and brighter than for several preceding months, and the display of flowers on the rockery unusually good. On the moraine the dwarf and free-flowering Oxalis lobata was very pretty with its erect, yellow flowers, 3 inches in height. Silene laciniata Purpusii was also very charming; its scarlet flowers gave an extra bright touch of colour. The plant is not one of the strongest growers, and, owing to slugs being very fond of the shoots, it requires some care. Iberis gibraltariaca is a Candytuft, which produces its pink flowers very freely. Odontosperma maritima is suitable for large or small fissures in the rocks, where its growths may trail suspended and display the bright golden-yellow flowers; this species should be propagated by cuttings at the present time, it being unlikely that plants on the rockery will survive the winter. Androsace lanuginosa was a perfect mass of colour; it is certainly one of the gems in early autumn. Campanula Hendersonii still remained in bloom, and Veronica Catarractæ with white, pink-eyed flowers. The Mesembryanthemums were gorgeous. Some of the best of 50 varieties include M. azureum, M. Cooperi, M. aureum, M. coccineum, M. blandum and M. spectabilis. The Mesembryanthemums are propagated annually, though one of the species, M. edulis, stands well out-of-doors without damage throughout the winter. A week ago when in Cornwall I noticed by Poldhu, the Marconi station, hedges of this variety, but they looked as if they had suffered severely from the severe frosts of last winter. The best method of propagation is to take the cuttings in the usual way and place five or six together in 4½ inch pots and put them in a frame. If the atmosphere is kept close for a few days, the cuttings will soon produce roots, when they can be removed to a cool but frost-proof frame, or be placed on a shelf near the glass in a cool house. September and October are two months in which Alpine gardeners should take notes to assist them in their preparations for next season. *W. A. Cook, Leonardslee Gardens, Horsham.*

Blue Tits and Sweet Peas.—These pretty little birds have been a great pest in these and other gardens in this district during the past summer, so much so that, unless something can be found to combat them, exhibition flowers will not be grown. It is strange that they do not attack Sweet Peas when sown thickly and not disbudded, but so bad was the attack on the disbudded plants that it was necessary to keep someone continually scaring them. At first I tried spraying the plants with Quassia extract in the hope of making the buds distasteful to the birds, but this was of no avail. I next used a shot gun, but although one victim was killed on the top of one stake, another daring (or tame) tit would still be perched on an adjoining stake. I watched them at work, and found that they were trying to find seeds, but I could not understand why they were so persistent when they were, apparently, constantly disappointed. The strangest part of it is they ceased attacking the plants entirely during one or two weeks of hot sunshine. After our local show I stopped scaring, with the result that not one single flower was allowed to open, and this continued from August 1 until the middle of September. *A. J. Elgar, Killarney House Gardens, Co. Kerry.*

American Blight and Decoction of Elder Shoots.—The remarks of Mr. J. Smith (p. 251) on this subject open up a wide question. It is to be hoped further trials in the direction named may be carried out. I know nothing as to the merits of carbide of calcium mentioned by Mr. Smith as a deterrent of American blight, but have used and seen used a decoction of Elder leaves for over forty years past, mainly as an antiseptic to ward off thrips, red spider, and green or black fly. I first learned of its use from the gardener at Constable Burton, near Bedale, in 1870. He was a self-taught man, as he told me, having spent his early days in farm work. His employer, Mr. McLaren, was a lover of indoor plants and fruits in general. Being only a tenant of the place, and as the kitchen gardens and glass connected therewith were some distance from the house, he erected a group of glass houses near to the residence. They were put up in an unconventional way, with the object of being removed at the close of his lease. The arrangement of their occupants was quite as unusual as were the structures. They included some of the finest specimen Cattleyas, Lælias and Dendrobiums of the older species and varieties then to be seen in the country. They were growing in varied receptacles, such as pots, baskets and on blocks, the latter formed in curious shapes from branches of wood, mostly Elder. No doubt some of your older Orchid-grower readers will remember the collection. On my asking the gardener for hints as to his culture, he pointed to a small plantation, with a robust undergrowth of the common Elder. It was the duty of the garden boy once a week to go and cut and tie up as many small bundles of the shoots as there were open tanks in the houses, taking out the old and putting in the fresh bundles. He was specially instructed to lay each bunch on the pathway, and jump on it, to let out the "juice," as he put it. Syringing and watering were done from these tanks. A good many years ago I discussed the matter with that veteran plant cultivator, the late Mr. Thomas Baines. His opinion was the same as my own, namely, that any cultural benefits derived were of an antiseptic character; the foliage, compost and roots being made unpleasant to insect pests. Later on I used Elder shoots in a similar way, and, I believe, with benefit, especially with Crotons and Cattleyas. I also tried decoctions of Feverfew, Foxgloves and the common Laurel, with the same object. The two latter plants are of a poisonous character. In these days of what I may term scientific insecticides, the above remarks may be set down by some as a bit out of date. They are simply records of facts, observed and practised. If Mr. Smith's experiments are confirmed by experience, he will deserve the gratitude of fruit-growers. The only remedy I have found for American blight on Apples has been a winter dressing of clay paint and coal tar well mixed together. *Yorkshire Gardener.*

SOCIETIES.

ROYAL HORTICULTURAL.

October 8.—The fortnightly meeting held on Tuesday last in the Society's Hall, Westminster, was a great success; the large Hall was filled with groups, which overflowed into the two annexes.

The largest exhibit was a collection of ornamental trees and shrubs shown by Messrs. **James Veitch & Sons**, for which a Gold Medal was awarded. Another feature was a collection of Bamboos displayed by Mr. L. R. **Russell**. Other exhibits in the floral sections included Roses, Carnations, Chrysanthemums, border Asters, Begonias and Ferns. The **Floral Committee** conferred nine Awards of Merit to novelties.

The groups of Orchids were remarkably good for the time of year, and the **Orchid Committee** granted one First-class Certificate and four Awards of Merit to novelties.

There were several important exhibits before the **Fruit and Vegetable Committee**, but this body made no award to a novelty. A Gold Medal was awarded to Messrs. **James Veitch & Sons** for a collection of Apples and Pears.

At the 3 o'clock meeting in the Lecture Room, Dr. Charles Crowther gave an address on "The Influence of Atmospheric Impurities on Vegetation."

Floral Committee.

Present: H. B. May, Esq. (in the Chair); Messrs. John Green, R. Hooper Pearson, W. J. Bean, C. Blick, J. F. McLeod, Wm. Howe, J. Jennings, J. Dickson, Charles Dixon, H. J. Jones, Charles E. Shea, Chas. E. Pearson, W. P. Thomson, E. H. Jenkins, W. J. James, W. G. Baker, and G. Reuthe.

Messrs. **James Veitch & Sons, Ltd.**, King's Road, Chelsea, put up the largest group in the Hall. It comprised a collection of some 260 ornamental shrubs and trees, including many recent introductions from China. The exhibit was pleasingly arranged, the blending of the various subjects showing the different tones of foliage and coloured fruits to the best advantage, whilst the front was decorated with dwarf specimens, of which the beautiful Berberis Wilsonæ in fruit was strikingly handsome. We can only enumerate a few of the more interesting subjects:—Cotoneaster rugosa Henryi, with flat clusters of scarlet berries; Pyrus Veitchii, with dull-red fruits; Ilex Veitchii; Viburnum Davidii; Berberis brevipaniculata; Stransvæsia undulata, showing a fine colour in the foliage, and bearing bunches of scarlet berries; Ilex Pernyi; Fraxinus bracteata, the fine, dark foliage is retained late in the season; Berberis verruculosa, the dark-green leaves being glaucous beneath; Sarcococca ruscifolia; Lonicera nitida, a shrubby evergreen Honeysuckle, resembling a Cotoneaster; Libocedrus macrolepis, not quite hardy, but very beautiful, the shoots having a golden sheen; Viburnum Henryi, finely in fruit; and Magnolia Delavayi, a handsome evergreen species. Messrs. **Veitch** also showed miscellaneous indoor flowering plants, including Lapageria rosea, and its white variety, varieties of greenhouse Rhododendrons of the javanico-jasminiflorum type, a fine batch of Nerine Fothergillii major, varieties of Bouvardia, and Abutilons. (Gold Medal.)

Mr. L. R. **Russell**, Richmond, Surrey, exhibited 45 species and varieties of Bamboos, the collection occupying a space of 500 square feet. Some of the plants were 15 feet high. The finer specimens were Arundinaria fastuosa, A. Hindsii graminea, A. Simonii, A. nitida, Phyllostachys aurea, P. castillonis, P. Quilioi, P. violescens, P. viridi-glaucescens, Bambusa disticha var. Alphonse Karri, B. palmata, B. tessellata, Thamnocalamus Falconeri, and T. nana variegata. (Silver Flora Medal.)

Messrs. H. B. **May & Sons**, The Nurseries, Upper Edmonton, showed a collection of stove and greenhouse Ferns. Davallias, Adiantums, Polypodiums, Aspleniums, and varieties of Nephrolepis were represented by well-grown specimens. (Silver Banksian Medal.)

Messrs. J. **Hill & Son**, Lower Edmonton, exhibited a group of Asplenium Nidus, the Bird's Nest Fern, including the variety laceratum, and a sporeling with dissected and sub-divided leaves like those of Asplenium Herbstii. The specimens exhibited splendid culture, some of the fronds being 5 feet long. (Silver Flora Medal.)

Messrs. W. **Wells & Co.**, Merstham, Surrey, displayed blooms of Japanese Chrysanthemums of the exhibition type, including the varieties Frances Jolliffe, Hon. Mrs. Lopes, Thorp's Beauty, White Queen, and the new Mrs. G. Lloyd Wigg. Interspersed amongst these were smaller vases of the much prettier single and decorative sorts, such as October Gold, Altrincham Jewel (yellow, single), Mdlle. L. Fourneau (pink), and Delores (rosy-buff). (Silver Banksian Medal.)

Messrs. **Cragg, Harrison & Cragg**, Merrivale Nurseries, Heston, Middlesex, showed vases of Chrysanthemums as grown for market. Nothing could be finer for decorative purposes than the beautiful blooms of Mrs. Rootes (white), Celia (yellow, single), Juliet (vinous red), Miss Collier (white), Phoebe (purple), and Crawfordia (yellow).

Messrs. **John Peed & Son**, West Norwood, arranged a very pleasing group of Chrysanthemums, the blooms being set off by Ferns. White Queen, David Ingamells's Yellow, Mary Bulton, Mrs. F. C. Stoop, C. Lock, and Capt. Julyan are well-known exhibition varieties.

The Misses **Price & Fyfe**, Grove Park Nursery, had a small exhibit of Chrysanthemums of well-known varieties.

Mr. F. **Lilley**, Guernsey, showed Nerines. The largest and most striking was N. coruscans major; N. Bowdenii is a beautiful pink flower, and very tall; N. elegantissima has wavy, salmon-pink petals; and N. delicatissima narrow, pure-pink petals. (Silver Banksian Medal.)

Messrs. T. S. **Ware, Ltd.**, Feltham, exhibited blooms of tuberous-rooted Begonias on boards, with a few plants at the back of the group. Adjoining the Begonias, this firm showed a large bank of Michaelmas Daisies and border Chrysanthemums. (Silver Banksian Medal.)

Lady **Grey** exhibited sprays of Heaths and allied plants, also flowers of Protea, from an exhibition of wild flowers held at Caledon, Cape Colony on September 14. (Silver Flora Medal.)

Messrs. W. **Paul & Son**, Waltham Cross, showed baskets and epergnes of Roses. Blooms of Juliet Corallina, Mme. Abel Chatenay, Ophelia, Laurent Curle (a beautiful shade of carmine), Mrs. A. R. Waddell (reddish-salmon), Lady Hillingdon, and Mrs. Chas. Hunter were all remarkably good. (Silver Banksian Medal.)

Messrs. **Ben R. Cant & Sons**, Colchester, staged a bright group of Roses, for which a Silver Flora Medal was awarded. Conspicuous varieties were Lady Hillingdon, Lyon Rose, Alexandra Zarifi (a delightful H.T. single variety, the beautiful buds being stained with red on a pale-orange ground), Georges Nabonnand, General McArthur, and St. Helena (a large H.T. variety of pale colour).

Messrs. **Frank Cant & Co.**, Colchester, showed Roses, for which a Silver Banksian Medal was awarded. The best varieties, as exhibited, were Lyon Rose, Hugh Dickson, Peace, Lady Hillingdon, Mrs. Wakefield Christie-Miller, Rayon d'Or, and Alice Roosevelt

Messrs. W. & J. **Brown**, Peterborough, showed Roses in boxes, and on tiers of staging covered with black velvet. The group included excellent flowers of Juliet, Sunburst, Maman Cochet, White Maman Cochet, Lyon Rose, and Mme. Vermorel. (Silver Flora Medal.)

Messrs. **Stuart Low & Co.**, Bush Hill Park, Middlesex, made a bright display with Carnations, relieved with Nephrolepis Ferns. The new Benora variety is a white-ground fancy, tipped with red. It is very free in blooming, possesses a long, stout stem, and is slightly fragrant. (Silver Banksian Medal.)

Varieties of Carnations were also displayed by Messrs. **Allwood Bros.**, Haywards Heath.

Messrs. H. **Cannell & Sons**, Swanley, Kent, showed Zonal Pelargoniums, vases of Helianthus sparsifolia, and a semi-double sport from Chas. Turner Ivy-leaved Pelargonium, named Vicar of Shirley. This new flower has scarlet and rose petals, the upper segment bearing dark blotches. New Zonal varieties included Bornemann's Best, a dark cerise flower of large size. (Bronze Banksian Medal.)

Messrs. **Dobbie & Co.**, Edinburgh, showed numerous varieties of Collerette Dahlias. (Silver Banksian Medal.)

Mr. H. J. **Jones**, Ryecroft Nurseries, Hither Green, Lewisham, showed 40 varieties of Michaelmas Daisies, with specimen blooms of Japanese Chrysanthemums. (Silver Banksian Medal.)

Messrs. **Barr & Sons**, King Street, Covent Garden, showed seasonable border flowers, including the fine blue Aster Ultramarine. In the centre of the group were spikes of Gladioli Peace, Dawn, and Afterglow. The exhibit included a selection of border Chrysanthemums. (Silver Banksian Medal.)

Messrs. W. **Cutbush & Son**, Highgate, filled a corner of the hall with a bank of garden flowers, principally varieties of border Asters. In the centre was the fine variety Climax, and in front of this an epergne of Pentstemons. There were large vases of Tritomas, Helianthus orygalis, Phytolacca decandra in fruit, and Solidago. Messrs. **Cutbush** also showed, as a separate exhibit, Carnations above a ground of dwarf Polyantha Roses.

Mr. **James Box**, Lindfield, Sussex, furnished the corresponding corner at the end nearest the clock with a similar group, in which Phloxes, Gladioli and Chrysanthemums were conspicuous features. The arrangement was extremely good. (Silver Flora Medal.)

Messrs. **Geo. Jackman & Son**, Woking, Surrey, were awarded a Silver Banksian Medal for a large group of Roses and border flowers.

Several beautiful new Seedling Asters were shown by Mr. **Ernest Ballard**, Colwall, Herefordshire. Glory of Colwall, pale lilac; Lady Lloyd, rose-pink with purple sheen; and Peggy Ballard, a semi-double mauve-coloured variety, were amongst the best.

Michaelmas Daisies were also shown by Messrs. W. **Fells & Son**, Hitchin; Messrs. **Carter Page**, London Wall; and Mr. **George Reuthe**, Keston, Kent, who also displayed a number of Alpine plants.

Mr. **Ernest Dixon**, Roehampton Nurseries, contributed a small group of garden flowers.

Mr. J. T. **West**, Tower Hill, Brentwood, showed Dahlias of various types, including many of the pæony-flowered varieties. One of the finest decorative sorts is Brentwood Yellow, which received an Award of Merit last season. (Silver Banksian Medal.)

Mr. **Reginald Prichard**, West Moors, Wimborne, arranged a small rockery.

The Misses **Hopkins**, Shepperton-on-Thames, and Mr. **Leslie Greening**, Richmond, arranged small rock-garden exhibits.

Awards of Merit.

Aster Nancy Ballard.—A seedling from the well-known Beauty of Colwall variety. It has the same stiffly-erect habit and rather rounded heads of flowers, but appears to be denser and more free-flowering. The colour, a purplish-mauve or a light shade of Bishop's violet-purple (*Rép. de Couleurs*), is also brighter. The flowers are about 1 inch in diameter, and are very double. Raised and shown by Mr. E. **Ballard**, The Court, Colwall, Herefordshire.

Berberis Stapfiana.—A dense, spiny bush, with deciduous foliage, reminding one of B. Thunbergii, but the growths are more erect and the leaves not red-tinted. The berries are coral or currant-red, borne in dense, close clusters. The specimen shown was about 4 feet high, and well berried. Raised from seed collected by E. H. Wilson in China, and shown by Messrs. J. **Veitch & Sons, Ltd.**

Pyrus Veitchiana.—A handsome, fast-growing tree, with spreading branches, raised from seed sent from China by Mr. E. H. Wilson. The leaves are simple, broadly ovate, with finely-toothed lobes. The dull-crimson berries make the tree ornamental, being very freely borne in heavy clusters; each about half-an-inch in diameter. Specimens have already attained 15 feet in height at the Coombe Wood Nursery. Shown by Messrs. **Jas. Veitch & Sons, Ltd.**

Adiantum cuneatum var. micropinnulum (see fig. 129).—This variety was raised from A. cuneatum var. gracillimum; it shows a much finer division of the pinnules, and the young fronds are beautifully tinted with rosy-bronze. It is the most feathery and graceful of all the cool-house Adiantums, and, although not quite new, is very little known. The plants were shown in 4½-inch pots by Messrs. H. B. May & Sons.

Chrysanthemum Celia.—A yellow, single flower, which is very effective with the green of the opening disc. Disbudded blooms 4 to 5 inches in diameter were shown, carrying five or six rows of ray florets, but the later blooms in spray are said to be equally good. Stout stems and stiff petals add to the value of the flowers, but its great charm lies in the vividness of the colouring. Raised and shown by Messrs. Cragg, Harrison & Cragg, Heston.

C. Mrs. G. Lloyd Wigg.—A very large, rather flat-headed, lemon-yellow Japanese variety, which was shown in better condition at the National Chrysanthemum Society's exhibition at the Crystal Palace on October 2, when it received the First-class Certificate of the N.C.S. (see p. 274). Shown by Messrs. Wells & Co.

Cotoneaster bullata.—A vigorous shrub, of loose, open habit, notable for the rich, stalked, pendent clusters of large, glossy, crimson berries, borne freely on the short spurs produced in the axils of last year's leaves. The ovate, pointed leaves measure about 3 inches long and 2 inches wide. Raised from seed collected by E. H. Wilson in China, and shown by Messrs. J. Veitch & Sons, Ltd.

C. salicifolia var. rugosa.—A very handsome, sub-evergreen shrub, with markedly weeping or pendent habit, and very characteristic, Willow-shaped, lanceolate leaves, about 2 inches by ¾ inch, much wrinkled between the deep-set feather veining, and downy on the under-surface. The berries are bright scarlet, ¼ inch in diameter, globular, borne in clusters of 6 to 12, or more. This variety was the best of the new Chinese shrubs exhibited at this meeting.

C. Zabelii.—A sub-evergreen, Chinese shrub, of vigorous habit, making long, arching growths, clothed with ovate, pointed leaves (about 1½ inch by ¾ inch), which are downy on the under-surfaces. The berries are borne in clusters of from three to nine or more, on short spurs, are of a good size, flattened at the head, but of too dull a crimson to make the plant showy in autumn. A pot-grown specimen was shown, and the species gives promise of developing into a small tree. These two last were shown by the Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. E. Beckett, V.M.H.).

SOME FURTHER NOVELTIES.

The new Chinese shrubs exhibited by the Hon. Vicary Gibbs and Messrs. Veitch formed one of the most interesting features of the show. Of those entered for certificate, Cotoneaster salicifolia var. rugosa was the most ornamental, but it was a little unfortunate that the variety shown by Messrs. Veitch under the name of C. rugosa Henryi was not also entered for award, as in the length and character of the leaves and the size of the clusters of berries it was a decided improvement on the type shown by Mr. Gibbs.

Mr. Gibbs exhibited Cotoneaster Dielsiana elegans, a wiry, erect form, very distinct in habit, but not berried richly enough to make it striking, and C. integerrima (acutifolia) villosa, a pretty, dense-habited, dwarf species with inconspicuous berries, but richly-tinted foliage.

Messrs. Veitch included a number of new species, of which the most striking were Osmanthus armatus and Cotoneaster Harroviana. The latter has small clusters of scarlet berries, and the Osmanthus is characterised by very deeply-toothed, firm-textured leaves, which are as much as 5 inches long. These the Floral Committee desired to see again. Other good novelties included Ilex Veitchii, a species suggesting I. Pernyi in foliage and pyramidal outline, but bolder in growth, and Eleutherococcus Henryi, a quinate-leaved shrub with growths terminated by Privet-like clusters of black berries. Lycopsis sinensis and Stransvæsia undulata were shown in fruit.

In addition to the double Aster receiving an Award of Merit, Mr. Ballard also showed Glory of Colwall, which was awarded a First-class Certificate at the Edinburgh show. The flowers were much larger than those of Beauty of Colwall, and of a pale mauve, but they were past their best. They showed, however, the possibilities in the development of the large-flowered double Michaelmas Daisies, and were much admired.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); Messrs. Jas. O'Brien (hon. sec.), R. A. Rolfe, J. Wilson Potter, W. Thompson, R. G. Thwaites, F. J. Hanbury, T. Armstrong, A. McBean, C. H. Curtis, J. Charlesworth, J. Cypher, W. P. Bound, J. E. Shill, H. G. Alexander, Arthur Dye, W. H. White, Gurney Wilson, William Bolton, J. S. Moss, de B. Crawshay, Sir Harry J. Veitch, and Sir Jeremiah Colman, Bart.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), showed three finely-grown hybrids of merit, namely, Lælio-Cattleya Berthe Fournier var. Fascinator (L.-C. elegans × C. aurea), with six large, bright-rose coloured flowers on a spike; L.-C. Priam (C. Harrisoniana × L.-C. callistoglossa), a good flower resembling C. Armstrongiæ; and the richly-coloured Cypripedium Draco "Holford's variety."

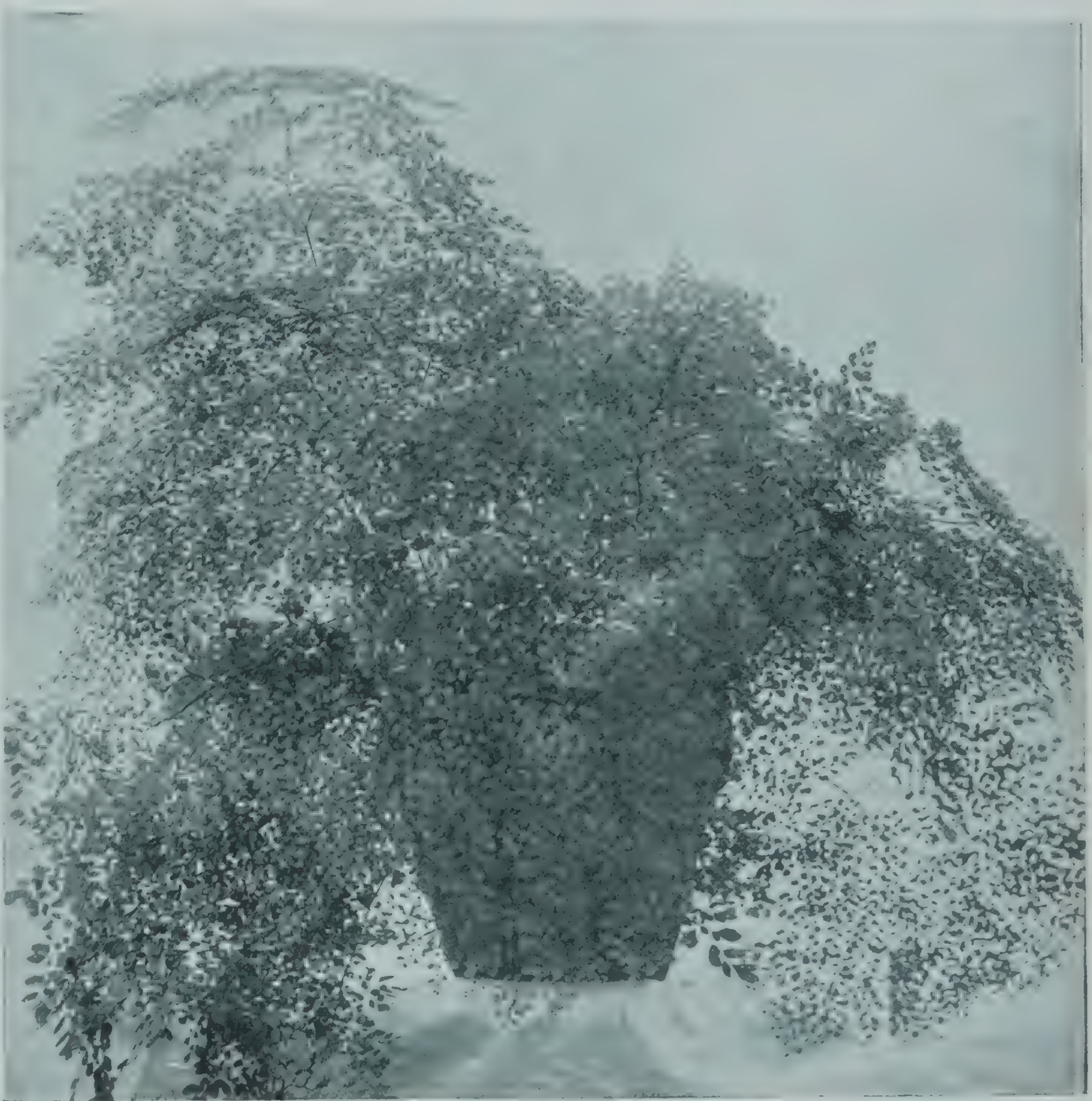


Fig. 129—ADIANTUM CUNEATUM VAR. MICROPINNULUM.
(R.H.S. Award of Merit on Tuesday last.)

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), was awarded a Silver Flora Medal for a group in the centre of which was his fine Cattleya Iris King Edward VII, which had previously secured a First-class Certificate and was illustrated in the *Gardeners' Chronicle*, October 16, 1909, p. 258; the handsome Cattleya Hardyana received an Award of Merit (see Awards); Sophro-Lælio-Cattleya Elissa (S.-L. Gratrixiæ × C. Hardyana) was novel in colour; Lælio-Cattleya Carmencita (C. Dowiana Rosita × L.-C. luminosa) when developed will be a good and distinct hybrid; and other fine hybrids were noted, including good forms of Lælio-Cattleya Bletchleyensis; L.-C. Elva var. Herbert Goodson; Cattleya fulvescens; C. Rhoda; Odontoglossum crispum Nellie Blanche, a very large white flower with spotting on the sepals; and Miltonia vexillaria "Memoria G. D. Owen."

Messrs. Sander & Sons, St. Albans, were awarded a Silver-gilt Flora Medal for an extensive group containing many interesting plants. Among the hybrids, Cattleya Isis (Ella × Hardyana) was a pretty light rose-coloured flower with dark, ruby-red lip having a small, yellow spot on each side; C. Fabia Rex, white with a finely-coloured lip; Lælio-Cattleya Britannia (C. Warscewiczii × L.-C. Canhamiana), an attractive flower; several Brasso-Cattleyas, and the new Brasso-Lælio-Cattleya Astarte (L.-C. Martinetii × B. Digbyana), a clear, rosy-lilac flower with primrose-coloured disc; Cattleya Hardyana "Royal Sovereign," white mottled with lilac and with dark ruby lip; C. fulvescens, various hybrid Odontoglossums and Cypripediums. Among the species were Oncidium Marshallianum magnificum, a large yellow flower with red-brown blotches on the petals; Cycnoches Egertonianum viride, the green and white Catasetum Russellianum, Epidendrum auratum, Cirrhopetalum, refractum, and others.

E. H. Davidson, Esq., Borlases, Twyford, was awarded a Silver Flora Medal for a group containing a fine selection of forms of Cattleya labiata varying from the blush-white petalled to the dark-purplish crimson, that named Davidson's variety having a lip almost entirely of a deep claret-crimson. Other fine novelties were Odontoglossum Eric, almost entirely of a deep reddish-purple and Lælio-Cattleya Virginia (L. purpurata alba × C. Harrisoniæ alba).

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was awarded a Silver Flora Medal for a group in which were some interesting Cattleya crosses and showy species of Cattleyas. Also the new Brasso-Cattleya Pittiana (B.-C. heatonensis × C. Mrs. W. J. Whiteley), a neat, rosy-lilac flower with a light base to the slightly-fringed lip, well-grown Odontoglossums, Odontioda Charlesworthii, and other Odontiodas.

Messrs. Stuart Low & Co. obtained a Silver Flora Medal for a group at the back of which were some good Oncidium varicosum. With them were Dendrobium Phalænopsis, D. formosum giganteum; varieties of C. labiata, C. Iris, C. O'Brieniana alba, C. Hodkinsonii, Miltonia Bleuana, Pleione lagenaria, and a selection of hybrids.

Messrs. J. Cypher & Son, Cheltenham, were awarded a Silver Banksian Medal for a group in which were a fine form of Cattleya Euphrasia with five flowers on a spike, and other good Cattleyas, Miltonia vexillaria Leopoldii, and a good selection of Cypripediums, including Felicity, Niobe superbum, Maudiæ and Sir Redvers Buller.

Messrs. Charlesworth & Co., Haywards Heath, staged a selection of rare Orchids, including a new hybrid between Odontoglossum Rossii majus and O. Wilkeanum, a pretty flower; Dendrobium Sanderæ and various good hybrid Cattleyas.

Messrs. J. and A. McBean, Cooksbridge, staged a small group in which were a brilliant red form of Odontioda Charlesworthii (see Awards), another form of their Cattleya Lord Rothschild var. albescens, some good forms of Odontoglossum crispum, and Odontiodas.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), sent Cypripedium Rolfeæ "Peeters' variety," a good dark flower, and Miltonioda Harwoodii. See Awards.)

Monsieur Firmin Lambeau, Brussels, sent the handsome Catasetum splendens imperiale; the flowers are wax-like white, with the greater part of the lip violet-crimson, some dark crimson spots being also at the bases of the petals.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. G. M. Black), showed some good Cattleya Fabia, a very fine Odontoglossum percultum, two brilliant red Odontioda Devosseana, O. Leeana and other hybrids.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed Odontoglossum Nerissa (nævium × crispum), a small flower, white, evenly spotted with rose, and Cypripedium "Our Queen," for which he had previously received an Award of Merit.

E. G. Mocatta, Esq., Addlestone (gr. Mr. Stevenson), sent Odontoglossum Jasper "Woburn variety" of fine shape.

F. Du Cane Godman, Esq., Horsham, sent Lælio-Cattleya Godmanii var. Aurora, a very handsome hybrid.

Pantia Ralli, Esq., Ashtead Park, sent a fine form of Cattleya Dowiana aurea.

C. J. Phillips, Esq., The Glebe, Sevenoaks, showed several handsome hybrid Odontoglossums, Lælio-Cattleya Ophir "Glebe variety," a large-flowered Oncidium Forbesii, and a handsome white-petalled Cattleya (see Awards).

E. Towson, Esq., Ellerdale, St. Albans, showed Cypripedium Ellerdale (Bingleyense × insigne "Harefield Hall").

Monsieur Chas Maron, Brunoy, France, showed Brasso-Cattleya Olympia (C. Solfaterre × B.-C. Mrs. J. Leemann) of a light-yellow colour, Cattleya Marguerite Maron (Eldorado alba × labiata Cooksoniæ), and C. Fabia alba Mme. Ed. Debrie with fine white sepals and petals.

Mr. Sidney Flory, Tracy's Nursery, Twickenham, showed the rare Pescatorea Dayana rhodacra, a large, white flower with rose-coloured tips to the segments and pale-rose lip. Also two forms of Warscewiczella marginata.

AWARDS.

First-class Certificate.

Cattleya hybrid (Fabia alba × Warscewiczii Frau Melanie Beyrodt), from C. J. Phillips, Esq., The Glebe, Sevenoaks.—A handsome flower close to C. Fabia alba, with white sepals and petals and good lip with ruby-purple front. (This award was given subject to a suitable name being given the novelty.)

Awards of Merit.

Cattleya Hardyana var. Herbert Goodson, from H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day).—A very good flower, with white sepals and petals and dark reddish-purple lip with gold lines running from the base.

Miltonioda Harwoodii (M. vexillaria × C. Noezliana), from Sir Trevor Lawrence, Bart., K.C.V.O. (gr. Mr. W. H. White).—A very remarkable cross. The spike is erect, the flowers in general appearance and colour resembling a bright rose-pink Calanthe Veitchii, though structurally different.

Cattleya Mrs. Pitt "Charlesworth's variety" (C. Dowiana aurea × C. Harrisoniana).—Flowers of a uniform, warm-rose tint, with yellow markings on the lip. (From R. C. Doux, Esq., Marfield, W. Derby, Liverpool.)

Odontioda Charlesworthii "Orchid Dene variety" (O. Harryanum × C. Noezliana), from Messrs. J. & A. McBean, Cooksbridge.—A very fine form, with large flowers of good shape and of a deep blood-red colour.

Fruit and Vegetable Committee.

Present: Joseph Cheal, Esq. (in the Chair); Messrs. Edwin Beckett, J. Willard, J. Davis, Thos. Coomber, John Basham, A. Bullock, Owen Thomas, P. C. M. Veitch, and W. Poupart.

Messrs. James Veitch & Sons, Ltd., Chelsea, filled a table with Apples and Pears of splendid quality. There were 180 varieties of Apples and 37 of Pears. Along the centre of the table were large sprays of Cratægus Aronia (yellow fruits), C. orientalis (red fruits), and C. punctata (purple fruits). A selection of the Apples includes Emperor Alexander, Lord Derby, Tyler's Kernel, King of Tompkins County, Allington Pippin, Beauty of Kent, Gascoyne's Scarlet Seedling, Dumelow's Seedling, Annie Elizabeth, Margil, Alfriston, Newton Wonder, and Chelmsford Wonder. Two small trees of Rev. W. Wilks variety bore exceptionally large fruits, whilst gathered fruits of this fine culinary sort weighed more than 1 lb. apiece—the largest 1 lb. 7 oz. (Gold Medal.)

The Barnham Nurseries, Ltd., Barnham, Sussex, showed splendid Apples and Pears, the Apples being deeply coloured and generally excellent. The baskets were relieved with wild fruits and autumn foliage. The varieties Charles Ross, Barnack Beauty, Gascoyne's Scarlet Seedling, Rival, Christmas Pearmain, Winter Ribston Pippin, Cox's Orange Pippin, Egremont Russet, Allington Pippin, Lord Derby, and Potts's Seedling are a selection. There were also fine fruits of Beurré Fouqueray, Verulam, Beurré Baltet Père, Durondeau, Doyènné du Comice, and Uvedale's St. Germain Pears. (Silver-gilt Knightian Medal.)

The Marquis of Ripon, Coombe Court Gardens, Kingston Hill (gr. Mr. Thomas Smith), exhibited 55 dishes of Apples and Pears, for which a Silver-gilt Banksian Medal was awarded.

Remarkably fine fruits of The Queen, Ribston Pippin, Peasgood's Nonesuch and King of the Pippins were shown by Mr. Woodgates, Worcester Park. (Silver Banksian Medal.)

A very large exhibit of Onions was shown by Lady Cowper, Panshanger, Hertford (gr. Mr. Staward). The varieties were very numerous, and the collection comprised one of the best exhibits of Onions we have seen for a long time. Besides numerous fine bulbs of the Ailsa Craig type, there were clean, sound examples of Brown Spanish, White Globe, Crimson King, White Italian Tripoli, Bedfordshire Champion, Trebon's Snowball, James's Keeping, Market Perfection, Long Keeper and others. (Silver-gilt Banksian Medal.)

Mr. W. Barker, West Norwood, exhibited tubers of King Edward VII Potato.

SCOTTISH HORTICULTURAL.

October 1.—The monthly meeting of the above society was held on this date at 5, St. Andrew Square, Edinburgh. Mr. Massie, the president, was in the chair, and there were 105 members present.

The secretary, Mr. A. D. Richardson, gave a lecture, illustrated by a large number of lantern slides, on "Edinburgh's Park and other Trees." He pointed out that though Edinburgh was very much behind some of the cities in the United Kingdom as regards street planting, there were many varieties of trees which grew well, even in the most central parts of the city. Certain species of Pyrus, such as P. intermedia, P. Aria, P. pinnatifida, and P. rotundifolia did well, and Thorns and Laburnums also withstood the smoke-polluted atmosphere. But the tree which succeeded best was the Platanus acerifolia, the so-called "London" Plane, though, owing to some unintelligible prejudice, it had been very little planted as a street tree. The Ash, Elm, Beech, Sycamore, and Lime were the principal trees planted, and there were still some fine specimens. The Beech was gradually disappearing, however, and its place would never be taken by the same kind of tree. Curiously enough, many of the oldest Elms were not Ulmus montana, the Scotch species, but U. campestris, the English Elm, and young trees of the latter species were thriving well. Amongst the soft-wooded, broad-leaved trees (Salix alba) the white or Huntingdon Willow gave most promise of becoming a good tree, and Populus alba, the white Poplar, seemed to deserve more attention than it was given.

The President next gave a short account of a visit to Normandy in September. The agriculture there, he said, was very similar to our own, excepting that a considerable area was devoted to Buckwheat and Indian Corn for fodder. The methods of cultivation, however, were very primitive as compared with those practised in this country.

The exhibits were: New Collerette, Cactus, Pompon, dwarf-bedding, Pæony-flowered and double fancy Dahlias, and early-flowering Chrysanthemum "Cynthia," exhibited by Messrs. Dobbie & Co., Edinburgh (Collerette Dahlia "Princess Louise," Pæony-flowered Dahlia "Kakadee," dwarf-bedding Cactus Dahlia "Marianne," and Chrysanthemum "Cynthia" were each awarded a Certificate of Merit); new Michaelmas Daisies "Glory of Colwall" and "Nancy Ballard," exhibited by Mr. Ernest Ballard, The Court, Colwall, Herefordshire (each was awarded a First-class Certificate); Kniphofia "Marie Dirken," exhibited by Messrs. Dicksons & Co., Edinburgh (awarded a Certificate of Merit); and a large collection of sprays of foliage of hardy trees and shrubs, exhibited by Mr. D. W. Thomson, Edinburgh (highly commended). Mr. Thomson also showed some fine spikes of Pentstemon "Mrs. F. Fulford." The President exhibited magnificent fruits of Pitmaston Duchess Pear, each fruit weighing about $1\frac{1}{2}$ lb., and Messrs. Todd & Co. showed a fine vase of Michaelmas Daisy "Beauty of Colwall."

At the meeting on November 5 Messrs. A. Eddington and James Hay will read papers on "Villa Gardening" and "Window Gardening" respectively.

HORTICULTURAL CLUB.

AFFORESTATION IN THE BLACK COUNTRY.

October 8.—On the occasion of the monthly dinner of the Horticultural Club, held in the Hotel Windsor, Westminster, on Tuesday last, Mr. P. E. Martineau, the honorary secretary of the Council of the Midland Re-afforestating Association addressed the members on the aims and work of the association. Mr. Martineau's remarks were illustrated by lantern slides, which showed the nature of the country and the results which the society has achieved. The Midland Association, which was founded in 1903, owes its existence in the first place to a number of residents in the Midlands who, impressed with the desolation of many of the mining districts, determined to ascertain by experiment whether it would not be possible to furnish the gaunt and bare pit heaps and other refuse mounds which disfigure the countryside with a covering of trees. The association has for its president Sir Oliver Lodge, and it enjoyed, to the time of his death, the valuable services of the late Professor Fisher, who acted as consulting expert. Mr. Hubert Stone is director of the planting operations. The work of the association is two-fold: first to spread information and to excite interest on the subject of afforestation in general; second, to advocate the utilisation of waste lands for the production of timber. The latter makes the more direct appeal to Midlanders, and, as is also natural, some of the members of the association are attracted to it on æsthetic grounds, and lend their support in the hope that some day the Black Country may be made green. Others, encouraged by the experiments that have been carried out under the auspices of the association, are prepared to maintain in the course of time the enterprise of planting the waste land, if there is the prospect that the operations will result in profit. The scope of the work of the association may be estimated by the fact that the waste lands which suitable for afforestation are some 1,400 acres in extent. The association, however, possesses an income of only £150 a year; hence it can neither buy land nor incur the liability of any considerable annual rental. Nevertheless, despite its lack of funds, the association began work in 1903 by establishing two plantations, and by 1908 it had formed 15 plantations, the total extent of which exceeded 60 acres. The results of this pioneer work were sufficiently encouraging to convince the association that the waste land of the Midlands, if properly planted, might be made to bear timber. It also discovered that local unemployed labour might be used with satisfactory results for the work of planting. At the time of the appointment of the Royal Commission on Afforestation, the association hoped, not unnaturally, that its objects would meet with the approval and support of the Commission. The evidence which the association placed before that body was calculated to show that although the Black Country may not be especially suitable for afforestation purposes, yet it is possible to utilise this region for tree planting, and that local conditions of labour are favourable to this operation. It must be admitted that, at first sight, the soil which the association cultivates is of an unfriendly nature. Nevertheless, experiments have shown that trees will grow upon it. The material of which the mounds and heaps are composed varies according to the mining carried on in the several districts, and may consist of heaps of "clunch," or of slag and red ash mixed with "clunch"; weathered limestone also occurs in large quantities in many of the mounds. Where chemical works are situated, there is often to be found a thick crust of sulphur over the heaps, and such places are sterile, even the coarsest grass refusing to grow. The "tocky-dirt," as the miners call the stuff dumped on the heaps, changes remarkably and consistently with the weather; when it is dry, it forms small, flat, grey cakes; when wet, large, sticky masses. Many of the heaps remain on fire for long periods, and, till the fires have cooled, nothing will grow on them. The first natural vegetation which occurs in these situations is a coarse grass, which is followed usually by Dyer's Rocket (Reseda) and by Coltsfoot (Tussilago). Sometimes one part of the heap becomes cool enough to support vegetation, and, in that case, it is found that the Birch thrives so well close to the part of the heap which is still burning that seedlings spring up within a yard or so of the burning area. In addition to Birch, Australian Pine has been tried, but the plantings of this tree are so recent that it would be premature to speak of its suitability for the purpose. Encouraged by the demonstration that trees can be made to grow in the waste land, the association has made application to the Development Fund for assistance. As the result of the application, the plots have been examined, but, so far, financial assistance from the fund has not been forthcoming. It is to be feared that the claims of the association may be lost sight of owing to the grandiose claims of afforestation, which, as one may gather from Mr. Runciman's speeches, the Board of Agriculture is engaged upon. Having regard to the fact that labour is abundant in the Black Country, whereas local labour for afforestation in Scotland and Wales is not available, it would seem reasonable for the Board to give at least a cautious encouragement to the work of the association. Nor should it be forgotten that the timber grown in the Black Country would find a market locally. Alder and Birch, for example, that thrive well there, are particularly suitable for supplying the demand for small timber used in Birmingham in making handles for tools and smaller articles. Of the plantations established by the association, the best are those of Black Waggon at Old Hill, which is the property of the association, and the Fever Hospital, at Bilston, which belongs to the District Council. In spite of difficulties encountered in establishing trees in these plantations, the growth has been good, and the trees withstood the drought of 1911 remarkably well. The Wych Elm has grown successfully planted in the "valleys" between the pit mounds, pushing up tall and straight. In plantations above coal mines the Beech has done well, and the Sycamore is successful on the limestone waste near Dudley. The work of dealing with this waste land is complicated by the fact that the pit mines vary in shape and size. In the north of the district they may measure a mile either way, and are low, whereas the heaps in the south are high and narrow.

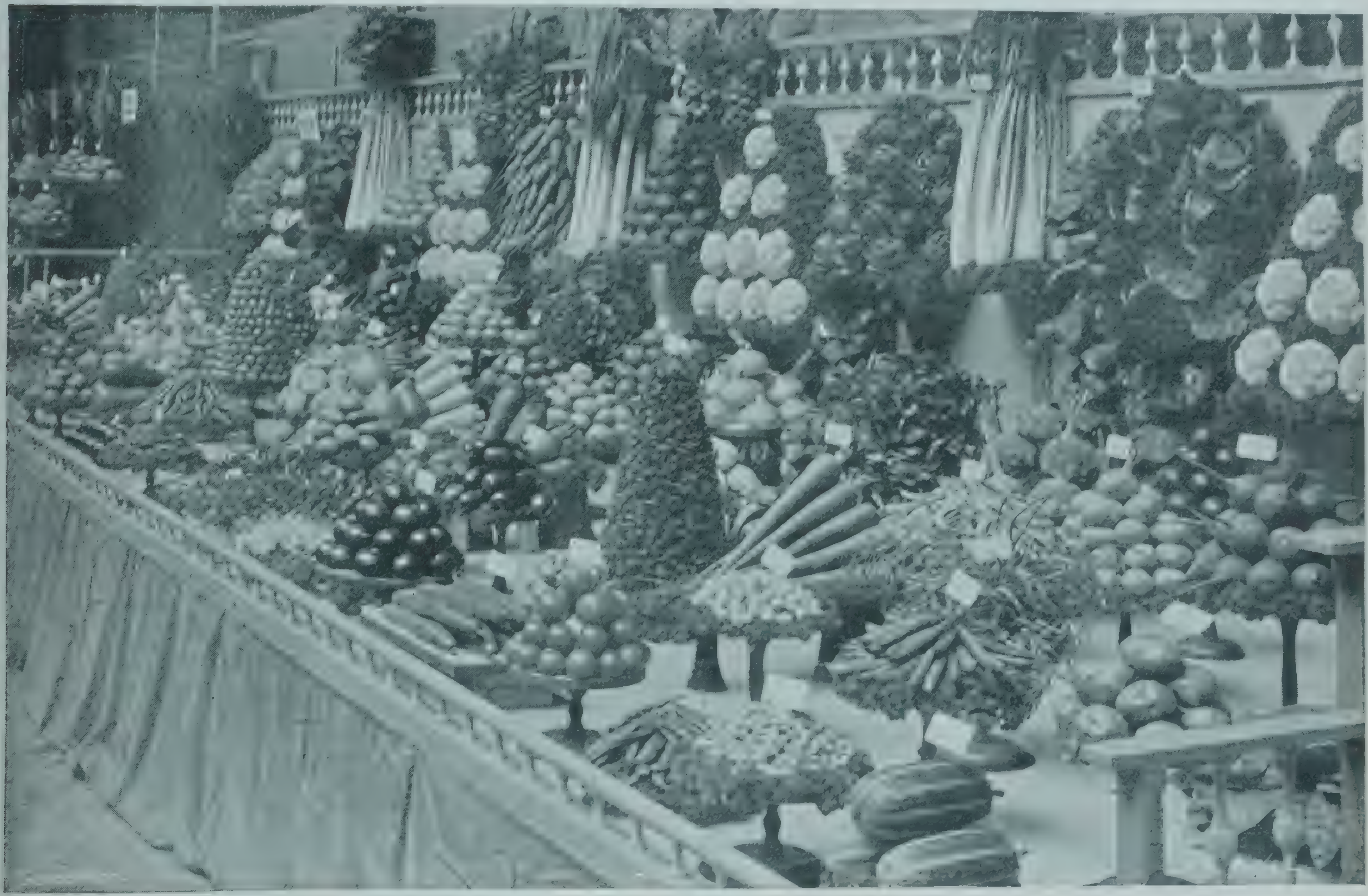


Fig. 130.—THE NATIONAL VEGETABLE SHOW AT WATFORD.

Honorary exhibit staged by the Hon. Vicary Gibbs (gr. Mr. Edwin Beckett).

(See report in last issue.)

Mr. Martineau's address was followed with much interest by the members of the club and their guests, and gave rise to a keen discussion. Sir Richard Paget said that only a resident of the district could realise the utter desolation caused by mining, and he was strongly of the opinion that the owners should not be allowed to so ruin the face of the countryside. In Germany the heaps of refuse are returned to the pits, and he felt that this method should, when practicable, be followed in this country. Even should the planting prove to be unremunerative, Sir Richard Paget felt that the work should be continued, as the improvement to the district was so great. It seemed that trees will grow where but little other vegetation will exist, but it must be remembered that the life of a tree is long, and that he who plants trees plants for his heirs.

Mr. R. L. Robinson, of the Board of Agriculture, hoped that the information he had gathered upon the subject would be of use to the Board at a later date. England owed much of her greatness to the industry that caused these same pit heaps, and for that reason he felt that the district had a great claim to help from the Treasury. Whilst he felt somewhat pessimistic as to any profit ultimately accruing from the planting, the improvement, as he knew from personal experience, was very great, but, besides trees, was it not possible to plant selected species of flowering and evergreen shrubs?

Mr. M. C. Duchesne thought that, although it was doubtful if mature timber would pay, there would be a good market for coppice wood, and, in addition to the trees already experimented with, he suggested planting Poplar, as Poplar timber was largely used for crates.

Dr. Percy Groom agreed with the æsthetic value of the planting. He warmly supported the movement, which he felt had great experimental value.

Mr. W. W. Watts reminded the gathering that it was not sufficient to make the country merely pretty, although the awful desolation of the Black Country must be seen to be realised. Trees were absolutely necessary to improve the lives of the residents. He hoped the movement would interest landowners, and that they would plant trees and so improve the country.

In reply Mr. Martineau said that Alder had been planted for coppice with standards of different trees according to the nature of the soil. In their planting the association had carefully noted the kind of trees which grew best in the various localities.

The next meeting will take place on November 5, when Mr. Kingdon Ward will lecture on "A Naturalist in Western China and Tibet," illustrated with lantern slides.

Obituary.

F. W. Seale.—The *Journal of Horticulture* announces the death on September 29 last of Mr. F. W. Seale, of the St. John's Nurseries, Sevenoaks, at the age of 51. Mr. Seale was a specialist in Dahlia cultivation, and he raised many seedlings of merit.

ANSWERS TO CORRESPONDENTS.

Abies with Gouty Swellings: *J. P.* The swollen, nodulous growths are caused by the Spruce-gall aphis, Chermes abietis (see fig. 131). The trouble is very common on the Silver Fir, and the Larch is also liable to attack. Any remedial measures, such as spraying, must be continued for at least two or three years, and Larches in the neighbourhood sprayed as well. The insect lays about 25 eggs on the edges of the bud scales. When the young are hatched, they live on the sap, and the galls, which are at first green, are formed. The creature emerges in July or August. The best spray is composed of 3 lbs. of soft soap, dissolved in ½ gallon of boiling water, with 1 pint of paraffin added whilst the soapy water is still boiling. After this has been well mixed, it should be diluted with 5 gallons of soft water, and applied as a fine spray. If the tree is a small specimen, the affected shoots should be cut off and burned whilst the nodules are green. Fir tree oil will kill the pest, but its application in the case of large trees is impracticable.

Broad-leaved English Paradise Stocks: *H. P. Bridge, Jun.* Stocks for Apples and other fruit trees may be obtained at prices varying from 5s. to 8s. per 100, or 45s. to 70s. per 1,000, according to size. There are probably at least three varieties of Paradise stock, the old French or Doucin stock and two varieties raised by the late Mr. Rivers, of Sawbridgeworth, one described by him as the Nonesuch Paradise and the other the broad-leaved Paradise. The true English broad-leaved Paradise is perhaps the most effective in giving the dwarf habit; some, however, think the French Paradise the best dwarfing stock for certain kinds of Apples, such as Cox's Orange Pippin. The history of the subject is given in *Gardeners' Chronicle*, 1869, p. 51. The subject was also referred to by M. Decaisne in the *Journal* of the R.H.S., vol. ii. (1870), p. 55, and in a paper by the late A. F. Barron, "Experiments in Grafting Apples," vol. xi. (1889), p. 13 of the same *Journal*. The stocks may be increased from suckers or by cuttings inserted in the autumn. Apples are propagated very much like Roses, and the scions may be either grafted on the stocks in spring or they may be budded in July or August, or the stocks that have failed to take the spring grafts may be budded in summer, and any budded stocks that have failed can be again grafted the following spring.

Chrysanthemums Unhealthy: *W. C.* No disease is present; the damage has probably been caused by frost.

Chrysanthemums Unsatisfactory: *Queen's Co.* We do not believe that standing the plants on a clean, hard bottom is responsible for the loss of foliage. Chrysanthemums grow equally as well when stood on an asphalt bottom as on boards, ashes or garden soil, but the soil in the pots dries more quickly. The probable reason of their failure is the poor quality of the loam, which needed the addition of manure, wood ashes and lime, this latter ingredient being very essential. The sample of foliage sent appears starved. If a lack of nourishment is not responsible, the trouble may be due to the cold, wet season, as stagnation at the roots produces the same result, especially as the early part of the season (April, May and June) was very hot. Sprinkle lime lightly on the surface of the pots and watch its effect on the foliage during the next week or two.

Datura (Brugmansia) Leaves: *C. B.* The small, circular punctures have in all probability been produced by a night-feeding insect, possibly a weevil. Search the plants carefully after dark, and if you discover the depredator, send it to us for identification and advice.

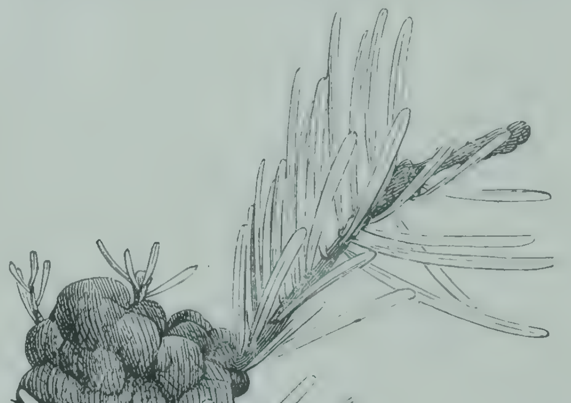


Fig. 131.—Galls caused by Chermes abietis.

Grevillea robusta: *F. B.* The leaf is injured by scorching; no disease is present.

Maggots in Soil: *G. B.* The small black fly is a species of Diptera, and, as far as can be judged, is also the parent of the maggots which have destroyed the roots of the plant in question. Bisulphide of carbon applied to the soil near the roots, at the rate of one teaspoonful to a 4-inch pot, would destroy the maggots, but seeing that the plant is so badly infested, we would strongly advise you to destroy it at once.

Muscat of Alexandria Grapes: *H. D.* The trouble is due to shanking; see reply to *M. S.* in the last issue, p. 275.

Names of Fruit: *A. T. U.* 1, Gascoyne's Scarlet Seedling; 2, Newton Wonder; 3, White Whorle; 4, Radford Beauty; 5, Bismarck; 6, Roundway Magnum Bonum; 7, Maltster; 8, Harvey's Wiltshire Defiance; 9, Cornish Gilliflower; 10, Hoary Morning.—*H. N.* 1, Alfriston; 2, Ecklinville; 3, Beurré Jean Van Geert; 4, Jersey Gratioli; 5, Beurré Superfin; 6, Bourré Bachelier.—*A. M. S.* 1, decayed; 2, Marie Louise d'Uccle; 3, General Todleben; 4, Beurré d'Amanlis; 5, Mme. Treyve; 6, Maréchal de Cour; 7, Duchesse d'Angoulême; 8, Pitmaston Duchess; 9, Beurré Superfin.—*Tower Lodge.* The Pears arrived quite decayed.—*A. R.* Claygate Pearmain.—*E. F. D.* Sheep's Nose.—*J. A. C.* 1, Ribston Pippin; 2, Harvey's Wiltshire Defiance; 3, Hollandburg; 4, Potts's Seedling; 5, Alfriston; 6, Fondante d'Automne; 7, Beurré Diel; 8, Beurré Clairgeau; 9, Beurré Hardy.—*W. S.* Beurré d'Amanlis.—*J. B., Thirsk.* 1, Marie Louise; 2, Gansel-Seckle; 3, Durondeau; 4, Marie Louise d'Uccle; 5, Pitmaston Duchess; 6, Beurré d'Amanlis; 7, Brockworth Park; 8, Williams's Bon Chrétien.—*H. B.* 1, Beurré d'Amanlis; 2, Triomphe de Jodoigne.—*G. B.* 1, Acre Pippin; 2, Grenadier; 3, the Pear much resembles Marie Louise; 4, Cullen.—*W. G. C.* Golden Winter Pearmain.—*R. A. H.* 1, Beurré Capiaumont; 2, Jalousie; 3, Mme. Treyve; 4, Gansel's Bergamot; 5, Beurré Hardy; 6, Reinette Grise.—*F. A. A.* 1, Pitmaston Duchess; 2, Duchesse d'Angoulême; 3, Beurré Sterckmans; 4, Hacon's Incomparable; 5, Joséphine de Malines; 6, Beurré Bachelier; 7, Fondante d'Automne; 8, Passe Colmar; 9, Mme. Treyve.—*S. H. A.* 1, Emile d'Heyst; 2, Passe Colmar; 3, Joséphine de Malines; 4, Marie Louise; 5, Louise Bonne of Jersey; 6, Beurré Rance; 7, Maréchal de Cour; 8, green fruit (Beurré Bachelier, the other fruit was decayed, but did not appear to be the same variety); 9, Beurré Superfin; 10, Jargonelle.

Names of Plants: *E. W.* Populus balsamifera (Balsam Poplar).—*W. W. W.* 1, Veronica Traversii; 2, Anchusa italica; 3, Achimenes coccinea; 4, Hypericum calycinum; 5, Heuchera sp., cannot name without flower; 6, send when in flower; 7, Santolina Chamæcyparissus.—*Insignis.* 1. Ceanothus "Indigo"; 2, Veronica chathamica; 3, Oxalis corniculata; 4, Sedum rupestre; 5, Escallonia exoniensis; 6, Trifolium repens atropurpurea; 7, Fuchsia (garden variety); 8, Escallonia rubra; 9, Veronica Lyallii; 10, Cinnamomum zeylanicum; 11, Ceanothus "Gloire de Versailles"; 12, Hypericum Androsæmum.—*F. E. G.* Funkia subcordata (F. grandiflora of gardens).—*G. Barrell.* 1, Buddleia asiatica, a fine species for a cool greenhouse; 2, Episcia sp., probably E. fulgida, which requires a warm, moist stove.—*A. P., Sunningdale.* Viola palmata.—*T. O.* 1, Adiantum pedatum; 2, Lastrea decomposita; 3, Adiantum hispidulum; 4, Pteris aquilina.—*C. J.* 1, Justicia carnea of gardens; 2, Celsia cretica; 3, Nephrolepis exaltata; 4, Scolopendrium vulgare; 5, Cyrtomium falcatum; 6, Asplenium Nidus; 7, A. alatum; 8, Leycesteria formosa.—*J. B., Mullingar.* Rohdea japonica (syn. Orontium japonicum) figured in *Botanical Magazine*, tab. 898.—*A. C. D.* Aster Amellus var.

Pelargonium Paul Crampel: *R. A. B.* There is no disease present; the blotches on the leaves have been caused by the unfavourable weather.

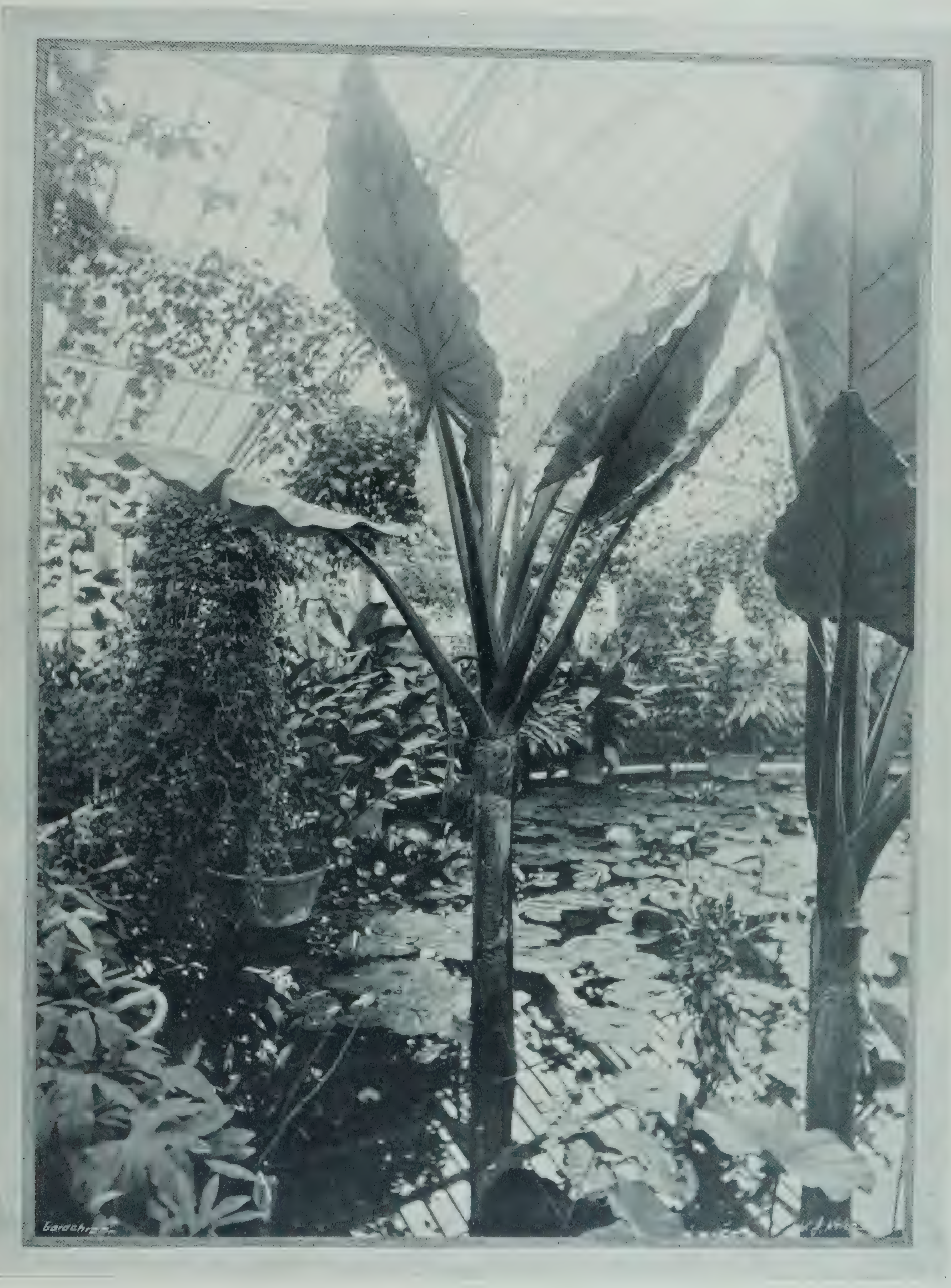
Sulphur as a Manure: *A. W. C.* As a rule, sulphur is present in all soils in combined form, and there is no need to apply it as a manure.

Vine Leaves: *B. N.* The injury is caused by a mite called Phytophus vitis. All diseased leaves should be removed and burnt, so that the mites do not migrate to the buds.

Vines Unsatisfactory: *Sleepless.* The sample of soil sent with the few roots points to a very unsatisfactory condition of the borders, and young wood lice are present in great numbers. The inferior lateral growths and the bunches of fruit show that the vines are enfeebled. The border needs a thorough overhauling, and your best plan would be to lift the vines and reconstruct it afresh. Directions for the reconstruction of a vine border will be found in the issue for May 11, p. 326. If you wish to obtain a supply of Grapes next season, you should treat half the border this year and the other half next year, as vines should only be cropped very lightly the first season following the replanting.

Communications Received.—A. F. W.—L. S.—E. D.—F. R. S.—J. F.—J. B. B. W.—C. M.—A. J. G.—H. M.—D. M., Birkenhead—Hart—R. E. F.—F. E. C.—A. C. R.—G. B.—F. M., France—F. J.—A. P.—T. S.—J. J.—T. Y.—J. P.—C. F. P.—P. & Co.—A. H. S.—G. W., South Africa—F. S.—R. R.—G. M. T.—J. W., Harwich—E. W. A.—G. W. M.—S. C.—A. H.—D. C.—Tutor, A. C. H.

Supplement to the "Gardeners' Chronicle."



Photograph by C. P. Raffill.

The Water-lily House, Kew Gardens, showing large specimens of Typhonodorum Lindleyanum.

THE
Gardeners' Chronicle
No. 1,347.—SATURDAY, October 19, 1912.

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Water-lily house, the tropical, at Kew, in September (Supplementary Illustration)

OCTOBER ROSES.

AT the moment of writing I have before me some fresh and attractive Rose blooms, whilst out-of-doors the plants are still bright with flowers. One of the finest Roses now in bloom is Mme. Wagram Comtesse de Turenne, and I think the qualities of this Hybrid Tea variety are superior to those of any other Rose that may be depended upon to flower in September and October. Twenty years have passed since Bernaix introduced this Rose to commerce, but, for some reason or other, it is not so generally grown as might be expected, therefore I was gratified to read that it was awarded the Silver Medal offered for the best flower of a Hybrid Tea variety at the autumn show of the National Rose Society held in the Royal Horticultural Society's Hall, held on September 12 last. Mme. Wagram Comtesse de Turenne is best grown as a tall bush. Its pale flesh-coloured flowers, tinted with rose, are large and shapely, and, unlike some of the others mentioned here, is at its best in autumn, being of little or no value earlier in the season. It is first and last a late Rose, and, as such, it is worth the attention of the planter.

A Rose of almost equal merit for October flowering is Mrs. Wakefield Christie-Miller. This variety has a most distinct and attractive colouring, and its flowers are plentiful at the present time. The formation recalls that of the popular variety Caroline Testout, and the colour may be described as a soft blush overspread with a pearly sheen, which gives place to a rich vermilion-rose on the exterior of the petals. The warm colour catches the eye because of its distinctness from that of all other Roses. This grand Hybrid Tea is unlike Mme. Wagram Comtesse de Turenne, for it is satisfactory all through the summer.

Duchess of Westminster, distributed last season, is especially good as a late Rose. I have before me a flower of brilliant colour and of a size and formation not excelled by the exhibition blooms of July, and this in spite of a storm of wind and rain experienced three days ago. The fragrance is delightful, and the colour is best described in the words of the eminent raisers—a clear rose-madder. Like Mrs. Wakefield Christie-Miller, it is a very distinct Rose, so far as colour is concerned, although, in formation, it is widely different from that Rose.

Of the dark crimson Roses, Chateau de Clos Vougeot is, at present, the best. The plants are full of flowers, somewhat unshapely it is true, but valuable for their rich colour so late in the season. This Hybrid Tea, introduced in 1908, is inclined to be straggly in growth, and, consequently, is not an ideal bedding Rose, but its late-flowering qualities, coupled with its fragrance, will commend it to those who desire a dark-red autumn variety. Amongst the crimson Roses we find, in Scotland, that General McArthur is the best for blooming in late autumn. It is flowering freely now, and the habit of the plant is good, the colour presenting a richness and depth of tone unprocurable earlier in the season. I am inclined to think that this reliable bedding Rose will be displaced by Lieutenant Chauré, a Hybrid Tea, distributed by Pernet-Ducher two years ago. This novelty is always good, and for two seasons I have never seen the colour fade, a failing of which I cannot acquit General McArthur. Lieutenant Chauré is a rich crimson in colour, the flowers are fairly full and well formed, and the habit is dwarf and admirably adapted for bedding or massing. This Rose has been good all the season, and is still giving a supply of richly-coloured flowers. It promises to become one of the most useful and valuable bedding Roses of the near future.

Two old favourites are still yielding an abundance of flowers of good quality. I refer to La France and Caroline Testout. We are sometimes told that the former Rose is degenerating, and is not nearly so fine as formerly, but I can see no evidence, so far, to support this assertion.

Lady Alice Stanley, beautiful at all times, is especially so at the present season. This exquisite Hybrid Tea Rose, one of the Portadown introductions of 1909, is one of the best of the newer Roses. The flowers are fragrant, and have a desirable fullness and substance. The exterior of the flower is a deep, coral-rose, the interior a pale flesh colour, and the formation is good.

Cynthia Forde is another desirable, autumn-flowering Hybrid Tea Rose, the rich pink, beautifully-formed flowers being very fine and plentiful at this late season. Antoine Rivoire, a descendant of Dr. Grill and Lady Mary Fitzwilliam is now yielding an abundance of rosy flesh-coloured flowers of handsome shape. This Hybrid Tea is invariably good in autumn, and has some reputation for its free flowering qualities at this time.

Among the yellows, or "yellowish" Roses, the best at present is Le Progrès. While it lacks the character of flowering freely late in the year as the other Roses I mention, it is, nevertheless, flowering sufficiently well to justify its inclusion in a list of October Roses. But the colour now lacks the brilliance associated with its blossoms earlier in the season.

The only Tea Rose I shall mention, and its inclusion in the Tea section is, perhaps, of doubtful propriety, is Harry Kirk. Like Le Progrès, however, the flowers, although fairly good in size and formation, show a lack of colour, altogether different from the blooms of summer

I will not prolong the list, but merely add that the Roses I have mentioned are flowering freely, while most of the others have only an odd blossom or two remaining upon the plants, and those by no means representative of the varieties as we know them in summer. We may be grateful that there are some varieties at least which deserve to be described as "October Roses." *George M. Taylor, Mid-Lothian, October 7.*

TROPICAL WATER-LILY HOUSE, KEW, IN SEPTEMBER.

(Supplementary Illustration.)

THE tropical Water-Lily house at Kew Gardens is a square, span-roofed structure, the framework of which is built entirely of iron. It is designed to afford the plants as much light and air as possible consistent with the necessary strength for supporting such a wide expanse of roof. The interior is 46 feet square, the height to the ridge is 17 feet 6 inches and the sides up to the eaves 9 feet, the upper two-thirds of the latter being of glass. The roof is supported by six light steel-bar girders. The foundations are all built of fine quality limestone. Ventilation is provided by sliding lights, mounted on rollers on either side of the ridge, and by a number of smaller apertures at the sides. The centre of the house is occupied by a large circular tank, 36 feet in diameter, with sloping bottom, 2 feet deep at the sides and about 4 feet in the middle. A double row of hot-water pipes maintains the water at the necessary temperature of about 70° F. The four corners of the house are occupied by smaller tanks for growing bog plants. Around the sides, near to the ground line, are six rows of hot-water pipes, and above them is a light but strong stage. Upon this stage is built each spring a bank of light, rich soil of about 15 inches in depth, and faced with turves. In this are planted many beautiful tropical gourds and exotic foliage and flowering plants. Between the side stages and tank is a circular pathway. The tank is planted with Water Lilies and other aquatics, whilst running around its margins is a row of large plants of various kinds of Hedychium and Canna. At the entrance is a large, span-roofed porch, some 20 feet in diameter. The roof of the porch is draped with a large specimen of Bougainvillea glabra var. Sanderiana, which produces quantities of its rich-coloured bracts and yellow flowers all the summer. The white and blue varieties of Plumbago capensis are trained to wires near to the path, whilst at the back is a specimen of the "False Jessamine" (Gelsemium sempervirens), a native of North America, which in late autumn produces quantities of deliciously-fragrant, yellow flowers. Beneath the climbers is a border, some 6 feet diameter on either side, filled with large flowering specimens of both double and single varieties of Hibiscus rosa-sinensis, H. schizopetalus and H. Cameronii, also the very beautiful hybrid H. Archeri (H. schizopetalus × rosa-sinensis), the flowers of which are brilliant scarlet, with deeply-cut or lobed petals. Interspersed between the Hibiscus are low, bushy plants of the rose-coloured Jacobinia magnifica, and, fronting the whole as an edging, are white and pink varieties of the tropical "Periwinkle," Vinca rosea. Of the numerous and very beautiful Water Lilies which are grown in the centre tank, the finest is the large blue Nymphæa pulcherrima, and a worthy rival of the blue Australian species N. gigantea. I have measured flowers of N. pulcherrima 9½ inches in diameter, and blooms of N. gigantea are often 9 inches across. The flowers remain open in the afternoon and evening, when the forms of N. Lotus and N. stellata are closed. N. gigantea requires more heat than other tropical species, and for years past it has thrived under the same conditions as, and in association with, the Victoria Regia. Of the many varieties of N. Lotus grown at Kew, the finest is undoubtedly the large red form known as Omarana, with flowers 6 to 8 inches in diameter, set off by a large cluster of yellow stamens. There are several varieties of this species, including shades of rose, pink and white. Amongst the white forms is the variety thermalis, a native of the ponds fed from the hot thermal springs in Hungary. All the forms of this species close their flowers at about noon each day. Of the forms of N. stellata, the Berlin variety is the earliest to flower, and it keeps up a constant succession of blooms until late in the autumn. In colour it is of a rich lavender-blue, the centre being filled with bright golden-yellow stamens. The flowers exhale a sweet scent during the evening.

N. stellata var. zanzibarensis has the deepest blue of all the Water Lilies. The flowers are somewhat rounder in outline than are those of the type, and with more obtuse petals. It has been given specific rank by some authorities as N. zanzibarensis. It is certainly different from N. stellata in several characters, notably in that the flowers remain open much longer; moreover, the shape and size of the petals and flowers are not alike. N. stellata var. zanzibarensis rosea is quite distinct from the true var. zanzibarensis in the size and shape of the petals and flowers. It deserves a place in all collections from the fact that its flowers remain open until about 6 p.m. Of the smaller-growing Nymphæas which find a home in this house, the best is N. rubra, a species new to the collection. The flowers are about 4 inches in diameter, and of a rich bright crimson colour. The leaves are shortly petioled, the blade being only 4 to 7 inches in diameter, and of a dull coppery-red. N. versicolor, N. flava, and N. flavo-virens are also grown, but not one has flowered very freely. The first-named is very pretty, for, as its name suggests, the flowers are a combination of colours—shades of rose, blush-white and violet.

Facing the doorway on the opposite side of the tank is a mass of the "Sacred Lotus" (Nelumbium speciosum), with its beautiful, erect, silvery-white peltate leaves rising to a height of several feet, and its large, handsome, rose-coloured flowers. The flowers of this plant are variable in colour, ranging from white to deep red. A number of double and semi-double forms are cultivated by the Japanese and Chinese. The rhizomes and scapes are used as food in times of scarcity, and the petioles of the young leaves are cut up into lengths and cooked in the same way as Asparagus.

Associated with the Nelumbium are several large specimens of the gigantic Aroid Typhonodorum Lindleyanum, of which a description and Supplementary Illustration were given in *Gardeners' Chronicle*, September 7, 1912. Two specimens of the "Water Poppy" (Hydrocleys Commersonii) have been a feature of the tank all the summer, and have borne many hundreds of their lovely primrose-yellow flowers. Recent experience with this plant has shown that when grown in shallow water with its roots running out into the mud it produces hardly a single flower, but when grown in a small pot, and its long, free-branching stems and leaves are allowed to float out on the surface of deep water, it flowers at nearly every leaf. Specimens of the male and female plants of the "Eel" or "Tape Grass" (Vallisneria spiralis) are grown in pots. The plant is a submerged aquatic, the female flowers being supported on long slender peduncles, which, when ready for pollination, elongate and allow the flowers to float upon the surface of the water. The male flowers, which are borne on short peduncles, break away from their stalks and float to the surface, where they mingle with the female flowers. After fertilisation, the long peduncles of the female flowers contract spirally and draw the flowers down under the water, where they remain until the fruit develops.

Of the species of Hedychium grown in large pans in this house, the best is H. coronarium. The pure-white flowers are produced in short terminal heads, and are deliciously fragrant. H. spicatum and H. elatum have both primrose-yellow flowers, and are rather tall-growing plants, reaching to a height of some 8 or 9 feet. Of the hybrids there are large specimens of H. coronarium × Gardnerianum, a fine, free-flowering plant, with the white flowers and dwarf habit of H. coronarium and the longer inflorescence of H. Gardnerianum; it also possesses the character from the latter parent of opening most of the flowers together and not in succession, as obtains in H. coronarium. Two fine hybrids, with scarlet or brick-red flowers, are seen in H. angustifolium × Gardnerianum and H. coccineum × coronarium. Of the two the former is the better, the spikes being longer and of a brighter colour. Alternating with the Hedychiums are large pots of Cannas, a few of the best of the garden varieties being grown. Some of the plants are 8 or 9 feet high, and flower profusely. They are given a rich artificial manure throughout the whole of the growing season. Trained on wires near to the glass are many kinds of Gourds, also several kinds of Cucumis Melo.

A very beautiful plant is the "Horned Cucumber," of which there are several plants; one specimen has nearly 130 of its oval, spiny fruits. The fruits are some 3 to 5 inches in length, covered with long tubercular spines, and are a bright orange-scarlet colour when ripe. Trichosanthes anguina, the "Snake Gourd," is also bearing a heavy crop of fruit; these are silvery-white, striped and spotted with green at first, but when ripe they change to dull red, and soon afterwards decay. The fruits are a foot or so long, linear or lanceolate, and sometimes grotesquely twirled and twisted. The "Wax Gourd" (Benincasa cerifera) is conspicuous on account of the size of its fruits, which are of a beautiful silvery-grey colour. The fruit is cooked in India in the same way as the Vegetable Marrow. Several species of the "Towel Gourds" or "Loofahs" are grown, notably Luffa ægyptiana and L. acutangula; each is bearing a fine crop of fruits. A number of other very beautiful Gourds are also in various stages of development. One of the best of the small-fruited kinds is Momordica Charantia, a slender-growing species with pretty palmately-lobed leaves and with a large number of its handsome fruits. The latter are elliptic in shape, 3 to 5 inches long and covered with short tubercles. The fruits are green when young, but change to brighter orange when ripe, and split open into three lobes, each of which is reflexed like a Lilium, displaying a double row of seeds along each lobe, surrounded by a mass of bright-crimson pulp. The plant is cultivated in India, China and the Malay States for its medicinal properties, and also for food. M. Balsamina is a smaller-growing species, allied to M. Charantia.

"The Colocynth" (Citrullus Colocynthis) has also fruited well this season; the fruits are globose, prettily variegated with green and white, and some 3 to 4 inches in diameter. Remains of the fruits and seeds of this plant are often found in the ancient tombs of the Egyptians. The pulp is extremely bitter, and is in use for medicinal purposes, being a powerful purgative.

Several varieties of the "Calabash" (Lagenaria vulgaris) are grown. The fruit of this species is extremely variable in size and shape. It is employed in the tropics for all sorts of domestic purposes, and the narrow, curved end of the fruit near the stalk is used in large numbers for the making of tobacco pipes. The varieties known respectively as "Bottle," "Flask" and "Club" Gourds may be readily recognized from their shape, and these may all be seen in fruit. *C. P. R.*

(To be continued.)

NURSERY NOTES.

DEANLANDS NURSERY, BALCOMBE.

In this favoured site for gardening purposes Mr. C. F. Waters some years ago arranged a commodious block of glasshouses for the cultivation of Cucumbers, Tomatos, and popular florists' flowers for market purposes, Carnations being always favourites. In the course of time the Carnations, in the culture of which Mr. Waters is a specialist, came to occupy most of the houses formerly devoted to other plants, and proved well worthy of the preference shown them, giving flowers, always in demand, in greater or less quantity all the year round. The object has been to secure supplies when other flowers are scarce, the summer crop being of the least consequence. Nevertheless, even in summer there are large quantities of bloom on the leading kinds and some specially good things in the house of seedlings raised at Deanlands, the best of which is the large cerise Carnation Edith Waters, which has already acquired a good reputation.

It is interesting to note in the various batches the method of culture, beginning with the large quantities of newly-layered old plants, then passing to the frames of young plants under shelter, and the larger plants of winter-flowering varieties already sending up their spikes. Then in the glasshouses are the plants in full vigour and bloom, while the bulk of the occupants of the large span-roofed houses has given their main crop and are only left for the occasional blooms they supply. But just as the Carnations encroached on other flowers, so they are steadily being, in a measure, ousted by the Orchids, which here, as in other parts of the district, are found to thrive well with even less attention than is required for ordinary florists' flowers; moreover, in proportion to the space occupied, the sale of their blooms is more remunerative.

Odontoglossum crispum of splendid quality and remarkable vigour occupy several long, low spans, which were originally built for Cucumber growing. The change to Orchid houses was made in the simplest manner. The earth beds, fronted by a low brick edge, were levelled and formed the moist surface. On flower-pots placed on these, open woodwork stages were laid, the change being effected for a few pounds. The result has been highly satisfactory; the plants are all that could be desired, and the yield of flowers plentiful. There are a number of O. crispum in bloom, some very large-flowered O. Pescatorei, O. Harryanum, O. Thompsonianum, and a vigorous batch of the cinnabar-scarlet Cochlioda Noezliana.

In the intermediate houses are some 2,000 Cattleya Mendelii and a fine lot of C. Mossiæ, in both cases purchased as small, rough, freshly-imported pieces, but now of good quality and many in sheath. A batch of Lycaste Skinneri with some in flower, a healthy lot of Miltonia vexillaria, good Vanda cœrulea, a vigorous lot of Cattleya Trianæ, C. Schröderæ, and C. labiata, varieties of Lælia anceps, and small lots of many other Orchids useful for cut flowers were also remarked.

Among the Cypripediums were a good batch of C. niveum with some in flower, C. bellatulum, and C. Godefroyæ leucochilum doing well; Sobralia xantholeuca with several large, clear yellow blooms; two very fine forms of Cattleya Dowiana in flower, and fine plants of C. D. aurea, some being in sheath although small. Hybrid Orchids also are well represented, and provision made for raising novelties, some seed capsules on Odontioda Charlesworthii, various Odontoglossums, Cattleya Mossiæ Wageneri, and others being well advanced, and a goodly supply of little hybrid Dendrobiums and Lælio-Cattleyas well in progress.

Among hybrids in bloom were a remarkably fine dark form of Lælio-Cattleya Martinetii, with bronzy-gold sepals and petals tinged with rose, and very dark claret lip, a number of hybrids of Cattleya granulosa, while C. Portia, C. Mantinii, and other hybrids of C. Bowringiana promise well for winter blooms.

NEW OR NOTEWORTHY PLANTS.

PODOCARPUS FORMOSENSIS,* Dümmer.

Matsumura and Hayata, in their recent publication *Enumeratio Plantarum in insula Formosa,* etc., cite[†] four species of Podocarpus occurring in that island, namely, P. latifolia, Wall., P. macrophylla, Don, P. Nageia, R. Br., and P. argotænia, Hance, of which the latter is now referred by Pilger to Cephalotaxus, viz., C. argotænia, Pilg. An inspection of the material at Kew, however, suggests the existence of a hitherto undescribed species, which exhibits an obvious alliance to P. Nageia, a valuable timber tree, occurring also in Japan, and, according to Mr. A. Henry, known in the Mandarin language as "Sha-shan" or "Shan-sha." From it, however, P. formosensis is differentiated by its rigid habit, the congested and stiff nature of the branchlets, the thicker-textured, relatively smaller leaves, which are, moreover, narrowly elliptic or more frequently lanceolate-elliptic, their apices peculiar in being obtusely truncate and often blackened as if a heated iron had been applied to them, and rarely possessing the characteristic long cusp of P. Nageia. The specimen (No. 1357) upon which the following description is based was collected by Mr. Schmüser at South Cape, on behalf of Dr. A. Henry, who communicated it to Kew, but, unfortunately, particulars respecting its habit or size, whether arborescent or frutescent, are lacking.

Second and third year's branches stout, semi-terete and invested with a rough scaly dark-brown or greyish bark; branchlets subopposite, erect, congested, rigid, alternately compressedly tetragonous, smooth, glabrous, densely leafy; internodes 0.8—1.5 cm. long. Leaves opposite, decussate, ascending and imbricate, narrowly elliptic or elliptic-lanceolate, obtuse or obtusely ustulate-truncate, narrowing below the middle into a broadened and flattened pseudo-petiole; 2.5—3.5 cm. long, 0.7—1.5 cm. broad, thick and rigid in texture, apparently nerveless and smooth on both surfaces, the dorsal stomatiferous subparallel lines scarcely visible; margin scarious and slightly recurved. Fruit borne on a stout scarred peduncle, 7 mm. long, glabrous, 1.4 cm. in diameter, thickly fleshy, the receptacle obsolete. *R. Dümmer.*

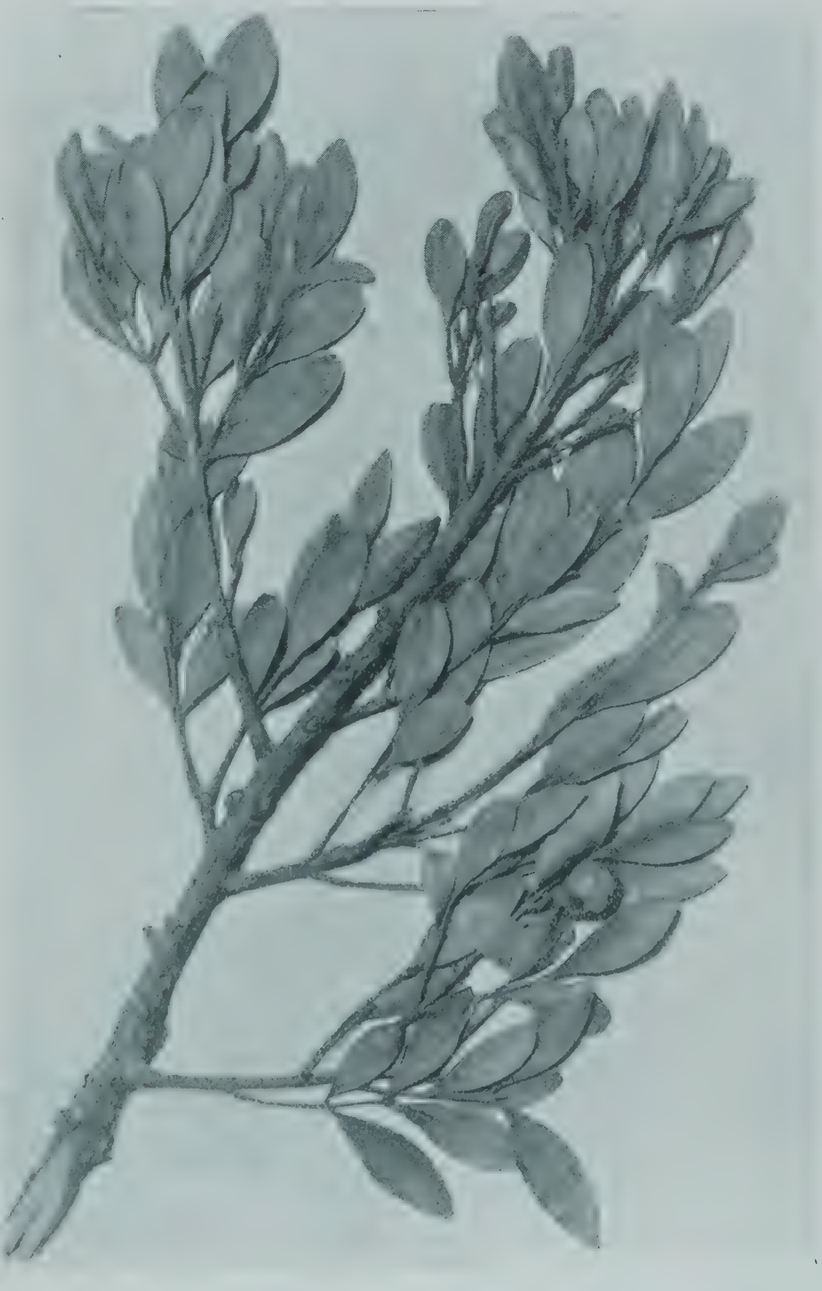

Fig. 132.—podocarpus formosensis (½ nat. size).

NOTICES OF BOOKS.

Chrysanthemums.*

This volume, the most recent of "The Present-Day Gardening Series," maintains the high standard of efficiency that is found in the previous volumes of the series. To Mr. Harman Payne is deputed the relation of the history of the flower, and the reader is presented with a clear and succinct chronology which is worthy of all praise, as was to be expected from one who has made a closer study of the subject than any other person. It would be impossible to mention all the names of the great growers, but at least that of Mr. Douglas, of Loxford Hall, and Mr. Donald, of Knott's Green, both of whom produced finer blooms and superior plants to those of Mr. Forsyth, of Stoke Newington, might have been included. A slip seems to have been made in attributing a slackness in Chrysanthemum culture subsequent to 1874. In the Wimbledon district at least, where Roe was producing fine blooms at Dover House, Roehampton, along with Jordan, Bentley, and others, there was no slackening of the pace. I miss, too, the name of Mr. Edwin Molyneux, the influence of whom, if not in the Metropolitan area, at least in the provinces, has been far greater than that of any other individual in promoting the cultivation of the Chrysanthemum.

Mr. Shea provides an illuminating chapter on the botany, fertilisation, and production of new varieties from seed. He also writes the preface to the book. The bulk of the volume, however, is from the pen of Mr. Stevenson, and those who possess the latter's book on *Sweet Peas* need not be told how practical a writer he is. In this volume he is better even than in the former; the subject is treated with a firmer hand, and the instructions are more terse and clear. Nothing of a cultural nature seems to have escaped notice, and though it may be possible to object to some of the recommendations, as, for instance, the advice to apply manurial stimulants at an early stage of growth, yet it is certain that some soils require that treatment. In addition to the usual chapters on cultivation, exhibiting, &c., there is an informative one that can be safely recommended on the decorative uses of the flower. Mr. Stevenson is correct in his commendation of large blooms for large apartments, but it cannot be concealed that many ladies cherish an antipathy to Chrysanthemum blooms, whether large or small, but chiefly to the former. So what can gardeners do when they have to respect the desires of such persons? Mr. Stevenson and Mr. Shea alike have visions of a glowing future for the Chrysanthemum, and are impatient of the croakings of the incredulous and those who—perhaps not without reason—insinuate a waning of its popularity. Hence, no doubt, the vigour of the pronouncements of the volume and the virility of its tone. The illustrations, I need hardly add, are perfectly beautiful, as is

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* Species nova P. Nageiæ, R. Brown affinis sed habitu magis rigidiore, ramulis confertis, foliis anguste ellipticis aut frequenter lanceolato—ellipticis raro cuspidatis minoribus crassioribus facile distinguendus. Cephalotaxus

* *Chrysanthemums*, by Thomas Stevenson, with chapters by C. Harman Payne and Charles E. Shea, with eight

ROCK GARDENS.*

THIS is a manual intended mainly for the use of owners of small or medium-sized gardens who make a speciality of Alpine plants. A large portion of the book is devoted to the subject of construction of rockwork and selection of soil, though Mr Jenkins lays but little stress on the latter point, insisting more upon the quality of the stones, which he states should be absorbent in all cases. This is contrary to our experience, which shows that many Alpines grow and flourish upon the hardest whinstone. An exposed position is recommended, and one where there are no trees. This latter point is important, for the roots of trees often rob the imported soil; and though it is possible to keep adjacent roots within bounds, it is not easy.

Beside general directions for the construction and preservation of the rock-garden, the book contains chapters on special glass structures, frames and window boxes for Alpines, and also directions for their propagation by cuttings and seeds. The very useful lists, including one of Conifers, help to make the little volume both useful and interesting to the beginner. There are several attractive illustrations showing examples of Alpines as decorative garden plants. *B.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

THE MORAINE (see p. 263).—The contribution to this subject from the pen of M. H. Correvon, will have been read with deep interest by many. There is no doubt that the crucial question in respect to the moraine at the present time is that of the water supply. Mr. Reginald Farrer and Mr. R. A. Malby have previously afforded us the benefit of their experiences and their views, which are largely divergent on this question. M. Correvon is evidently in favour of getting the water through the moraine, and in this view he supports Mr. Malby. On the whole, I am disposed to take the view that, while water through the moraine is useful, and in some cases necessary, it depends largely upon climatic considerations whether it is really imperative or not. It has to be remembered that the use of Sphagnum for Alpine flowers, spoken of incidentally by M. Correvon, is not always helpful, but rather the reverse in British gardens. So, also, I have learned to consider that water for the moraine is not such a necessity in the gardens of a great part of these islands as is alleged. I am of opinion that there are seasons when it would be very beneficial, but in many parts of Great Britain and Ireland the rainfall is so large that it is very rare indeed to find the moraine in need of any other supply of water. I quite agree that M. Correvon's method is excellent for his conditions and for those of gardens in districts where the summer rainfall is very small, but for other places it will be found that the underground stream is not only unnecessary, but sometimes injurious. A well-arranged moraine, consisting of ample drainage below, a thin layer of soil, and the remainder of chips, grit and sand, will suffice for the successful cultivation of most of the difficult Alpines which cannot be cultivated on a wall or a rockery. During times of drought a thorough watering with the hose or the watering can will afford all the moisture that is required. *S. Arnott.*

RECLAIMING SAND DUNES IN BELGIUM.—I was interested to read Mr. Webster's article on the Belgian sand-dunes (see p. 243), and can assure him he need not go so far afield to find the same thing being carried out with success. I refer to the sand-dunes between Southport and Liverpool, where there must be still hundreds of acres that could be planted with certain success that would pay well for the outlay. A few days ago, when visiting Formby, a friend took me for a little drive from Freshfield to the shore. It was a great pleasure—I noted the beautiful Sea Buckthorn, heavily laden with orange-coloured berries, for nearly a mile along the front; it was a sight I shall not easily forget—intensified, no doubt, by my not having seen it berried before then. The splendid success of the Firs, apparently planted some eight or ten years since, was seen in their marvellous growth, clean, vigorous and straight, yet planted in nothing but fine sand. Here, then, is an extensive field of afforestation, where there is every indication of it being a commercial success and of great benefit to the district. I was told that the gales from sea are most terrific at times, yet, up to the growth of these Firs some 8 to 12 feet, they have not turned an inch landwards. The interesting problem is: How much higher will they grow before the storms will affect them? As to the species of Firs, so far as I could judge whilst driving along, they were much the same as in Belgium. I noticed several other shrubs and trees growing quite at home, especially the Willows, most successfully, but, as they grow higher, their heads are forced landwards. Elms, Maple and Poplar are all affected in this way, so the question again presents itself: Will the Pines, that are so straight, turn landwards also? I was pleased to see that more of these sand-hills are being planted on the way from Freshfield to Southport; there is a big field for operation, almost too much, one would think, for my lord of the manor. It is truly a national question. *J. Taylor, Hardwicke Grange, Shrewsbury.*

THE PERPETUAL-FLOWERING MALMAISONS.—With reference to your correspondent's article under this heading (see p. 260), there are one or two qualifications I should like add to his statements. In the first place, however, he is quite in error in claiming to be the raiser of Princess Juliana, for this variety was raised by the late Mr. E. F. Hopper, when he was Carnation grower to Messrs. Hugh Low & Co. I was associated with the late Mr. Hopper in his work of raising new varieties, and Mr. Hopper's deputy is still in the employ of Messrs. Low. "That the days (of Malmaisons) are numbered none can deny" may be partially true, but until we have obtained in other types of the flower, varieties as good as Duchess of Westminster or Princess of Wales, the cultivation of Malmaisons will continue to be practised. I am sorry your correspondent avoids the definition of a Malmaison, because so much depends on what a Malmaison really is. His point, however, that the Perpetual Malmaison of to-day comes from the same source as the old Malmaison, is incorrect, as the latter was obtained probably from the French "Remontant," whereas the former comes mostly from the American strains, which truly enough we call Perpetual, but yet are totally opposite in form of flower and different in habit from the French Remontant Carnation. *Laurence J. Cook.*

AUTUMN COLOURING OF FOLIAGE.—Mr. J. Gardner's list (see p. 269) and remarks on this subject are very interesting; I quite agree that sunshine is not the only essential factor in the process, but surely it is one of the main causes. If we take the plants mentioned, we find that practically all of them, in their native habitats, have generally, at the time of coloration, a good amount of sunshine, together with frost or cold at night. From this, and the fact that when planted where they get sunshine but no decided amount of cold at night, and then do not colour, I think we may safely infer that sunshine and a low temperature at night are the main factors. I leave it to others to explain the why and wherefore. *F. Martin, Summercourt, Wrotham.*

APPLE MILLER'S RED VICTORIA.—We commenced to show this variety on August 20 at Shrewsbury, and continued to exhibit and market fruits in September. I send you six fruits from a tree planted in December, 1908. The variety is a splendid one for market; the trees bear freely in a young state, and the fruit finds a ready market. The colour is marvellous, even now (September 27) the fruits are quite a show. *Stephen Castle, Manager, G. W. Miller, F.R.H.S., Walpole St. Andrews, Wisbech.* [Very soft fruits of extraordinary brilliant colouring. They cook well, have a good flavour, and are so sweet as not to need added sugar. The variety was illustrated in the issue for October 24,

THE COLORATION OF FRUIT.—It is extremely interesting to read the many speculations concerning the colouring of Apples and foliage in such a sunless summer as that of 1912. There can be no doubt that it is plenty of moisture and clear, pure air (oxygen) which cause our fruits to colour well. Some writers say that the high colour is due to climatic conditions. It is a pity that there is not more experimental work done, and not so much guessing. In this matter of coloration, any reader can try the following experiment. Procure several small boxes, without lids, about 9 inches to 12 inches square and 3 inches to 4 inches deep. Holes should be made in the bottoms of the boxes for ventilation, and some strips of wood (laths) should be laid across the bottom of the box to keep the fruit from touching the bottom boxes; lay in one box a lining of blue paper, another of red paper, and a third white; obtain fully-grown Apples, of various kinds, and lay them in the box in various positions—upright, on their sides, or stalk upwards. When this is done the boxes should be placed quite in the open, near the ground, resting on 5-inch or 7-inch pots. Between Raspberries or Currants is a good place for light and shade. As soon as the night dew has evaporated, commence spraying the fruits with clear water at regular intervals of one, two, or three hours, bringing the spraying to an end as the evening shadows fall. Whatever intervals of spraying are decided upon, it must be done regularly, and in a week's time a marked difference will be evident. The fruit in the blue-lined box will be the deepest colour, the white second and the red third. The fruits may be collected for experiment and suspended in the branches of bushy trees, and there sprayed regularly, when they will soon become highly coloured. *John Smith, The Shire Hall, Durham.*

IRISH ORCHIDS.—Near Omagh, Co. Tyrone, I found this year an Orchid which seems to be the Orchis densiflora, Wahl. (Habenaria Gymnadenia, H. conopsea), var. densiflora, which differs from Gymnadenia by its larger and more densely-flowered spikes (the Irish ones were 6 inches long) and by the relatively shorter and straighter spur. It is new to Ireland, but the late Rev. W. Newbould found it many years ago (teste *Eng. Bot.*, ix, 103) in Herts. Orchis O'Kellyi I also found in Co. Tyrone and at Toome Bridge, Antrim. *G. Claridge Druce, Oxford.*

THE ALPINE GARDEN.

PRIMULA GLUTINOSA AND P. INTEGRIFOLIA.

As the note and illustration on Primula integrifolia (see p. 258) both refer quite clearly to Primula glutinosa, perhaps it may be of interest to repeat a few facts about these two species.

P. glutinosa can always be recognised with absolute certainty among European Primulas by the rich violet-blue colouring of the flowers, which sometimes varies to more vinous tones indeed, but always so far keeps the note of blue that where P. glutinosa is abundant the hill seems veiled in blue-purple. The flowers also have a peculiar and most delicious fragrance, the segments of the corolla are cleft into such deep lobes that each bloom looks as if it consisted of 10 narrow petals, and the head of blossom is enclosed in big and baggy bracts. The narrow, strap-shaped leaves are toothed all round their edge, and are markedly sticky. The plant does not form lawns or wide masses, but grows in definite little clumps or clusters. This is the essential portrait of P. glutinosa, which there is no reasonable chance of mistaking for any other species. It is specially abundant in the Ortler district, in the Hohe Tauern, the Brenner Alps, and the Southern Dolomites, occurring locally in splendid quantities at considerable elevation, and invariably on granitic or volcanic formations, never on limestone. It affects the moist, high turf of the upper slopes and ridges, and has a greater toleration for moisture than many of its kind, though I have never seen it

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* *Rock Gardens and Alpine Plants*, by E. H. Jenkins; edited by T. W. Sanders. (London: W. H. and L. Collingridge.) Price 2s. 6d.

P. integrifolia may be known very clearly by the fact that its leaves are entire. Botanists, indeed, no more than those politicians of whom one happens to disapprove, are by all means always founts of pure and perfect accuracy in their descriptions, and Buddleia albiflora, for instance, has flowers of a tender lilac. But in the case of Primula integrifolia they have not played fast and loose with facts; the leaves are entire, and one cannot describe as "entire" leaves so clearly toothed as those of P. glutinosa. P. integrifolia ranges further west than the other, being found in the Pyrenees, here and there in Switzerland, and abundantly in the Engadine on the highest moorland turf, where it forms lavish lawns of loosely-spreading masses; the flowers are very large, soft, lilac-pink, and carried in heads of two or three, double the size and half the number

with any of its congeners, it would be with the magnificent mat-forming Primulas of the arthritic section. But a second glance will set matters right without delay or difficulty. For all the four arthritic Primulas have leaves that are absolutely smooth, glossy, hard and leathery, but the narrow, oval-pointed leaves of P. integrifolia are soft in texture, sparsely downy, and fringed with an eyelash of fine green hairs.

Neither species is common in cultivation; but then, what species is? Sad experience teaches me that in most gardens the only Primulas to be found are Auriculas and the countless hybrids of hirsuta, always described as "viscosa," as well as by other fancy names. Perhaps, too, P. Wulfeniana or P. glaucescens may be seen, either under the name of P. calycina, which does not exist, or of P. carniolica, which is a most rare, glorious and distinct species. Therefore, I

Primulas in general, so lovely, so brilliant, and, on the whole, so easy to grow, with a modicum of the attention that every true rock-gardener expects to have to bestow on his treasures; otherwise they would not be treasures. But of P. glutinosa I must confess that it wants more than a modicum; it is a difficult species on the whole, not hard to keep so much as to flower. Clean, cool, peaty soil, well drained but moist, in a pure air, seems to suit its needs; in any case the beauty of our one blue Primula is so exceptional and so ravishing that one hardly conceives it possible that earnest enthusiasts should grudge it the attention that they so willingly squander on comparatively squalid and impossible little conundrums such as Androsace Haussmannii. Eritrichium itself is not more beautiful and twice as difficult; yet for 20 who run gladly towards bankruptcy for Eritrichium, hardly one will be found coping with imperial P. glutinosa—no, and hardly even with rich, amenable, happy-go-lucky splendours as P. Clusiana and P. spectabilis. As for P. integrifolia, it is quite easy to grow, though I cannot rank its beauty so high as that of the arthritics or P. glutinosa. But then they would spoil any market. *Reginald Farrer.*

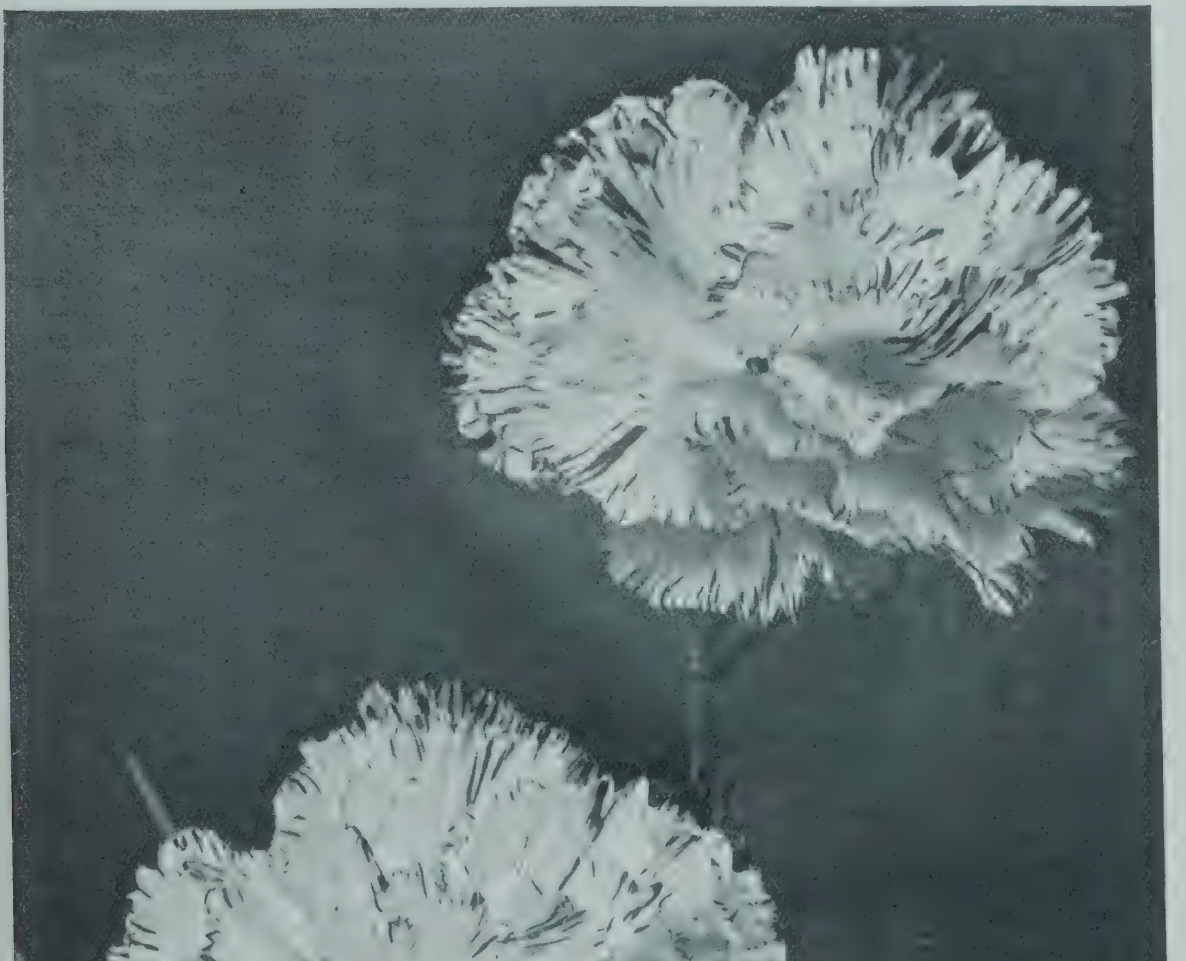

Fig. 133.—Perpetual-flowering Carnation Benora.

FLORISTS' FLOWERS.

PERPETUAL-FLOWERING CARNATIONS.

Varieties of perpetual-flowering Carnations soon run their course and pass out of cultivation. The question therefore naturally arises—Why do they deteriorate? Because this type of Carnation has no period of rest, but grows and flowers during its entire life. After the first four years of its existence a variety gradually becomes weaker, and if one follows the life of a perpetual-flowering Carnation for 12 months this will not cause wonder. During the winter, the natural resting period for all members of the Dianthus family, the perpetual-flowering Carnation is busy growing and flowering. Cuttings are removed from the parent plant, and when they have passed through the weakening ordeal of rooting, they are rapidly grown on into flowering plants, so that from the time a seedling produces its first flowers until the plants of that particular variety number millions and are grown in practically every civilised country, it grows unceasingly. Small wonder that a variety deteriorates. It is seedlings alone which can possess new vigour.

Those of us who remember Mrs. T. W. Lawson when it was first sent out in 1900 know that those who grow it to-day only have a shadow of the Lawson of 1900, and this is not remarkable considering the millions upon millions of plants which have been propagated since the year 1896, when it first flowered as a seedling.

Selection and good cultivation contribute to prolong the life of all varieties, and weak stock is worthless. But, as I have tried to make plain, no variety of perpetual-flowering Carnation can, like Tennyson's brook, go on for ever. A Rose may retain its vitality, a border Carnation may, but a perpetual-flowering Carnation cannot.

Which are the varieties, in my opinion, that already show depreciation, and which of the new aspirants to fame will supersede them are matters on which I may write at some later date. Every new Carnation is not an Enchantress, yet greater varieties than Enchantress will come, if, indeed, some are not here. *Montagu C. Allwood.*

CARNATION BENORA.

Each season there are numerous novelties added to the already extensive list of Perpetual-flowering Carnations. One of the most recent at the exhibitions is Benora (see fig. 133), a white-ground, fancy flower, with markings of bright red. The flower is of fine size, and possesses a long, stout stem, making it valuable for the florist. The variety was included in Messrs. Stuart Low & Co.'s exhibit at the R.H.S. meet-

THE NARCISSUS FLY.

(See also illustrated article in last issue.)

This year on account of gaps in some of my Daffodil plots, though I saw no mature fly about, I suspected the presence of the grub of the Narcissus fly, and in the latter half of June I took up the whole of my collection, mostly seedlings, about 10,000, including loose offsets. I examined every bulb closely and carefully both at neck and base, going over them twice and cutting open any that were doubtful. Altogether I found 35 to 40 bulbs with the grub in them. It is quite certain that in every single case the grub had entered at the base. In all cases except nine (including three with full grown grubs), the bulbs outwardly were absolutely intact, except for the one spot where the grub had entered. Whether the actual point of entrance was at the junction of the base plate with the layers of the bulb, or just below the edge of the base where the outermost ring of roots spring from, I was unable to be sure in all cases, the hole (which was probably very minute) being always closed up, or obscured at any rate to my rough and ready examination, by the surrounding tissue of the base becoming brown and corky. And the area of the base which becomes so affected by the puncture seems altogether out of proportion to the injury, as if the grub at entrance emitted some substance which acted as an irritant. In all these cases the grub was still small, less than ¼ inch long, and had not travelled more than from one-third to three-quarters of the length of the bulb towards the neck. In the other few bulbs (five or six) the grub was larger, and had bored as far as the neck or nearly so, and there was therefore a possible opening at the neck, but it was quite clear in these cases, too, that the grub had entered from the base, where the damage was older and more extensive, the boring at the upper part, where the grub was found, being only about its own diameter and evidently more recent.

How the grub arrives at its point of entrance I found no evidence to show—whether it creeps down the outside of the bulb till it arrives at the edge of the basal plate, or whether it goes down inside the outer skin! The latter may be the case with bulbs that have formed an offset, for in the majority of such bulbs (though not in all) the point of entrance was at or near the junction of the offset with the main bulbs. But in the case of young bulbs that have not yet begun to form an offset it would seem impossible for the grub to get down inside the outer skin. Also, there was nothing to show that the grub does not travel through the earth and not on the surface of the bulb at all, though in that case it is more difficult to understand how it arrives at the right spot, unless it first starts on a root and so up into the bulb.

Usually the grub bores straight towards the centre and then turns up, but in three cases the grub had apparently turned up immediately after entering, and had bored along in the substance of the first layer (under the skin) like a Celery leaf grub. In two of these cases after meandering some way without growing any larger (or even getting smaller), the grub was evidently starved and either dead or dying. In the third case it had at last bored through into the next and more succulent layer, and, as the boring showed, had then rapidly increased in size. I note this especially, as I think it points to the advisability of getting the bulbs up and dried as quickly as possible, as evidently the grub when young needs moisture to thrive.

In three bulbs the grub was practically full grown at the time of taking up in June. As it is hardly possible that the fly could appear during the winter, it seems probable that the eggs (or even the young grub) may remain dormant for some time.

All my bulbs being planted in lines in plots, was possible to locate roughly the position of each bulb in which a Merodon was found. They were scattered irregularly over nearly the whole of the plots, and there was no evidence of concentration in any one spot. This seems to show that the fly lays its eggs quite at random, and one at a time. And this is confirmed by the fact that (with one doubtful exception) only one grub was found in each bulb.

The only measure I took during flowering time was to sprinkle Alphol broadcast over the plots twice during May. What effect this had in keeping the fly away and deterring it from laying its eggs, or in killing the grub as it hatched out, or whether if the sprinkling had been repeated oftener and more thoroughly the fly might have been kept off altogether, I cannot say, as I left none untouched for comparison. But I think it is worth trying systematically. It is perfectly harmless even to young seedlings.

When the Merodon has appeared I think it should not be very difficult to eradicate. My present experience suggests that all the bulbs should be taken up early, washed or cleaned roughly and dried quickly. I dried some in the sun for two days, and if I had to go through the job again I should do so with all. Then, as soon as possible after taking up—when cleaning and trimming off the roots—they should be examined, and again later, a week or two before planting, which for one season it would be best to defer rather longer than usual. It is a considerable labour, especially when they are seedlings which have to be kept separate. But once it is recognised that the point of entrance is at the base, much time is saved, as the necks need not be closely examined. And with very little experience the bulb that has been entered by a Merodon can be quickly and almost certainly detected. A few bulbs may be mistaken through having a mark caused by an accidental injury, but a slight preliminary scraping of the outer skin and adjacent part of the base will very quickly show the difference.

In cases where a bulb which it is particularly desirable to keep has been attacked, it can generally be saved if taken up early and examined soon. All that I examined up to about the middle of August could have been saved, and some half-dozen or so I did save, scraping out the corky portion of the base and extracting the grub with a pin before it had done much damage.

Such bulbs, though they would not flower, would form healthy offsets. Later on the damage becomes more extensive, and the grub gets so far in—and sometimes turns to the side—that it is difficult or impossible to get it out without cutting the bulb.

While being definitely assured by this experience that the Merodon grub invariably enters the bulb at the base, I think I can also suggest how the supposition may have arisen that it entered (sometimes, anyway) at the neck. Many of the bulbs taken up were rotten inside (the final stage, I suppose, of "basal rot," due to the exceptionally wet winter), and frequently this rottenness was chiefly in the upper part of the bulb. These nearly always contained a number of maggots, which at first sight are very like young Merodon grubs. But they never reach a length of more than ⅜ inch, they are much more active than the Merodon grub, and have a red speck at one end, whereas the Merodon has a black speck. I kept a number of them, and they all turned into a small kind of dung fly. *A. J. Bliss.*

Narcissus Fly.—I have read with interest Mr. Long's article on the Narcissus fly. On p. 278 he states that "Theobald says that the larvæ are common in Hyacinths, Tulips, and Narcissi." The statement is right with respect to Narcissi, but I have handled many thousands of Tulip bulbs from different places, have grown thousands myself, and have never found one attacked by the fly. What does Mr. Long say? *Joseph*

The Week's Work.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Aerides, Angræcum, and Saccolabium.—Many of these plants that flowered early in the year will soon have completed their growth, and the supply of water at the roots should be reduced gradually. Although these Orchids never entirely cease making leaf-growth, it is important that they should enjoy a short period of rest. When in active growth, sufficient water should be afforded to keep the moss on the surface in a green and fresh condition, but from now onward through the winter months the moss should be allowed to dry to a greenish-yellow colour before water is applied. Angræcums that are in full growth, including A. pellucidum, A. Eichlerianum, and A. sesquipedale, still require plentiful supplies of water, whilst A. eburneum and A. Monteiræ are pushing forth flower-spikes and require to be kept moist at the roots.

Trichopilia. — The Trichopilias flower at various times of the year, and, for that reason, their repotting should be carried out at intervals, just when new roots appear from the base of the new pseudo-bulbs. T. suavis is the handsomest species, and is most frequently grown, but T. fragrans and its variety alba, T. coccinea, T. tortilis, and T. sanguinolenta are all worthy of cultivation. Most of these plants grow best in rather deep Orchid pans suspended near to the roof-glass in an intermediate temperature. But T. fragrans thrives best during the summer months on the stage in the cool Odontoglossum house. Whilst growing actively the plants should be afforded a plentiful supply of water at the roots, but when the season's growth is finished, they should receive less moisture and more air to ripen them.

Cymbidium.—Plants of Cymbidium Lowianum, C. Tracyanum, and the many hybrids that are now showing their flower-spikes should be well supplied with water at the roots, whilst others that are backward in this respect should be kept on the dry side for some weeks to come, otherwise new growth will commence and the plants fail to bloom. C. grandiflorum has also finished its growth and is pushing flower spikes from the pseudo-bulbs of the previous year. To ensure success in flowering this species, the plants should be placed in a cool, light position and the roots kept on the dry side during the winter. C. eburneum and C. Mastersianum should be grown in a less exposed part of the house and be kept rather dry at the roots; having but little pseudo-bulbs to sustain them, they should at no time be allowed to become quite dry.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Planting Roses. — Make preparations for the planting of Roses without delay. As these plants occupy the ground for several years, it is necessary that the soil receive a thorough preparation at the start. Roses may be planted during favourable weather at any time from now until March or even April, if the work is done with very great care, but the best time of all is the latter part of October and November. At these times the ground is still warm, and the roots have opportunity to become established before the winter. There is another advantage in early planting, from the fact that those who order early have the pick of the nursery stock. From these considerations, therefore, the work of trenching should be hastened, so that the ground is settled somewhat before the time for planting. The best soil for Roses is a strong, rich loam of a heavy nature, but it should be thoroughly well drained, or the plants will soon become unhealthy. Light, sandy, or gravelly soils are unsuitable, as they are too hot in summer. Unsuitable soils may be improved; a quantity of the natural soil should be removed and replaced with specially-prepared compost. Where the staple is light and sandy, strong, clayey loam should be added. When manure to come into contact with the roots, which will find their way to the manure later, when they are in a better condition to assimilate the food properties. In selecting a site for a Rose garden or Rose beds, the question of shelter must be considered. Protection from the north and east is imperative, whilst cold, draughty situations and wind-swept corners should be avoided. The modern system is to plant in masses of one colour, if not of one variety. In large schemes of Rose planting, approved varieties only should be selected; novelties should be planted in borders where their characteristics may be studied better. Small beds or borders may, with advantage, be filled with the charming, dwarf Polyantha varieties, which provide a pleasing change, and bloom almost continuously throughout the season. The following dwarf Polyantha Roses may be recommended :—Etoile d'Or, Jessie, Pearl d'Or, Cecile Brunner, Léonie Lamesch, Anna Marie de Montravel, Mrs. W. H. Cutbush, and Aschenbrödel.

Sweet Peas in Pots.—The present month is a suitable time for sowing Sweet Peas in pots. Such plants are very valuable if early flowers are required, and the practice should always be adopted in the case of new varieties, as they are better under control and not so liable to injury from enemies. Any ordinary potting soil is suitable, and the seeds may either be sown singly in small pots, or from four to five in 5-inch pots; if preferred, ordinary seed-boxes may be used. The seeds should first be coated with a mixture of red lead and paraffin, rolling them in the mixture; this will prevent mice and other insects from devouring them. After the seeds are sown, the pots should be placed in a close frame or upon a shelf in a cool house. After the seedlings have appeared, an abundance of air should be given whenever the weather is favourable. Sweet Peas may be sown out-of-doors in the open in certain localities, but they are not to be relied upon, except in the most favoured districts, and even then only the commoner varieties should be selected.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

The Recent Frosts.—The unusual spell of severe weather that has been experienced in many districts during the past fortnight has destroyed the more tender crops. Some districts, however, have escaped the cold, and in places within 10 miles of these gardens the frost has done but little damage. At Aldenham we registered 8°, 9°, and 10° of frost on several occasions, these being the lowest readings of the thermometer at this time of the year during the 30 years I have been at Aldenham. Such plants as have been destroyed by the cold should be cleared away, and preparations made for manuring and trenching or digging the ground for next season's crops. I am referring especially to land of a light, porous nature; heavier soils are much better worked during the New Year, except in the case of ground that has not formed part of the kitchen garden before. If the kitchen garden is to be extended, the soil should be well drained and trenched thoroughly, bringing up the sub-soil to the surface, and leaving the whole in as rough a condition as possible, to expose the clods to the influences of the frost. If the soil is deficient in lime, this material should be scattered over the surface. No time should be lost in placing the more tender crops either in cold frames or where shelter may be afforded them.

Cauliflowers. — Cauliflowers raised from seed sown last month for providing a supply of these vegetables next May, June, and July should be transplanted into cold frames, setting them fairly near to the glass. The compost should not be of too rich a nature, or the growth will be soft and sappy. The soil should be of a fairly fine texture, and made very firm. Insert the stems as low down as the seed leaves, and set the plants 4 inches apart each way. Plants of late batches of Cauliflowers of the Autumn Giant type which have not yet formed their heads should be lifted carefully and planted in cold pits or frames, placing them on their sides. Make the soil very firm about the roots, water the plants, and keep the frame fairly close for a few days. When the plants are re-established, admit plenty of air. These Cauliflowers will provide a valuable supply of heads for many weeks to come.

Mushrooms. — Field Mushrooms have been very scarce this season, owing, no doubt, to the wet weather. Mushrooms grown indoors should never be forced hard, as this treatment invariably results in failure. Endeavour to maintain the same atmospheric conditions in the Mushroom house as obtain on dewy September nights. Beds which have been in full bearing for some time past should be watered with diluted liquid manure from the farmyard. Continue to prepare the materials for the making of fresh beds. The manure should be placed under an open shed, and turned frequently until it has become properly sweetened, when it may be brought into the house and placed in position, treading it as firmly as possible.

Celery. — This crop has done remarkably well this season where disease has not appeared, and especially the plants of the later batches. Continue to place earth about the stems on fine days, especially in the case of the very latest batches. It may not be necessary to blanch all the crop for the present, as when the shoots are blanched the plant is more tender, and not so likely to escape damage from frosts.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Caladium.—The foliage of these plants having died, the roots should be stored for the winter in a dry, warm place. If most of the roots are withered, the old soil should be shaken from the corms and the latter placed in dry sand. Caladiums should be stored during the winter in a temperature not lower than 60°, or they may be allowed to remain in the pots over the winter under the stages of the plant stove, but care must be taken that water dripping from the pots above does not wet the soil.

Humea elegans.—Plants of Humea elegans should not receive a check at any time, and, if they require larger pots, these should be afforded before the roots become pot-bound. But guard against overpotting. When root-bound, the plants often lose their foliage in the spring, whilst a very close, moist atmosphere may cause spot to develop in the leaves. From now onwards, the plants will do best in a cool, dry house.

Canna.—Pot plants of Cannas should be stored in a frost-proof house where the atmosphere is not too dry. Those that have been kept slightly damp grow much more freely in the spring than those that have been stored perfectly dry. As soon as the foliage has withered, place the plants in a cold frame, preferably a brick structure from which frost can be excluded. Stand the plants on an ash bottom and cover them with dry leaves, which will prevent the rhizomes from drying unduly.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Selecting Varieties for Planting. — Varieties of Apples are exceedingly numerous, and the number is constantly being added to. Special attention must be given to select only varieties that succeed in the particular district, and this also applies to Pears. It is a common mistake to plant too many varieties, as it is a much easier matter to select six varieties than twenty varieties. Of culinary Apples that succeed well as bushes and pyramids in most districts, I may mention Lord Grosvenor, Early Victoria, Warner's King, Lane's Prince Albert, Newton Wonder, and Bramley's Seedling. For larger collections Potts's Seedling, Lord Derby, The Queen, Bismarck, Beauty of Kent, and Stone's Seedling may be added. For exhibition purposes, Peasgood's Nonesuch, Emperor Alexander, Tyler's Kernel, Golden Noble, Hambling's Seedling, and Norfolk Beauty will be required. The last-named is an excellent all-round variety. Select varieties of Apples suitable for planting as standards are Blenheim Pippin, Dumelow's Seedling (Wellington), Newton Wonder, Lady Henniker, Gascoyne's Scarlet Seedling, and King Edward VII. Varieties of dessert Apples for training as pyramids include Lady Sudeley, Worcester Pearmain, James Grieve, Rival, Cox's Orange Pippin, and Claygate Pearmain. If it is required to extend the list, other handsome varieties will be found in Charles Ross, Barnack Beauty, King of the Pippins, Allington Pippin, Ribston Pippin, Scarlet Nonpareil, Wealthy, and Lord Hindlip. Amongst novelties I would recommend for trial are Rev. W. Wilks, W. Crump, and Hector Macdonald. Considering the great assortment of Pears, it is even a more difficult matter to make a selection, but I would recommend Fondante d'Automne, Triomphe de Vienne, Beurré Hardy, Louise Bonne of Jersey, Pitmaston Duchess, Williams's Bon Chrétien, Durondeau, Charles Ernest, Beurré Superfin, Conference, Joséphine de Malines, and Doyenné du Comice. Culinary varieties should include Beurré Clairgeau and Catillac, both of which may be grown as standards.

Selection of Plums for Planting.—For culinary purposes I would recommend The Czar, Victoria, Pond's Seedling, and Monarch, whilst good dessert sorts are Early Transparent Gage, Denniston's Superb, Jefferson's, Kirk's, Reine Claudé de Bavay, and Coe's Golden Drop.

Selection of Small Fruits. — Two good Red Currants are found in Raby Castle and La Marseillaise. White Dutch is the best white variety, and Boskoop Giant may be recommended as the best Black Currant, although Carter's Champion and Lee's Prolific may also be planted, the latter on account of the fruit hanging for a long time. There are numerous Gooseberries: a few of the best are Crown Bob, Whinham'c Industry, Whitesmith, Keepsake, Langley Gage, and Langley Beauty. Of Raspberries, I would recommend Superlative, Hornet, and Baumforth's Seedling.

Distances for Planting.—The distance at which fruit trees are planted must be governed more or less by the nature of the soil and the district. Pyramid and bush Apples on the Paradise stock, and Pears on the Quince, may all be planted at distances of 9 and 10 feet apart. Apples and Pears on the free stock should be planted 12 feet apart, whilst strong-growing kinds of Apples trained as standards should be not closer than from 25 to 30 feet. Gooseberries should not be planted closer together than 5 or 6 feet, and Raspberries may be allowed this distance between the rows, but the stools need only be set at 3 feet apart. Fan-trained trees, such as Peaches, Pears, Cherries, and Plums, require to be set 15 to 18 feet apart, whilst horizontal-trained trees should be allowed 20 feet.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Planting Peaches and Nectarines.—It is an advantage to possess a few young trees growing on a wall or trellis out-of-doors in readiness to replace worn-out trees under glass. If such trees are available, and have been given proper treatment in regard to lifting and root-pruning, they may be planted now with a reasonable chance of producing a fair crop of fruits next season. If the trees are lifted with a good ball of young, fibrous roots, and planted at once, the roots will become active in a few days. The trees will then have time to recover from the check and become well established in the spring. It will be advisable to start the trees into growth very gradually next season, for if they are allowed to develop naturally the chances of a good crop of fruits will be far greater. They need not be planted in a large bulk of soil. A border sufficiently large to conveniently take the ball of roots is all that is required. It is always advisable to keep the roots of young Peach trees somewhat restricted till the trees begin to carry full crops of fruit. The soil should not be too rich, as this causes the shoots to grow gross, which is often the cause of young trees failing to crop satisfactorily. The bottom of the border should be covered with a thin layer of concrete, to prevent the roots getting out of bounds. Make sure that the border is amply drained, using plenty of old bricks and coarse brick rubble for this purpose. Arrange the border in layers, making sure that each layer is made quite solid. Mix plenty of broken brickbats and old mortar rubble in the soil as the work proceeds, and refrain from using manures of any kind unless the ground is poor. Plant the trees near to the surface of the border, and, when finished, give a good soaking with clear water. Syringe the trees twice daily till they have recovered from the check.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

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Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, OCTOBER 21—
Nat. Chrys. Soc. Executive and Floral Com. meet.

TUESDAY, OCTOBER 22—
Royal Hort. Soc. Coms. meet. (Lecture at 3 p.m. by the Rev. Prof. G. Henslow on "The Senses of Plants.")

WEDNESDAY, OCTOBER 23—
Hertfordshire Fruit, Root and Chrys. Soc. Sh. (2 days). Women's Agric. and Hort. International Union's Sale and Exh. at R.H.S. Hall.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—49·7.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, October 16* (6 P.M.): Max. 58°; Min. 37°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, October 17* (10 A.M.): Bar. 29·8°; Temp. 53°; *Weather*—Fine.
PROVINCES.—*Wednesday, October 16:* Max. 54° Cornwall; Min. 51° Shields.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY, TUESDAY AND WEDNESDAY—
20th Annual Sale of Nursery Stock at Milford Nurseries, near Godalming, by Protheroe & Morris, at 12.

MONDAY, WEDNESDAY AND THURSDAY—
Rose Trees, Dutch Bulbs, Perennials and Shrubs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

WEDNESDAY—
Trade Sale of Bulbs, at 12; Palms and Plants, at 4; at Protheroe & Morris's rooms.

THURSDAY AND FRIDAY—
38th Annual Sale of Nursery Stock at Hollamby's Nurseries, Groombridge, near Tunbridge Wells, by Protheroe & Morris, at 11.30.

FRIDAY—
Mexican Lælias, by order of de B. Crawshay, Esq., at Protheroe & Morris's rooms at 12.45.

The Colouring of Apples.

The discussion in these columns on the subject of the colouring of Apples has given rise to a considerable amount of interest both among practical gardeners and among students of plant chemistry. This, indeed, is as it should be, for, as is the case with so many other obscure problems in horticulture, the problem of the causes of coloration in fruit is one which requires for its solution the co-operation of the workers in garden and laboratory. The former have under their close observation, year after year, large numbers of different varieties, and they are able to contrast the degrees of coloration exhibited by the several sorts in any given year, and to compare the coloration exhibited in one year with that shown by the same variety in previous years.

That differences of opinion exist among observant gardeners as to the conditions which determine coloration is evidence that the problem is not simple, and tends to prove that more than one set of conditions are concerned in affecting this ripening process. This conclusion is also manifest from the results of recent experiments which have been made in the laboratory on the coloration of plants.

The nature of the chemical process which leads to the development of red pigment in the superficial tissues of Apples is known with some degree of accuracy, and is in the main similar to that which leads to the production of the sap or anthocyan pigments of flowers and other parts of plants. In its essentials this process is one of oxidation, and is brought about, as described in these pages August 10, 1912, p. 116, by the action of special chemical oxidizing agents—known as oxydases—on special colourless substances known as pigment producers. The pigment producers are not present in the unripe Apple in a form in which they can be acted upon by the oxidizing agents of the cell. They occur in the young, green fruit only in combined form, and in this condition the pigment producers are preserved from the influence of the oxydases. As ripening proceeds, the chemical combination which contains the pigment producers is broken down again by a definite chemical agent produced by the cells for this purpose, and the pigment producers, set at liberty in small quantities, are acted upon by the oxidizing agents and converted into red pigments. There is no doubt that different varieties of Apple possess different potentialities of pigment production, that is, the amount of pigment-producer which one kind of Apple is capable of yielding differs from that which may be formed by another kind. That this is so will be apparent at once to gardeners, who know that under no conditions will a fruit of Blenheim Pippin, for example, produce as much pigment in its skin as a fruit of Gascoyne's Scarlet Seedling.

In discussing this problem, the first fact to be recognised is therefore this: that internal and hereditary characteristics exercise influence on the amount of pigmentation.

Arising out of this fact is another, which must not be lost sight of, namely, that it is by no means certain that all the individual trees of a given variety of Apple are identical with respect to pigment-producing potentialities. The next fact to bear in mind is that pigment formation, as we have shown, is the outcome not of a simple chemical process of the cell but is rather the last and visible manifestation of a series of chemical changes which, invisible in themselves, are nevertheless essential antecedents of the final operation which results in the production of colour.

Now every chemical operation is influenced with respect to the rate at which it takes place by the conditions under which it occurs. Among these conditions are temperature, and in the case of plants, light; but there are also others which may influence the rate of the chemical change no less remarkably. To mention one only, the degree of acidity of the sap and the rate at which this acidity is reduced during the ripening process may and almost certainly does affect coloration. The problem of determining the conditions which facilitate the development of pigment in fruit may be stated therefore in these terms. Under what conditions are the pigment-producing processes most active? At this point, when the question becomes definite, we have to confess with regret that our knowledge becomes slender. We may say with confidence that light plays a part in determining the amount of oxidizing agent present in the cell; hence we may admit that chemistry confirms the observations of gardeners that the amount of coloration of the fruit of a given year is dependent on the amount of light. It may well be that, as stated by a correspondent in these columns, the nature of the light, that is to say its colour, white, red or blue, &c., may exercise a potent influence; but further evidence is wanted before this conclusion may be admitted.

Another fact of observation may be not without significance, namely, that many plants develop large quantities of red pigment when they are exposed to low temperatures. Hence it may prove to be true that the finest coloration of fruit is produced in years the ripening months of which are characterised by bright light and low temperatures. Again, it is quite possible not only that the weather of the previous year counts in determining the coloration of the fruit, but also that the amounts of moisture in air and soil are not without effect. For it is not an exaggeration to say that the ripening process involves what we may call a partial death of the cells of the skin and pulp of fruits. Not till these cells have lost some of their vital activities do the red pigments, symptoms of approaching mortality, declare themselves. With moister weather the life of the cells may be prolonged and their pigmentation delayed. Here, however we part company altogether with certain knowledge, and we must be content to await further observation and experiment before our analysis of the causes of fluctuations of pigmentation may be carried to a successful issue. That this may and will be done there is no doubt, and that results of practical value will ensue from a thorough solution of this problem we are certain. The students of bio-chemistry ought therefore to be under a considerable debt of gratitude to those gardeners who have brought this important subject into prominence, and who have put on record the results of their observation.

COLOURED PLATE.—The subject of the coloured plate to be published with the next issue is Echium Wildpretii.

ROYAL HORTICULTURAL SOCIETY.—The next fortnightly meeting will be held on the 22nd inst. in the Society's Hall, Vincent Square, Westminster. In the lecture-room at three o'clock the Rev. Prof. G. HENSLOW, M.A., V.M.H., will deliver an address on "The Senses of Plants."

"The Botanical Magazine."—The issue for October contains illustrations and descriptions of the following plants:—

Chamaedorea glaucifolia, tab. 8457.—This elegant Palm was at one time largely employed as a table plant, and is one of the most graceful members of the genus. Its habitat is a matter of some speculation, and recently it has been stated to be a native of Guatemala, although, when first described, it was believed to have been introduced from New Grenada. A specimen has been in cultivation in the Aroid house at Kew for some 40 years; the plant flowered this season, and furnished the material for the *Botanical Magazine* illustration. The Kew plant has a very slender stem, too thin to support the crown of foliage.

Ceropegia Thorncroftii, tab. 8458.—This new species is named in compliment to Mr. G. Thorncroft, who discovered the plant in the neighbourhood of Barberton, Transvaal. The species closely resembles C. crispata, but it has much smaller flowers, characterised by gibbous projections on the middle of the keels on the inner side of the lobes. Plants grown in the Botanic Gardens, Cambridge, have succeeded in ordinary tropical conditions, but the species apparently enjoys a rather higher temperature in winter, and a greater degree of dryness than most Ceropegias. The corolla is white blotched with purple; the flowers are about 1½ inch long.

Osmanthus Delavayi, tab. 8459.—This is a Chinese species introduced to cultivation by the late Abbé Delavay, who sent seeds to Mr. M. L. de Vilmorin. The plant should prove a useful addition to the shrubbery, as it is evergreen, flowers early in the season, and the blossoms possess a delightful fragrance. The flowers are white, and are produced in terminal clusters.

Elsholtzia Stauntonii, tab. 8460. — This plant was illustrated in *Gardeners' Chronicle*, January 13, 1912, p. 21, from a photograph by the Rev. T. Arnold Hyde, Ringinglowe, Kent. The species is described as the best of the genus from a garden point of view. It has pale rose-coloured flowers, which Mr. Hyde likens to a vigorous spike of pink Heather. The plant is quite hardy, forms a shrub some 5 feet high, and flowers freely in September and October. Cuttings of the young shoots root readily in a close frame in autumn.

Furcraea elegans, tab. 8461.—This, the handsomest of the Furcraeas, is distinguished from all other species by the size of its leaves, which sometimes grow to a length of nearly 8 feet. The material from which the *Botanical Magazine* plate was prepared was sent from Lady Hanbury's garden at La Mortola. Specimens in the Succulent house at Kew have never flowered. The dull, green leaves have a band of purple on their margins. The inflorescence attains to a height of about 25 feet, and produces pale green flowers with purple exteriors, which become brownish later.

Cultivation by Electricity.—A congress will be held at Reims on October 24-26 on the subject of the use of electricity for the cultivation of plants. The programme of the congress, which may be obtained from the secretary, 58, Boulevard Voltaire, Paris, includes a large number of subjects, among which are the following:—"Influence of atmospheric electricity on plants and on nitrification in the soil," "Influence of electricity generated by artificial means on the growth of plants and on plant-parasites," "Protection of fields and glasshouses from hail," "Forcing by electricity," "Effects of electric light on plants," "The use of electric light in the destruction of insects and other applications

Sir Joseph Hooker.—The current number of *Knowledge* (October, 1912) publishes a reproduction of the admirable photograph by J. Russell & Sons of Sir Joseph Hooker, taken when he was 94 years old. In addition to the portrait, the number contains also the oration on the life and work of Hooker which was delivered by F. O. Bower, Regius Professor of Botany, before the members of the University.

Kent Commercial Fruit Show. — This exhibition will be held on the 29th and 30th inst., at the Corn Exchange, Maidstone. The association was formed with the object of introducing amongst home growers systems of packing and grading Apples similar to those adopted by American and Tasmanian growers, and also to exhibit British Apples in bulk. The secretary informs us that, as the direct outcome of last year's exhibition, an export trade in Apples to the Argentine and South Africa has been instituted. It is expected that this year's exhibition will be twice as large as the initial one, and that not only Kent, but Herefordshire, Worcestershire, Cambridgeshire, Devonshire, Norfolk, Suffolk, Surrey and Sussex will be represented by exhibits. The secretary, Mr. R. Wellington, The College, Wye, has arranged with the railway companies to offer special facilities for visitors from London.

A Useful Museum. — We learn from *Le Jardin*, October 5, 1912, that the Society of French Agriculturists has installed at its headquarters in the Rue d'Athènes a permanent museum of objects illustrating methods of packing and exhibiting, among other things, the latest and most approved ways of packing fruit, early vegetables and flowers. The attention which the business world in France devotes to this aspect of trade, and the ingenuity which the French display in packing goods for transport are bound to make this novel museum attractive, particularly to English horticulturists, who will doubtless visit it in large numbers.

Protection of Wild Birds. — We learn from *Nature* that the Royal Society for the Protection of Birds is establishing a sanctuary at Brean Down, Somersetshire, a bare, grassy promontory, with broken cliffs, the home of the white Rock Rose. Its chief bird—there are three specially protected—is the beautiful sheldrake. Of the other two, the raven has built here for fifty years. Lately the peregrine, so often found near the raven, has established itself. Kingfishers, sparrow-hawks, daws, kestrels, shrikes, linnets, rock-pipits, and wheat-ears are also natives. For permission to establish this sanctuary the society is indebted to the Somerset County Council.

The Protection of Wild Plants.—The following by-law of the Cornwall County Council might well be adopted by other authorities which possess plants worth protecting and vandals worth suppressing:—"No person shall (unless authorised by the owner or occupier, if any, or by law so to do) uproot or destroy any Ferns or other wild plants growing in any road, lane, roadside, waste, wayside bank or hedge, common, or other public place, in such a manner or in such quantities, as to damage or disfigure any such road, lane, roadside waste, wayside bank, or hedge, common or other public place. Provided that this by-law shall not apply to persons collecting specimens in small quantities for private or scientific use. Any person offending against this by-law shall be liable to a penalty not exceeding five pounds."

The United States Harvest.—Estimates place the Wheat harvest of U.S.A. for 1912 at 700,000,000 bushels, which yield has been exceeded but twice in previous years, namely, in 1901 and 1906. Oats and Hay have also yielded heavily, and the crops are larger than in previous

The Packing of Fruit, &c. — A *Bulletin* issued by the Board of Trade makes the following recommendations with respect to the packing of fruit and delicate vegetable produce. First place a layer of soft shavings at the bottom of the box or basket, cover with sheets of paper, lay in the fruits so that they cannot be moved, and in the case of choice sorts make no more than two layers. Such fruits are best dispatched in small boxes containing one layer only. If such boxes are used, soft shavings above and below and soft "silk paper" round each fruit suffices; if two layers, they should be separated by two sheets of paper, between which packing material is also placed in an even layer. By this means so many as four dozen dessert Apples, Pears, or Plums may be packed in a single box. Fruit such as Peaches and Apricots should be made up always in single layers. Strawberries are best made up in 3-lbs. lots, Cherries in lots of 4 lbs.

Parasitic Origin of Monstrosities.—It has been affirmed more than once, and on good grounds, that certain monstrous abnormalities, such as the doubling which occurs in some flowers, are due to the excitation set up in the plant by a parasite. An example of this kind is given by M. Molliard-Marin in the *Bulletin* de la Société Botanique de France. The malformation which he describes in the Daisy took the form of proliferation of the flower-head, doubling of the corollas of the ray florets, and sterility of the female sexual organs. The exciting cause of these far-reaching disturbances is the presence in the young flower-forming plants of a species of Eriophyes.

The Precocious Flowering of Plants is a phenomenon not unknown to cultivators, who also know that it is usually due to low vegetative power, caused by deficient nutrition, resulting from poorness of soil or insufficient moisture, just as excessive vegetative vigour is often the result of overfeeding. In nature the same phenomena are observable, and in a general way it is evident that premature flowering is an effort to secure reproduction when the conditions render normal development impossible. But there are many singular instances of precocious flowering on record that are not so easily explained, though in some instances injury to the tissues seems to have stimulated the attempt at reproductive activity. Thus occasionally the embryo of a Cocoanut will push forth an inflorescence as a first effort in germination. Possibly the embryo may have been injured by insects. Again, there are various species of plants which produce two kinds of leaves (often with intermediate forms), designated the juvenile and adult. Ordinarily, flowers appear only associated with adult leaves, though exceptions are not uncommon. Dr. L. Cockayne has recently put on record (*Report* of the Australasian Association for the Advancement of Science, vol. xiii (1912), pp. 217-221) observations "on some examples of precocious blooming in heteroblastic species of New Zealand plants," or those whose juvenile forms are markedly different from that of the adult. He has observed that the juvenile forms or stages often flower, and, in the absence of evidence to the contrary, they could only be regarded as distinct species. Plants of this category are not uncommon in New Zealand. One of the most interesting is Sophora tetraptera (Edwardsia grandiflora), the forms of which have puzzled botanists and horticulturists. Several are figured in the *Botanical Magazine* and elsewhere as species. Dr. Cockayne appears to regard S. microphylla as specifically distinct from S. tetraptera, and S. prostrata as a variety or state of it. The latter comes true from seed. In certain localities the shrub and tree grow side by side, whilst in drier situations only the shrub exists.

The Winter Garden at Avery Hill.—At a meeting of the London County Council on October 15, Mr. W. J. Squires presented a petition signed by 5,000 ratepayers, praying the Council to reopen the winter garden at Avery Hill. Mr. Kingsley Wood asked the Chairman of the Parks Committee why, as the garden was dedicated to the use of the public for ever by the chairman of the Council in 1903, it had been closed, and when it was proposed that it should be reopened. Mr. J. W. Lorden, chairman of the Parks Committee, stated, in reply, that the winter garden had been temporarily closed, as several iron bars had fallen without warning. The matter was engaging the serious attention of the Committee, as also was the question of increasing the popularity of the garden. Directly the building was in a safe condition the public would be re-admitted. The petition presented by Mr. Squires was referred to the Parks Committee for consideration.

Restrictions on the Importation of Plants into South Africa.—The following information has been distributed as a circular by the Union of South Africa Department of Agriculture:—"Nurserymen with South African customers are hereby respectfully informed that plants, excluding bulbs and seeds, are admitted into the Union from overseas only under special permit. Permits are not given at all for Conifers, or for Eucalyptus, or Acacia trees. They are freely given without regard to quantity for house Palms, Ferns, Carnations, Geraniums (Pelargoniums), Chrysanthemums, Orchids, and many other tender plants; but are given only for ten plants of a variety in the case of ornamental shrubs. While for fruit-bearing plants and Roses, and for trees in general, they are given only for varieties that are not procurable in the Union and that cannot be grown from seed, and for not more than ten of a kind. It is desirable that nurserymen refrain from filling any order in the absence of knowledge that a permit has been issued or is practically certain to be issued with respect to it. Applicants are supplied with permits in duplicate so that one copy may be sent with the order. Labels and invoices should invariably give the varietal names of trees, shrubs, Roses, climbers, &c., as otherwise the inspectors may not be able to connect the plants with the permits. In filling orders for the latest varieties of Roses, and orders for other plants for which customers may say they are unable to get permits in advance of ordering owing to their not being able to give the varietal names, it is advisable to send to the customer a list of what varieties will be supplied a week or two ahead of dispatching the plants. This action would admit of the customer getting a permit before the plants arrive, and thus perhaps avoid serious delay in the delivery of the consignment." *Department of Agriculture, Division of Entomology, Pretoria, September, 1912.*

Damage by the Larch Sawfly.—A severe infestation of Larch sawfly prevails in the Lake District, and has necessitated the felling of thousands of Larch trees. During the past three years no fewer than 30,000 trees have had to be felled from this cause, entailing a serious loss to owners.

Publications Received.—***Quarterly Journal of Forestry.*** October. (London: Laughton & Co., Ltd.) Price 2s.—***The Cotton Plant in Egypt,*** by W. Lawrence Balls, M.A. (London: Macmillan & Co., Ltd.) Price 5s. net.—***Dairying and Dairy-Farming,*** by Members of the Dairy Students' Union; edited by J. C. Newsham. (London: W. Speaight & Sons.) Price to non-members, 5s. net.—***Transactions and Proceedings of the Botanical Society of Edinburgh.*** Vol. xxiv., Part II. and Part III. (Edinburgh: Royal Botanic Gardens).

SUMMER BEDDING AT THE "ZOO."

It is no exaggeration to say that nowhere in or around London is there more effective flower gardening than in the gardens of the Royal Zoological Society at Regent's Park. This is the 33rd year of Mr. John Young's superintendency of the gardens, and in this unfavourable season he has fully maintained the reputation of his charge. Crude masses of colour, such as a large flower-bed filled with one variety of scarlet Pelargoniums flanked with other beds filled solely with yellow Calceolarias or pink Pelargoniums find no place in these gardens. Nor has the visitor to gaze upon a series of beds carpeted with some such "groundwork" as Begonia semperflorens, from which rise at fixed and regular intervals specimen "dot plants" even more alike than are the Peas in a pod. The charm of the flower gardens at the Zoo lies in the great variety and in the delightful manner in which the different forms of foliage and colours of flowers are blended; for Mr. Young knows the value of colours. Some of the effects to be seen a fortnight or so ago were beyond praise. Among the most striking was a large oval bed which contained tall, dark-flowered Heliotropes—Heliotropes of no particular shape, neither standards nor pyramids, but just tall, dark Heliotropes, covered with fragrant flowers. Here and there between the dark flowers and foliage flamed a long plume of orange-coloured Celosia like the rays of a golden sunset flashing across the darkening sky. A few scarlet Pelargoniums with a band of Alyssum maritimum completed the picture. In the same garden—the South Garden—in front of the eagles and birds of prey, there was, amongst others, a very large bed: a huge mound of Golden Privet stood boldly in the middle, and around it were plants of Cuphea nearly 3 feet high, and red and yellow Celosias from which rose the fragrant flowers of Lilium auratum. Towards the front there were occasional plants of Acalypha Macfeeana, and the whole was enclosed with Begonia semperflorens in various shades of pink. In another instance the glowing crimson flowers of Lobelia cardinalis Victoriæ rose just above the alternating plants of Gnaphalium macrophyllum, whilst below them the ground was covered with Pelargonium "Verona," which had yellow leaves and pale pink flowers. Yet another large bed, a parallelogram with rounded ends, had a broad, raised band of Thrift, then came a 9-inch high row of Golden Euonymus; the remainder of the bed being filled with large numbers of pink-flowered Verbena Miss Willmott, with a light canopy of Humea elegans and the variegated Veronica Andersonii, which had been allowed to bear its charming pale purple flowers.

In the country garden the frequent use of white-flowered bedding plants is not effective—there is usually so much green, in the form of trees and grass, that as a general rule white looks "cold," and does not appeal to the eye as do the warmer coloured flowers. But in the more confined town gardens trees are not so plentiful, and at the Zoo the flower gardens are bounded on one side by the ironwork cages. In such conditions white flowers in the garden have quite a different value, and are often as effective as the reds or yellows or bright pinks, and the bands of dwarf Alyssum or the carpetings of Pelargonium "Flower of Spring" are very effective. The flower garden, with its uncommon design of triangular beds in front of the monkey house, was exceedingly beautiful. The vases, overflowing with charming plants, made a splendid finish to the well-filled beds, which contained Fuchsias, Celosias, various Pelargoniums, Gnaphaliums, Chlorophytum and other plants, whilst earlier in the season the Irises and Carnations were beautiful.

Near the herbaceous borders a large bed of Roses showed that the "Queen of Flowers" can be grown well in London, whilst on the opposite side of the walk a bed of various succulent plants—Agaves, Aloes, Gasterias and Opuntias—and a bed with pillar plants of the pleasantly-scented Tropæolum Cripsii, with its double orange and yellow flowers, attracted attention.

In the frame yard the glasshouses and frames contained large numbers of young plants for next summer's display, for the successful gardener makes timely preparations, and this is especially necessary in the establishment so well managed by Mr. Young, where large quantities are required, as, for instance, 25,000 Pelargoniums, 14,000 Lobelias, 12,000 Violas and 3,000 Pentstemons, to name only a few sorts. *A. C. B.*

A PLEA FOR OLD FRUIT TREES.

Many old Vines, Peaches, Apples, Pears, Plums, and Cherries are destroyed every year which would still be fruitful if provided with a new border of good, turfy loam and manure and annual surface-mulchings of rich manure.

We speak of fruit trees being old and practically done at a certain age—old in years they may be—but we have no justification for saying that because they are old their fruit-bearing capacity is also old in the same sense, because it is nothing of the sort. This is renewed to the old trees year by year exactly in the same way as it is renewed to younger trees, for the twigs on an old tree which bear fruit are only of the same age as the twigs bearing fruit on a young tree. It is the same with roots—fresh ones are annually formed by old trees just in the same way as by the new. Fruit trees become decrepit not through old age, but through being starved and over-pruned into this condition, growing, as is frequently the case, in the same soil for a generation, a soil which has long been bankrupt of the elements of fertility necessary to sustain vigorous growth and active life in the trees.

We have abundant evidence in the experience of practical men to sustain the contention above made that trees will go on bearing fruit for almost an indefinite time, if timely and properly helped by the addition of new soil and manure to the roots, moderate cropping, and generous treatment in other ways. It is also well known that the fruit such old trees bear (like old wine) is improved in quality, and often in colour, by the age of the tree.

In further confirmation of the contention above made that age is not always the primary cause of decay in fruit trees, I may be allowed to cite a few pertinent examples. Take the case of the old Hampton Court Vine, planted in the year 1768. This year the Vine celebrates its 144th birthday! The Cumberland Lodge Vine is practically of the same age (a year or two younger, and said to be a cutting from it). It is not too much to say that these two Vines are in as good, if not better, health to-day than they have been at any time, thanks to the generous and careful culture bestowed upon them. So long as these Vines are treated generously, he would be a bold man who attempted to determine the span of life to which they will attain. There used to be an old Peach tree under glass at Chatsworth which covered the roof of a lean-to Peach-house of immense size. It was at the time I am speaking of (21 years ago) about 50 years old. It seldom produced a crop of fruits of less than from 70 to 80 dozens, and I imagine it is still productive.

At Gunnersbury House gardens, Mr. Hudson can show some old Cherry trees growing on the walls of an old kitchen garden which have been there 60 years or more. These trees bear regularly magnificent crops of the highest-quality fruit every year—such crops as no young fruit-trees occupying the same space of wall could produce. I hope that I have made my proposition good that it is not age alone which causes decay in fruit trees, and I also hope that these remarks may result in many old trees being saved from destruction, and encouraged to renew their youth and fruitfulness by the means indicated. *Owen Thomas.*

SCOTLAND.

ABERDEEN MUNICIPAL GARDENERS' WAGES.

The gardeners employed in the parks of the city of Aberdeen having applied for an increase of wages, the question was remitted to a sub-committee to consider and report, and their report has been received by the Links and Parks Committee. It was agreed to give the following advances, in accordance with the recommendations of the sub-committee. An increase of 3s. per week to the foreman gardener at Union Terrace Gardens, and 2s. per week additional to the other gardeners in the employ of the committee.

NEW PUBLIC PARK FOR GLASGOW.

A new public park for the Springburn district of Glasgow is to be opened shortly. It has been presented to the city by an anonymous donor, and is valued at about £13,000.

THE INSURANCE ACT AND FRUIT PICKING.

In August, as was reported in these columns at the time (see p. 201), an enquiry with reference to draft orders of the Scottish Insurance Commissioners in connection with subsidiary employments was opened in Perth, with special reference to fruit picking. A further meeting was held in Edinburgh in connection with the question on October 11, by Miss M. M. Paterson, one of the commissioners, and evidence was given on Potato planting and similar subjects. *Correspondent.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

October 8.—*Present*: Mr. R. Hooper Pearson (in the Chair); Messrs. J. O'Brien, J. Fraser, W. Hales, R. Curtis, G. Gordon, J. T. Bennett-Poë, and F. J. Chittenden (hon. sec.).

Bulbophyllum Gentilii.—Mr. O'Brien showed, on behalf of Sir Fred. Moore, a specimen of Bulbophyllum Gentilii, Rolfe (see *Orchid Review*, October, 1912, p. 314). This species has the nectar glands placed on the upper side of the dorsal sepal. It has been confounded with B. Calamaria (*Bot. Mag.* 4088), and the two species are mixed in herbaria.

Mentha viridis var.—Mr. J. Fraser showed a specimen of the Mentha described by Sir John Smith under the above name occurring wild about Bocking and Maidstone.

Nomenclature of Orchid hybrid.—The Committee considered the question of the nomenclature of a hybrid Orchid referred to it by the R.H.S. Council. The alleged parentage was C. × Fabia alba (C. labiata × C. Dowiana aurea) × C. Warcewiczii var. "Frau Melanie Beyrodt" and the name suggested for the seedling was C. × Harrisiana. The committee considered that this name transgressed the recommendations of the Vienna Botanical Congress regarding plant-names in that it was too much like existing names in the same genus, thereby tending to confusion (e.g., Cattleya Harrisoniana, C. × Harrisii and C. Harrisæ); the name was therefore not tenable. Further, they thought that although Art. xii of the rules of horticultural nomenclature (*Journal* R.H.S., vol. xxxvii, p. 151) permitted the use of names of Latin form (with signs of hybridity) for such cross-bred plants as this, it would be more convenient if vernacular names were chosen, generally from the classics. In the instance under consideration, the Committee recommended that the exhibitor should be asked to choose such a name.

Tomatos with pale, round spots.—Some Tomato fruits with pale spots, circular in outline,

minute black spot in the centre, were sent from Highgate. Microscopic examination failed to reveal the presence of a fungus, and the Committee concluded the damage was probably the result of punctures by a hemipterous insect, possibly white fly, or a species of Lygas.

Potatos with super-tuberation.—Potatos showing growth after the first stage of tuber production were sent from Bush Hill Park. These are frequent this season, owing to rains during August.

Glassiness in Apple. A specimen was sent from Battle showing the peculiar soddening of the tissue called glassiness. This is not at all infrequent this season, several specimens having been received at the Society's laboratory, and Mr. Chittenden said he had found similar fruits on trees at Wisley (on the sunny side of the tree) as early as July.

UNION OF HORTICULTURAL MUTUAL IMPROVEMENT SOCIETIES.

October 11.—The annual conference of delegates from societies affiliated with the R.H.S. and societies enrolled in the Union of Horticultural Mutual Improvement Societies took place on this date in the Royal Horticultural Hall, Westminster. No fewer than 124 societies were represented. Sir Daniel Morris, K.C.M.G., presided, and, on behalf of the Council of the R.H.S., stated that suggestions from the meeting which would further the interests of the affiliated societies would have the careful consideration of the parent Society. Acting upon a suggestion made at the last conference, the cost of lectures provided with lantern slides had been reduced from 7s. 6d. to 5s. each, and 10 new lectures of great interest have been prepared, and will shortly be in circulation for the use of the affiliated societies.

Sir Daniel Morris referred to the competition for affiliated societies at the Fruit Show, and regretted that no competition was forthcoming for the challenge cup offered this year for affiliated societies at the Holland House Show, and stated that the cup will again be offered next year.

The Council have prepared cards for use at local shows, whereby the exhibitors and general public may learn the points of perfection to aim at in different vegetables.

The first item on the agenda was an exhibition of photographs of garden subjects in colour, shown by Dr. G. G. Hamilton, hon. secretary of the Bournemouth society. In the collection were pictures of individual flowers, garden views, old-world gardens, and views in the New Forest.

The next subject was a discussion on "How to attract young men to attend the meetings of Mutual Improvement Societies."

Mr. Stevenson, of the Bournemouth society, advocated the offering of prizes for essays to the younger men.

Mr. Swan, of Egham, suggested that head gardeners should approach the younger men under their charge and point out to them the advantages of attending meetings and lectures, also to encourage them to take part in the debates which follow the lectures. By adopting this practice at Egham the attendance of young gardeners at the local society had increased considerably.

Several delegates spoke in favour of the suggestion. The use of lantern lectures was recommended by several speakers, as these resulted in better attendances.

Another suggestion was to supply the younger members with horticultural papers and a library of gardening books. Mr. J. Gregory, of the Croydon society, stated that the Croydon Public Library helped in this respect, and provided works of interest to gardeners.

The subject of the desirability of admitting lady gardeners to Mutual Improvement Societies was introduced by Mr. Bullen, of the Guildford society. Mr. Bullen read a short paper, which showed that considerable difference of opinion on the subject existed amongst the members of his society. Owing to limitation of time, the debate on this paper was curtailed, but the general opinion was that the question of admitting ladies should be dealt with by each society. Several delegates stated that ladies were admitted and welcomed to their meetings.

Mr. P. C. H. Jay, of the St. Barnabas Society, Sutton, Surrey, asked for information on the garden club movement. He stated that many members of his society were allotment holders and amateurs, and they have adopted a system of payment by instalments for manures, seeds, plants and other horticultural requisites. The method so far had worked well.

The last item on the agenda, suggestions for rules for the judging of bottled fruits, could only be very briefly considered. The Chairman read a short summary of the general principles governing the judging of bottled fruits at the R.H.S. shows, but there was no time to discuss the subject.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

October 3.—*Committee present:* Rev. J. Crombleholme (in the Chair); Messrs. R. Ashworth, J. Bamber, H. G. Bennett, J. Butterworth, J. C. Cowan, J. Cypher, J. Evans, A. Hanmer, W. J. Hargreaves, Dr. Hartley, W. Hatcher, W. Holmes, J. Lupton, D. McLeod, C. Parker, F. K. Sander, H. Thorp, Z. A. Ward, A. Warburton, and H. Arthur (secretary).

A Large Silver-gilt Medal was awarded to W. R. Lee, Esq., Heywood, for a miscellaneous group of plants.

A Silver-gilt Medal was awarded to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), who showed a group composed principally of Cattleyas of the C. Iris section.

Large Silver Medals were awarded to R. Ashworth, Esq., Newchurch, for a mixed group, and Col. J. Rutherford, M.P. (gr. Mr. Lupton), for a miscellaneous collection of Cattleyas of the C. Iris section.

Silver Medals were awarded to the Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), for a well-arranged group of Cypripediums; J. McCartney, Esq., Bolton (gr. Mr. Holmes), for a group composed of Cattleyas; Messrs. J. Cypher & Sons, Cheltenham, for a group of Cypripediums, Cattleyas, and Odontoglossums; Mr. J. Evans, Congleton, for a group of Cattleyas, and Messrs. A. J. Keeling & Sons, Bradford, for a mixed group.

Other exhibitors included O. O. Wrigley, Esq., Bury (gr. Mr. Rogers); R. Le Doux, Esq., West Derby (gr. Mr. Fletcher); S. Gratrix, Esq., Whalley Range (gr. Mr. Brown); Messrs. Sander & Sons, St. Albans; Messrs. Mansell & Hatcher, Rawdon; Messrs. Hassall & Co., Southgate; Mr. W. Shackleton, Great Horton; Mr. J. E. Sadler, Newbury; and Mr. H. Arthur, Blackburn.

AWARDS.

First-class Certificates.

Cattleya "Lord Rothschild."—A fine flower, of good, even colour and with well-lined lip; *C. Lord Rothschild alba variety "Dr. John Utting,"* a flower of good form, with white sepals and petals and brilliant lip. Both shown by R. Le Doux, Esq.

Awards of Merit.

Odontoglossum × Ada Barclay and *Cypripedium Domingo de Larranaga (C. nitens × C. Standard)*, both from R. Le Doux, Esq.

Lælio-Cattleya Luminosa aurea (L. tenebrosa Walton Grange × C. aurea), L.-C. Golden Oriole (L.-C. Charlesworthii × C. aurea), Cypripedium bellatulum variety majesticum, and *Cattleya Apex (C. Enid × Mendelii)*, all from R. Ashworth, Esq.

Cattleya Germania "Ward's variety," from Z. A. Ward, Esq.

Cypripedium Troilus "West Point variety" (C. nitens × C. insigne Harefield Hall), from S. Gratrix, Esq.

Cypripedium Charlesworthii variety "Rawdonense," from Messrs. Mansell & Hatcher, Ltd.

First-class Botanical Certificate.

Cymbidium lancifolium, from Mr. H. Arthur.

NORWICH AND DISTRICT FRUIT GROWERS'.

The second annual dinner of the Norwich and District Fruit Growers' Association was held at the Criterion Restaurant, Norwich, on the 3rd inst. Between 70 and 80 attended. The president, Mr. H. Lacey, occupied the chair, the guest of the evening being Mr. A. G. L. Rogers (Horticultural Branch, Board of Agriculture).

Exhibition of British-Grown Fruits.

October 10, 11.

THE eighteenth exhibition of British-grown fruits under the auspices of the R.H.S. was held on these dates in the Society's Hall, Westminster. The building was filled with exhibits, and, as usual, Apples predominated. Grapes and other choice dessert fruits compared favourably in numbers and quality with those of former years. On the contrary, there were only two exhibits of orchard house trees, and neither was up to the usual standard for these shows. The class for nine vines in pots was again represented by only one collection, and does not appear to meet with appreciation. There was a falling off in the class for a collection of hardy fruits in the amateurs' and gardeners' section. The classes for nurserymen were well filled, and the exhibits in this section comprised almost one-half of the show.

The outstanding feature of the exhibition was a collection of culinary and dessert Apples, shown by Messrs. Gaskain & Whiting, Faversham. They were probably the finest Apples ever exhibited. It is to be regretted that two of the choicest displays of dessert fruit were disqualified through the inclusion of Washington Apples, a variety which is classified in the schedule as a culinary Apple.

The Fruit and Vegetable Committee awarded two Cultural Commendations for Apple William Crump and fruits of Passiflora, shown by Mr. N. F. Barnes, of Eaton Gardens, Chester, and Mr. James Vert, Audley End Gardens, respectively.

The arrangements, under the management of Mr. S. T. Wright, gave every satisfaction, whilst much assistance was rendered to the Press and others by the Secretaries, Mr. Frank Reader and the other officials.

At 3 p.m. on the first day of the exhibition Mr. H. Hooper delivered a lecture on "An English Fruit Farm in the Making."

DIVISION I.

Collection of Hothouse Fruits.

(Classes Open to Amateurs and Gardeners Only.)

There were two classes for collections of dessert fruit. The more important was for nine dishes, to include not fewer than six kinds. Only one each of a Pineapple, Melon, Black Grape and White Grape was allowed, and an exhibitor could not show more than two varieties of any other kind or two dishes of the same variety. Four competed, and the original awards of the judges were as follow:—1st, Lady Henry Somerset, Eastnor Castle, Ledbury (gr. Mr. G. Mullins); 2nd, The Duke of Newcastle, Clumber, Worksop (gr. Mr. S. Barker); 3rd, the Earl of Harrington, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre). It was subsequently discovered that Washington Apple, which was included in the 2nd and 3rd prize collections, was classified in the schedule as a culinary variety, and these were disqualified. This decision placed the other exhibitor, C. A. Cain, Esq., The Node, Welwyn (gr. Mr. T. Pateman), 2nd. Later the Council presented special prizes for the disqualified exhibits.

Lady Henry Somerset's collection included two bunches each of Muscat of Alexandria and Gros Maroc Grapes, Countess Melon, Pitmaston Duchess and Doyenné du Comice Pears, Charles Ross Apple, Pine Apple Nectarine, and Late Devonian and Barrington Peaches. The Black Grapes were remarkably good, and one bunch of Muscat of Alexandria magnificent. The Duke of Newcastle showed a remarkably fine dish of Doyenné du Comice Pears and splendid Cox's Orange Pippin Apples. The Earl of Harrington's Black Grapes were finely finished and well matched, and his fruits of Cox's Orange Pippin Apples were very highly coloured. Mr. Cain's best dishes were Conference Pears, Emerald Gem Melon, and Ribston Pippin Apples. The Grapes were large, big berried bunches.

Collection of Six Dishes.

Exhibits in the smaller class included four kinds, but no Pineapple. There were six exhibits, and Lord Belper, Kingston Hall, Derby (gr. Mr. W. H. Cooke), won the 1st prize. He showed Muscat of Alexandria and Gros Colman Grapes, Pitmaston Duchess Pears, Cox's Orange Pippin and Charles Ross Apples, and Peach Gladstone. The White Grapes were small bunches but superbly finished; the black variety was Gros Maroc, the bunches and berries being extra large. 2nd, Lord Hillingdon, Wildernesse, Sevenoaks (gr. Mr. J. Shelton). Bunches of Black Hamburgh Grapes were large and well finished, but the berries were on the small side. A choice Melon, good Doyenné du Comice Pears, and excellent fruits of Cox's Orange Pippin Apples were included in the collection. 3rd, Lord Howard de Walden, Audley End, Saffron Walden (gr. Mr. J. Vert). This exhibitor showed good fruits of Sea Eagle Peaches and Coe's Golden Drop Plums.

GRAPES.

The most important class was for five distinct varieties, two bunches of each sort, and not fewer than two white varieties. Five entries were forthcoming; the collection from the Duke of Newcastle's garden was pre-eminent, and won the 1st prize easily. The exhibit included Gros Maroc, very large both in bunch and berries, but a trifle red; Muscat of Alexandria, evenly matched and very ripe; Black Hamburgh, excellent in every respect; Buckland Sweetwater, big-shouldered bunches with amber-coloured berries; and Madresfield Court. 2nd, the Earl of Harrington. Madresfield Court in this exhibit was splendid, as was also Golden Queen. The bunches of Muscat of Alexandria were big, but the berries were green and on the small side. Madresfield Court was beautifully finished, and there were also Muscat Hamburgh and Gros Maroc. 3rd, C. Bayer, Esq., Forest Hill (gr. Mr. E. C. Wickens). G. Millar, Esq., Newberries, Radlett (gr. Mr. J. Kidd), showed two fine bunches of Lady Hutt, whilst Capt. Morrison Bell, M.P., Pitt House, Chudleigh (gr. Mr. W. Worth), showed the largest bunches in Muscat of Alexandria and Black Alicante.

The next class was for two bunches each of four varieties, selected from Madresfield Court, Mrs. Pince, Muscat Hamburgh, Mrs. Pearson, Dr. Hogg, and either Muscat of Alexandria or Canon Hall. It proved a poor competition between two exhibitors. The 1st prize was awarded to Lord Hillingdon, Wildernesse, Sevenoaks (gr. Mr. J. Shelton). Muscat of Alexandria was the best variety, the other bunches—of Madresfield Court, Mrs. Pearson, and Mrs. Pince—were only of mediocre quality.

Two bunches were required in each of the following classes:—

Black Hamburgh.—This popular variety was shown by six exhibitors. All the bunches were well coloured and the smallest was preferred by the judges for the 1st prize, but the berries were magnificent in size and finish. They were exhibited by Rev. W. Beecher, Wellow Hall, Newark (gr. Mr. A. Heald); 2nd, the Duke of Newcastle, whose bunches were the largest; 3rd, the Earl of Harrington.

Mrs. Pince.—Three competed in this class; large bunches with small, but plump, well-finished berries, shown by Mr. St. Maur, were awarded the 1st prize; 2nd, G. Miller, Esq., Newberries, Radlett (gr. Mr. J. Kidd), for compact, well-matched bunches.

Black Alicante.—This was the best Grape class in the show. There were 10 exhibits, and not a weak one amongst them. The 1st prize was won by Mrs. W. G. Raphael, Castle Hill, Englefield Green (gr. Mr. H. Brown); 2nd, Lady Henry Somerset; 3rd, Lady Tate, Park Hill, Streatham Common. L. Currie, Esq., Minley Manor, Farnborough, Hampshire (gr. Mr. W. H. Allen), also showed finely, the judges marking the card highly commended.

Madresfield Court.—The best two bunches of this variety amongst three exhibits were shown by the Earl of Harrington.

medium size, tapering, and splendidly finished. The largest bunches were shown by Lord Savile, Rufford Abbey, Ollerton (gr. Mr. J. Doe), and these were awarded the 2nd prize.

Prince of Wales.—Lord Savile was successful in this class, his bunches being remarkable for the size of the berries. The 2nd prize was won by H. H. Köniz, Esq., Ardenrun Place Gardens, Blindley Heath (gr. Mr. H. J. Alderman). There were two other exhibits in this class.

Any other black Grape.—There were 13 exhibits in this class, and the varieties shown were: Gros Maroc (two entries), Gros Colman, Alnwick Seedling, Appley Towers (three entries), Gros Guillaume, and Lady Downe's (three entries). The 1st prize was awarded to Appley Towers, shown by J. Liddell, Esq., Sherfield Manor, Basingstoke (gr. Mr. R. Learmouth); 2nd, Lady Downe's, shown by Mrs. W. G. Raphael.

Muscat of Alexandria.—The best of ten exhibits was shown by W. W. Mann, Esq., Ravenswood, Bexley (gr. Mr. J. Simon). The berries were superbly finished, and the bunches well matched; 2nd, Lord Hillingdon, Hillingdon Court, Uxbridge (gr. Mr. A. R. Allan); 3rd, Lady Henry Somerset.

Any other white Grape.—The 1st prize in this class was awarded to the variety Mrs. Pearson, shown by C. A. Cain, Esq., The Node, Welwyn (gr. Mr. T. Pateman). They were large, shapely bunches and fine of berry; the 2nd and 3rd prizes were also awarded to this variety.

COLLECTION OF HARDY FRUITS.

The only competitor in the class for a collection of 30 dishes of hardy fruits, distinct, arranged in a space not exceeding 12 feet by 3 feet, was Sir Marcus Samuel, Bart, Mote Park, Maidstone (gr. Mr. W. H. Bacon), and he was awarded the 1st prize. Peasgood's Nonesuch, Warner's King, Harvey's Wiltshire Defiance, Royal Jubilee, Bow Hill Pippin, Emperor Alexander, Chas. Ross, Wealthy, and other Apples were all good; also Pears Beurré Hardy, Conference, Fondante du Cuerne, and Doyenné Boussoch. The collection included Lady Palmerston and Sea Eagle Peaches, Brown Turkey Figs, Walnuts, Morello Cherries, Wyedale and Monarch Plums, Cobnuts, Damsons, and Quinces.

DIVISION II.

Nurserymen's Classes.

Fruits Grown Entirely Out-of-doors.

The prizes is these classes consisted of medals awarded at the discretion of the Council. Four classes were provided, which enabled small as well as large firms to be represented. The largest class was for a display of hardy fruits, arranged on a table 30 feet long by 6 feet broad. Three collections were staged, and one Gold and two Silver-gilt Knightian Medals were awarded. The Gold Medal was given to the collection displayed by Messrs. Geo. Bunyard & Co., Ltd., Maidstone, whose fruits, in common with all the exhibits in this section, were mainly Apples. They were arranged in small baskets, embraced 150 distinct varieties, and furnished a magnificent exhibit which was well displayed. A selection of the Apples includes Cox's Orange Pippin, Blenheim Pippin, Coronation, Houblon, Charles Ross, Cornish Aromatic, Mother, King of Tompkins County, Bramley's Seedling, Lane's Prince Albert, Warner's King, Hambling's Seedling, Bismarck, and Byford Wonder. Good Pears were seen in Doyenné du Comice, Directeur Hardy, Conference, Duchesse d'Angoulême, and Fondante de Thirriot.

Messrs. H. Cannell & Sons, Swanley, and Messrs. J. Cheal & Sons, Crawley, each showed fine exhibits. The Kentish fruits were splendidly coloured, and included Apples Warner's King, Gascoyne's Scarlet Seedling, The Queen, Emperor Alexander, Mrs. Barron, Wealthy, Warner's King, Bismarck, Baron Wolseley, Blue Pearmain and Atalanta. Messrs. Cheal arranged their exhibit very pleasingly, showing such fine Apples as The Queen, Royal

King, Bismarck, Cox's Orange Pippin, Gascoyne's Scarlet Seedling, Prince Albert, and Allington Pippin.

There were five collections in the class for a display of hardy fruits, arranged on a table 20 feet long by 6 feet broad. The Gold Medal was awarded to Mr. R. C. Notcutt, Woodbridge, for fruit of splendid quality, but the arrangement was too flat. A selection of the choicer Apples includes Emperor Alexander, Cox's Orange Pippin, Baumann's Red Reinette, Dr. Harvey, Chelmsford Wonder, Cornish Aromatic, Blenheim Pippin (especially fine), and Mère de Ménage. The Barnham Nurseries, Barnham, Sussex, and Messrs. S. Spooner & Sons, Hounslow, were awarded Silver-gilt Knightian Medals, and Messrs. Laxton Bros., Bedford, and Messrs. W. Seabrook & Sons, Chelmsford, Silver Knightian Medals.

For a display of hardy fruits, on a space 12 feet by 6 feet, there were four exhibits. Mr. Chas. Turner, Slough, put up the finest collection, and was awarded a Silver-gilt Knightian Medal. The new variety Arthur Turner, a large culinary Apple, with greenish-yellow skin, flushed on the side next to the sun, was represented by several choice fruits. Emperor Alexander, Cox's Pomona, Bismarck, Hoary Morning, Warner's King, and other well-known varieties were well and tastefully exhibited. In this class Messrs. G. Cooling & Sons, Bath, were awarded a Silver-gilt Banksian Medal, Messrs. John Peed & Son, Norwood, a Silver Knightian Medal, and Messrs. Paul & Son, Cheshunt, a Silver Banksian Medal.

ORCHARD HOUSE FRUIT AND TREES.

On this occasion there were two exhibits of orchard house fruit and trees, shown by Messrs. T. Rivers & Sons, Sawbridgeworth, and The King's Acre Nursery Co., Hereford. Messrs. Rivers were awarded a Gold Medal for their display, which contained several large Apple trees, the finest specimens being of the variety King of Tompkins County. Trees of Buckingham Apple were very heavily cropped, and other fine specimens were Peasgood's Nonesuch, Belle Pontoise, Bismarck, and Barnet Beauty. Pears were represented by trees of Conference, Pitmaston Duchess, Marie Louise, and Beurré Bachelier. There were also Figs in pots, choice gathered fruits of Beurré Alexandre Lucas, Magnate, and Pitmaston Duchess Pears. Cox's Orange Pippin, Emperor Alexander, Peasgood's Nonesuch, Gascoyne's Scarlet Seedling, James Grieve, and Egremont Russet Apples were arranged along the front. The fruits of Egremont Russet Apples were a golden-brown colour. The King's Acre Nursery Co. were awarded a Silver-gilt Banksian Medal. Their finest trees were Apples King of Tompkins County, Beauty of Kent, Gascoyne's Scarlet Seedling, and Bismarck, and their choicest gathered fruits Emperor Alexander, Peasgood's Nonesuch, Wealthy, Cox's Pomona, Gloria Mundi, James Grieve, and Rival.

In the class for nine vines in pots Messrs. T. Rivers & Son were the only exhibitors, and were awarded a Silver Knightian Medal. The varieties were Gros Colman, Black Alicante, and Golden Queen; the vines bore from 10 to 12 bunches each.

DIVISION III.

(OPEN ONLY TO MARKET GROWERS.)

Great interest was centred in the class for 20 baskets of Apples (dessert and cooking varieties), in which Messrs. Gaskain & Whiting, Dorgate, Faversham, staged the finest collection of Apples in the show. Each of the 20 baskets contained almost perfect examples of the various sorts. The dessert varieties were of ideal dessert size and of most attractive colouring, the basket of Blenheim Pippin being of superb quality. Of the splendid culinary Apples perhaps the outstanding basket was that of Warner's King. A Gold Medal was awarded this splendid exhibit. The 2nd prize, a Silver Banksian Medal, was awarded to the Hollesley Bay Labour Colony (Superintendent, Mr. B. Smart), Suffolk, for a very creditable display, but it paled before the 1st prize collection. In this exhibit the basket of Cox's Orange Pippin contained very deeply-coloured fruits.

The Silver-gilt Medal presented by the Fruiterers' Company for the best 12 baskets (six cooking and six dessert) of Apples was awarded

Hill. In this very fine collection the basket of Yellow Ingestre contained exceptionally good examples of that variety, and the fruits of Charles Ross, amongst the dessert varieties, was also exceedingly good; the best culinary fruits were those of Bismarck and Beauty of Kent. 2nd, H. Lumley Webb, Esq., Tunstall House, Sittingbourne (gr. Mr. J. Holloway), who exhibited highly-coloured fruits of Ben's Red, Ribston Pippin, and Worcester Pearmain.

DIVISION IV.

(FRUITS GROWN ENTIRELY IN THE OPEN).

(GARDENERS AND AMATEURS ONLY.)

Many of the exhibits of Apples and Pears in the following classes, which were restricted to competition amongst gardeners and amateurs, were of excellent quality, and the competition in most instances was very keen.

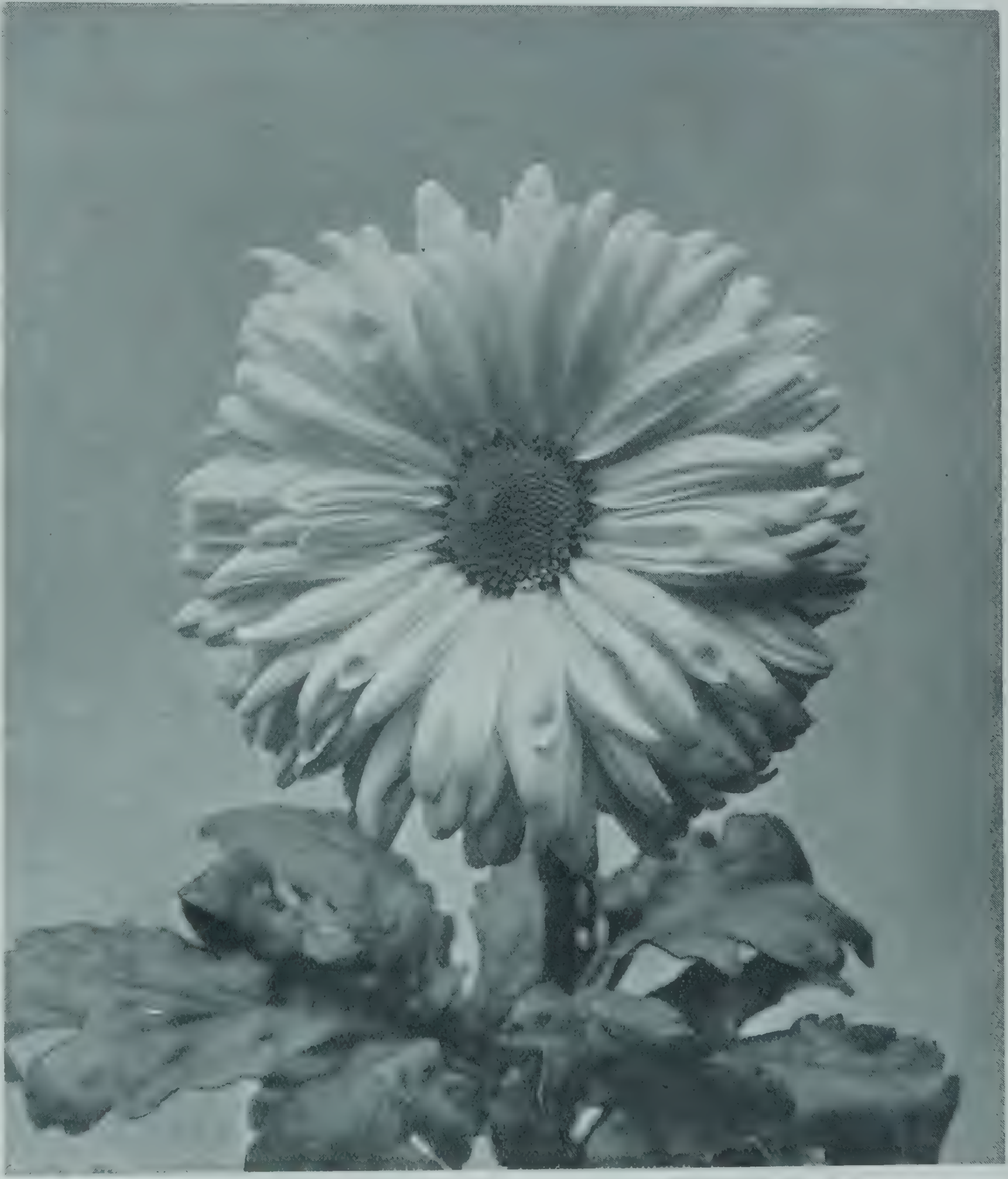


FIG. 134.—CHRYSANTHEMUM "CELIA," EXHIBITED BY MESSRS. CRAGG, HARRISON AND CRAGG: FLOWER YELLOW WITH GREEN CENTRE.

(R.H.S. Award of Merit, October 8, 1912. See report on p. 289.)

The Hogg Medal and 1st prize offered for 24 dishes of Apples (16 cooking and eight dessert) was awarded to C. A. Cain, Esq., The Node, Welwyn (gr. Mr. T. Pateman). The dessert varieties in this very fine exhibit were Ribston Pippin, Wealthy Allington Pippin, James Grieve, Rival, Charles Ross, King of the Pippins and Cox's Orange Pippin. Amongst the cooking varieties the best were Emperor Alexander, Lane's Prince Albert, Washington, and Peasgood's Nonesuch. 2nd, Sir Marcus Samuel, Bart., Mote Park, Maidstone (gr. Mr. W. H. Bacon), who showed more highly-coloured dessert fruits but was rather weaker with the culinary varieties.

The only exhibit of 18 dishes of Apples (12 Williams, Esq., Pendley Manor, Tring (gr. Mr. F. G. Gerrish), who deserved and was awarded the 1st prize. The dishes of Red Blenheim, Charles Ross, Ribston Pippin and Peasgood's Nonesuch were very fine.

J. Liddell, Esq., Sherfield Manor, Basingstoke (gr. Mr. R. Learmouth), was awarded the 1st prize in the class for eight cooking and four dessert Apples for a very meritorious collection.

The 1st prize exhibit of six dishes of cooking Apples shown by C. A. Cain, Esq., was by far the best shown in the class.

The six dishes of dessert Apples which won the 1st prize in Class 27 for Lady Henry Somerset, Eastnor Castle, Ledbury (gr. Mr. G. Mullins), were excellent samples. The fruits were of perfect shape, not too large, and had beautiful colour. 2nd, Sir Marcus Samuel, whose collection included good dishes of King of Tompkins County and Charles Ross.

There were many exhibits in the class for 18 dishes of dessert Pears. Col. Petre, Westwick, Norwich (gr. Mr. G. D. Davison), exhibited 18 dishes of excellent fruits, and won the Hogg Medal and 1st prize. The ripe fruits of very fine Marguérite Marillat, Souvenir du Congrès and Triomphe de Vienne were very tempting. The 2nd prize was awarded to C. A. Cain, Esq., whose collection included good examples of Doyenné Boussoch; Marie Louise D'Uccle and Beurré Baltet Père. 3rd, J. Liddell, Esq.

The only exhibit of nine dishes of dessert Pears, that from Mr. A. P. Brandt, Esq., Bletchingly Castle, Bletchingly, Surrey (gr. Mr. J. W. Bards), was awarded the 2nd prize. The dishes of Beurré Hardy and Durondeau were

Sir Edmund G. Loder, Leonardslee, Horsham (gr. Mr. W. A. Cook), the only exhibitor, was awarded 1st prize for six very even dishes of dessert Pears.

The stewing Pears exhibited by Col. B. J. Petre were of immense size, but of splendid shape. The varieties shown in this first-class exhibit were Uvedale's St. Germain, Catillac and General Todleben. The 2nd prize collection came from the Earl of Devon, Powderham Castle, Exeter (gr. Mr. T. H. Bolton); 3rd, Sir Marcus Samuel.

There were only two exhibitors of three dishes of Plums, and the fruits were somewhat shrivelled. Lord Howard de Walden, Audley End, Saffron Walden (gr. Mr. J. Vert), was awarded the 1st prize; the varieties shown were the uncommon cooking Vert's Violet, Coe's Golden Drop and President.

There were two sets of three dishes of Damsons or Bullaces, and the best was that shown by J. G. Williams, Esq., who sent the Prune Damson, Common Damson and White Bullace, all of very good quality and still quite plump. 2nd, Mr. R. Staward, The Gardens, Panshanger, Hertford.

The 50 fruits of Morello which won the 1st prize for Mr. J. G. Williams, Esq., were unusually good for the time of the year. 2nd, J. B. Fortescue, Esq. (gr. Mr. C. Page).

DIVISION V.

(Special County Classes.)

Prizes were offered for collections of six dishes of Apples (four cooking and two dessert) and for six dishes of dessert Pears, to be shown by gardeners and amateurs only, who must have grown the fruit entirely in the open in their respective districts.

In eight of the 11 territorial divisions of the British Isles the exhibits of Apples were of exceptionally high quality, and many of the Pears were exceedingly meritorious.

Kent.—The 1st prizes in both sections of the competition for Kent growers were won by Capt. S. G. Reid, R.E. (gr. Mr. J. Coleman), the Elms, Yalding. Amongst the Apples shown, the varieties Bismarck and Ribston Pippin were excellent, as also were the Pears Conference and Beurré Superfin. Curiously enough, the 2nd prizes were both awarded to W. Erle Drax, Esq. (gr. Mr. J. Bond), Wye.

Surrey, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall.—The collection of Apples which won the 1st prize in the above large district for the Duke of Richmond and Gordon (gr. Mr. T. Brock), Goodwood, was of superlative quality; if a choice had to be made, the dishes of Charles Ross, Peasgood's Nonesuch, and Allington Pippin would probably be selected. The 2nd prize was awarded to Mr. J. Copp, Ferndale, Teignmouth, who showed a highly meritorious collection.

The best Pears were exhibited by F. J. B. W. Digby, Esq. (gr. Mr. T. Turton), and of the six very fine dishes mention must be made of those of Doyenné Boussoch and Beurré Bachelier.

Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex.—J. B. Fortescue, Esq. (gr. Mr. C. Page), Dropmore, Bucks, was the only exhibitor of Apples in this division. The 1st prize was awarded this very fine collection, which included the varieties Ribston Pippin and Bow Hill Pippin of excellent quality.

The class for Pears was very strongly contested, and the 1st prize was awarded to the Rt. Hon. Lord Hillingdon (gr. Mr. A. R. Allan), Hillingdon Court, Uxbridge, who showed splendid dishes of Durondeau and Charles Ernest. 2nd, B. E. Richardson, Esq. (gr. Mr. E. Colman), Hill House, Stanstead Abbots.

Essex, Suffolk, Norfolk, Cambridge, Hunts, and Rutland.—The 1st prize for Apples was awarded to the Rt. Hon. W. Lowther (gr. Mr. A. Andrews), Campsea Ash, Suffolk, whose exhibit was uniformly good. 2nd, Sir Montagu Turner (gr. Mr. A. Humphrey), Havering, Romford.

The best Pears were shown by Col. the Hon. C. Harbord (gr. Mr. W. Allan), Gunton Park, Norwich, who included a splendid dish of Doyenné du Comice. 2nd, C. H. Berners, Esq. (gr. Mr. W. Messenger), Woolverstone Park Ipswich.

Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffs, Shropshire, and Cheshire.—In this widely-separated district the 1st prize for Apples was awarded to F. Bibby, Esq. (gr. Mr. J. Taylor), Hardwicke Grange, Shrewsbury, who had a splendid dish of American Mother. 2nd, Sir Oswald Mosley, Bart. (gr. Mr. H. Collier), Rolleston Hall, Burton-on-Trent.

The prizes for Pears were also awarded to these exhibitors in the same order of merit.

Worcester, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke.—The only exhibit from these combined counties was that of Pears, shown by Mr. E. Hyde, Old Post Office, Trumpet, Herefordshire, which was awarded the 2nd prize. The class provided for the other counties of Wales was not contested.

The Northern Counties of England and the Isle of Man.—The 1st prize for Apples in this district was won by Baron de Forest (gr. Mr. J. C. McPherson), Londesborough Park, Yorkshire. 2nd, Mr. W. Chuck, Broadswood Hall Gardens, Doncaster. These competitors were also placed in the same order in the class for Pears, in which Baron de Forest showed excellent fruits of Conference and Hacon's Incomparable.

Scotland.—The 1st prize Apples shown by Col. Gordon (gr. Mr. J. Duff), Threave House, Castle Douglas, possessed splendid colour. 2nd, R. M. Pilkerton, Esq. (gr. Mr. J. J. Staward), St. Fort House, Newport, Fife, who was the only exhibitor of Pears, for which he deservedly was awarded the 1st prize.

Ireland.—There were no Irish-grown Pears shown, but the Apples from the Earl of Bessborough, C.B. (gr. Mr. T. E. Tomalin), Bessborough), Piltoun, were excellent. 2nd, C. B. Broad, Esq., Aghern, Conna, County Cork, who also showed fine examples.

The Channel Islands did not supply a collection for either of the classes.

DIVISION VI.

(Single-dish Classes.)

The customary classes for single dishes (of six fruits) of the various named varieties of Apple and Pear, all of which the Society consider to be worthy of general cultivation, were responsible for an exceedingly good array of fruit, and the competition must have been very gratifying to the Council of the Society.

Dessert Apples.

Adams's Pearmain: The 1st prize was awarded to W. Erle Drax, Esq., who showed very fine fruits; 2nd, H. St. Maur, Esq., Stover Park, Newton Abbot (gr. Mr. G. Richardson).—*Allington Pippin:* Of the many good dishes of this variety the best was shown by the Earl of Westmorland, Woodstock Park, Sittingbourne (gr. Mr. C. Wotton); 2nd, J. Lewis, Esq., Bedgebury Park, Goudhurst (gr. Mr. J. R. Smith).—*American Mother:* The exhibits of this variety were characterised by very beautiful colour, especially the 1st prize dish from J. B. Fortescue, Esq.; 2nd, Col. R. Bullock.—*Belle de Boskoop:* The 1st prize was won by H. St. Maur, Esq.; 2nd, C. B. Broad, Esq.—*Blenheim Pippin:* Many of the dishes shown contained ideal dessert fruits, small and of bright, attractive colour, especially those which won the 1st prize for C. H. Coombe, Esq.; 2nd, C. H. Berners, Esq.—*Ben's Red:* The best dish was shown by C. R. Broad, Esq.; 2nd, Rev. H. A. Bull, Westgate-on-Sea (gr. Mr. F. King).—*Charles Ross:* The exhibitors of this variety evidently experienced difficulty in selecting the small fruits so desirable for the table, but most of them, especially the 1st prize dish of the Rev. H. A. Bull, were of attractive colour and very good shape; 2nd, Right Hon. W. Lowther.—*Christmas Pearmain:* There were only two dishes shown, but each deserved their prizes. 1st, Duke of Richmond and Gordon; 2nd, Mr. B. J. Mercer, Wierton Place Gardens, Maidstone.—*Coronation:* The 1st prize was awarded to the Duke of Richmond and Gordon; 2nd, Mr. John Copp.—*Cox's Orange Pippin:* The exhibits of this variety showed great variation in size and colour, and, in a lesser degree, in shape. The 1st prize was awarded to H.R.H. Duchess of Albany, Claremont, Esher (gr. Mr. J. Smith-

Esq.—*Duke of Devonshire:* The best dish was shown by Mr. J. Copp; 2nd, W. A. Voss, Esq., Fairlight Glen, Rayleigh, Essex.—*Egremont Russet:* The prizes for this variety were awarded to W. Erle Drax, Esq., and C. H. Berners, Esq., in the order named.—*Houblon:* For this variety the prizes were won by Mr. J. Copp, 1st, and Mr. J. Hill, Kingston Lacy Gardens, Wimborne, 2nd.—*James Grieve:* The many fruits of this popular variety possessed delightful colouring; the best dish was shown by Mr. J. Copp; 2nd, W. Erle Drax, Esq.—*King of Tompkins County:* The 1st prize was awarded to the Earl of Bessborough; 2nd, the Earl of Westmorland.—*Lord Hindlip:* Many of the fruits shown were of medium size and highly coloured. 1st, the Earl of Bessborough; 2nd, Capt. S. G. Reid, R.E.—*Margil:* The best fruits were shown by Capt. S. G. Reid, R.E.; 2nd, J. B. Fortescue, Esq.—*Rival:* There were many dishes of beautiful fruits, and the best were shown by the Duke of Richmond and Gordon; 2nd, W. Erle Drax, Esq.—*Ribston Pippin:* Of the many very good dishes of this superb variety the best was shown by Col. the Hon. C. Harbord; 2nd, W. Castle, Esq., Holland House, Mildenhall (gr. Mr. J. Reynolds).—There were no exhibits of Ross Nonpareil, St. Everard, or William Crump.—*St. Edmund's Pippin:* The only exhibit of this variety, that of Col. the Hon. C. Harbord, was awarded the 1st prize.—*Wealthy:* There were many very fine dishes of this variety. The best were shown by C. H. Berners, Esq.; 2nd, Duke of Richmond and Gordon.—The class for any early variety not named above included 30 dishes. The 1st prize was awarded to Viscount Enfield, Wrotham Park, Barnet (gr. Mr. H. Markham), who showed Ellison's Early Orange variety, which received an Award of Merit in 1911. 2nd, W. Erle Drax, Esq., for King of the Pippins. 3rd, F. J. B. W. Digby, Esq., for a dish of Werder's Golden Reinette.—The similar class for late varieties was responsible for the exhibition of 24 dishes. Col. the Hon. C. Harbord was awarded the 1st prize for a dish of Winter Ribston. 2nd, the Duke of Richmond and Gordon, for beautifully-coloured fruits of Paroquet. 3rd, Marquis of Ripon, Coombe Court, Kingston Hill (gr. Mr. T. Smith), who showed Reinette du Canada.

Cooking Apples.

Annie Elizabeth: of the seven dishes of this variety, the best was shown by W. Erle Drax, Esq.; 2nd, Mr. B. J. Mercer, Wierton Place Gardens, Maidstone.—*Beauty of Kent:* There were many very fine fruits shown; the 1st prize was awarded to R. McMurdie, Esq., Woburn Park, Weybridge (gr. Mr. A. Basile); 2nd, F. W. Platt, Esq., Ken View, Highgate (gr. Mr. C. Turner).—*Blenheim Pippin:* The larger fruits in this class for culinary fruits were not so brightly coloured as was the case with the smaller dessert fruits, but they were clean and of good shape. 1st, Rt. Hon. W. Lowther; 2nd, Duke of Richmond and Gordon.—*Bramley's Seedling:* The 1st prize was awarded to D. A. Seligman, Esq., Iden Manor, Staplehurst (gr. Mr. P. B. Awcock); 2nd, Lord Howard de Walden.—*Bramley's Seedling:* This standard variety was best shown by the Earl of Westmorland; 2nd, Capt. S. G. Reid, R.E.—*Byford Wonder:* Two dishes of this variety were shown by Mr. Joseph Copp and J. B. Fortescue, Esq., and were awarded 1st and 2nd prizes in the order named.—*Dumelow's Seedling:* This splendid variety, more generally known as "Wellington," was very well shown; the best fruits came from Lord Hillingdon; 2nd, W. W. Mann, Esq., Ravenswood, Bexley (gr. Mr. J. Simon).—*Ecklinville:* The 1st prize was won by J. B. Fortescue, Esq.; 2nd, W. Erle Drax, Esq.—*Edward VII:* The only dish was shown by Col. R. Bullock, who received the 1st prize.—*Kenneth Early:* There was also only one dish of this variety, and in this case the 2nd prize was awarded to J. Lewis, Esq.—*Emperor Alexander:* A wonderfully fine dish of this variety unfortunately had no card, and so was not judged, or it would have received the 1st prize. In the circumstances the 1st prize was awarded to H. St. Maur, Esq.; 2nd, Capt. S. G. Reid, R.E.—*Gascoyne's Scarlet Seedling:* As with the previous variety, the best exhibit was not identified by the exhibitor's name, and was passed prize, was shown by Lord Howard de Walden; 2nd, Rt. Hon. W. Lowther.—*Golden Noble:* The dishes of this variety were exceedingly good; the best was shown by W. Erle Drax, Esq.; 2nd, G. Hanbury, Esq., Blythewood, Maidenhead (gr. Mr. C. L. Branson).—*Grenadier:* The two dishes were of indifferent quality, and the 2nd prize was awarded to J. B. Fortescue, Esq.—*Hambling's Seedling:* The large, green fruits appeared as though they would keep indefinitely; the best were shown by W. Erle Drax, Esq., 2nd, Earl of Bessborough, C.B.—*Lady Henniker:* The 1st prize dish (J. Lewis, Esq.) was very good indeed; 2nd, W. Erle Drax, Esq.—*Lane's Prince Albert:* There was very strong competition in this class, in which the 1st prize was won by the Earl of Bessborough, C.B.; 2nd the Duke of Richmond and Gordon.—*Lord Derby:* Each of the four dishes shown was worthy of a prize: 1st, Capt. S. G. Reid, R.E.; 2nd, Duke of Richmond and Gordon.—*Mère de Ménage:* Of the three dishes, the best was shown by H. St. Maur, Esq.; 2nd W. Erle Drax, Esq.—*Newton Wonder:* The fruits of this variety were all good, and the best were from W. Erle Drax, Esq.; 2nd, Mr. J. B. Mercer.—*Norfolk Beauty:* The 1st prize was awarded to the Rt. Hon. W. Lowther; 2nd, J. B. Fortescue, Esq.—*Peasgood's Nonesuch:* There were 12 dishes of this variety, and the 1st prize was awarded to the Duke of Richmond and Gordon, who showed excellent examples; 2nd, W. Erle Drax, Esq.—*Potts's Seedling:* The 1st prize was awarded to Mrs. Austin, Ellerne Mede, Totteridge (gr. Mr. G. Longhurst); 2nd, W. B. M. Bird, Esq. Eartham House, Chichester (gr. Mr. A. Gooding).—*Rev. W. Wilks:* The fruits shown were very variable and not equal to those recently exhibited in the hall: 1st, the Earl of Bessborough, C.B.; 2nd, W. Erle Drax, Esq.—*Royal Jubilee:* The best were shown by the Duke of Richmond and Gordon; 2nd, F. J. B. W. Digby, Esq.—*Stirling Castle:* J. B. Fortescue, Esq., was awarded the 1st prize, the 2nd being withheld.— *The Queen:* These fruits were very good indeed; the best were from the Earl of Bessborough, C.B.; 2nd, Rt. Hon. W. Lowther.—*Tower of Glamis:* The 1st prize was won by Mr. B. J. Mercer; 2nd, Lord Hillingdon.—*Warner's King:* The competition in this class was very strong: the 1st prize was awarded to the Earl of Westmorland; 2nd, Mrs. T. O'Donnell, Tinahely, Piltown. There were 20 dishes shown in the class for eight fruits of any other variety; the 1st prize was awarded to the Earl of Bessborough, C.B., who showed Loddington Seedling; 2nd, Rt. Hon. W. Lowther (Twenty Ounce).

Dessert Pears.

Beurré Alexander Lucas: Of the several good dishes, the best was shown by F. J. B. W. Digby, Esq.; 2nd, Earl of Westmorland.—*Beurré d'Amanlis:* There was only one exhibit, that from Mrs. Austin, which received the 2nd prize.—*Beurré d'Anjou:* The 1st prize was won by J. B. Fortescue, Esq.; 2nd, C. H. Berners, Esq.—*Beurré Bosc:* The fruits of this variety were very good: 1st, F. J. B. W. Digby, Esq.; 2nd, Rt. Hon. W. Lowther.—*Beurré Dumont:* The better of the two dishes was shown by R. McMurdie, Esq.; 2nd, Lord Hillingdon.—*Beurré Hardy:* In a well-contested class the 1st prize was awarded to R. McMurdie, Esq.; 2nd, Capt. S. G. Reid, R.E.—*Beurré Perran:* The only dish was from F. J. B. W. Digby, Esq. (2nd prize).—*Beurré Superfin:* The 1st prize was awarded to E. G. Mocatta, Esq., Woburn Place, Addlestone (gr. Mr. F. Stevenson), for splendid fruits; 2nd, R. McMurdie, Esq.—*Blickling:* The only dish, from Col. Hon. C. Harbord, was worthy of the 1st prize awarded it.—*Charles Ernest:* The best dish was shown by F. J. B. W. Digby, Esq.; 2nd, R. McMurdie, Esq.—*Comte de Lamy:* Of the seven dishes, the best was shown by Lord Hillingdon, Hillingdon Court (gr. Mr. A. R. Allan); 2nd, Lord Hillingdon, Wildernesse, Sevenoaks (gr. Mr. J. Shelton).—*Conference:* There were five dishes, and the 1st prize was won by F. J. B. W. Digby, Esq.; 2nd, Earl of Westmorland.—*Doyenné du Comice:* Of the 19 good dishes, the finest was shown by F. J. B. W. Digby, Esq.; 2nd, Col. the Hon. C. Harbord.—*Durondeau:* Most of the fruits had the very beautiful colour which is characteristic of this variety: 1st, F. J. B. W. Digby, Esq.; 2nd, R. McMurdie, Esq.—*Easter Beurré:* The 1st prize was won by Lord Hillingdon; 2nd, Mr. J. Hill.—*Emile d'Heyst:* The examples shown were very good indeed; the best came from F. J. B. W. Digby, Esq.; 2nd, Duke of Newcastle.—*Fondante d'Automne:* The best dish was shown by R. McMurdie, Esq.; 2nd, Col. the Hon. C. Harbord.—*Fondante de Thirriot:* The 1st prize was awarded to C. H. Berners, Esq.; 2nd Col. R. Bullock.—*Glou Morceau:* Of the many dishes, the best was that shown by B. E. Richardson, Esq.; 2nd, R. McMurdie, Esq.—*Gratioli of Jersey:* The best dish was shown by Mrs. M. P. Read, St. Mary's, Teddington; 2nd, Rev. H. A. Bull.—*Josephine de Malines:* There were 12 dishes shown, and the 1st prize was won by F. J. B. W. Digby, Esq.; 2nd, Col. the Hon. C. Harbord.—*Le Brun:* The two dishes were exceptionally good: 1st, R. McMurdie, Esq.; 2nd, Capt. S. G. Reid, R.E. —*Le Lectier:* The best of 12 dishes was shown by Lord Howard de Walden; 2nd, Capt. S. G. Reid, R.E.—*Louise Bonne of Jersey:* The six dishes included some very good fruits indeed, especially the 1st prize set from F. Bibby, Esq., Hardwicke Grange, Shrewsbury (gr. Mr. T. Taylor); 2nd, Lady Tate, Park Hill, Streatham Common (gr. W. Howe).—*Marie Benoist:* The fruits shown were very variable: the 1st prize was won by F. J. B. W. Digby, Esq.; 2nd, Lord Foley, Ruxley Lodge, Claygate (gr. Mr. H. C. Gardner).—*Marie Louise:* There were 12 dishes exhibited, and the 1st prize was won by J. Lewis, Esq.; 2nd, R. McMurdie, Esq.—*Nouvelle Fulvie:* F. J. B. W. Digby, Esq., won the 1st prize amongst nine competitors; 2nd, B. E. Richardson.—*Olivier de Serres:* The 11 dishes showed great differences in shape and quality; the 1st and 2nd prize were awarded to Lord Hillingdon for fruits from his gardens at Hillingdon Court, Uxbridge and Wildernesse, Sevenoaks, respectively.—*Pitmaston Duchess:* There were also 11 dishes of this variety, but all were of merit; the best was shown by the Rev. H. H. Bull; 2nd, M. Fraser, Esq., Brimley, Teignmouth.—*President Barabé:* The two exhibits, those from Col. the Hon. C. Harbord (1st) and F. J. B. W. Digby, (2nd), thoroughly deserved their awards.—*Souvenir du Congrès:* There were only three dishes of this well-known variety; the prizes were awarded to R. McMurdie, Esq., and J. B. Fortescue, Esq., in the order named.—*Thompson:* Of the seven dishes the best was shown by Lord Hillingdon; 2nd, E. J. Mocatta, Esq.—*Triomphe de Vienne:* The 1st prize was awarded to Lord Hillingdon.—*Winter Nelis:* The best of the seven dishes was shown by Lord Foley; 2nd, J. B. Fortescue, Esq. There were no prizes awarded for Beurré d'Avalon, Beurré de Naghan, Directeur Hardy, or Santa Claus. In the class for eight fruits of any early variety not named there were 16 competitors, and the 1st prize was awarded to R. McMurdie, Esq., who showed Marguérite Marillat; 2nd, J. Mercer, Esq. (St. Luke); 3rd, Capt. S. G. Reid, R.E. (Marechal de la Cour). Amongst the 20 dishes shown in the class for any late variety not named there were ripe fruits of Beurré Diel and Doyenné Boussoch. The 1st prize was awarded to F. J. B. W. Digby, Esq.

THE LECTURE.

In the afternoon of the first day a lecture on "An English Fruit Farm in the Making" was delivered to a large audience by Mr. Henry Hooper. The chair was occupied by Mr. A. H. Pearson. The lecturer described every process in the making of a fruit farm, from the selection of a site to the planting of the trees and bushes. He emphasised the importance of selecting a suitable site, and defined very clearly the points determining the suitability of sites. The subjects of "Soils and Subsoils," "Preparation of Orchard Land," "Selection of Varieties," and "Cross Pollination" were fully treated upon. The lecturer referred to the importance of choosing the best varieties from the commercial standpoint. Mention was made of the newly-instituted horticultural branch at the Board of Agriculture, and fruit farmers were urged to take advantage of the benefits the Board may be in a position to afford to the fruit-growing industry.

Obituary.

Thomas Fletcher.—The death of this florist on August 31, at Warren, Ohio, U.S.A., is recorded in *The American Florist*. Mr. Fletcher was a native of Lancashire, and settled in America in 1863.

Richard E. Evans.—The same journal announces the death of Mr. Richard E. Evans, florist, Salt Lake City, Utah, a native of Portsmouth.

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending October 16.

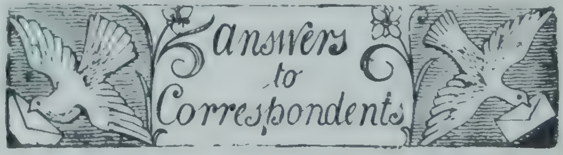
A St. Luke's summer.—The last eight days have been, with one exception, warm for the time of year, while the nights have been, with one exception, very cold, and on two nights the exposed thermometer registered 9° of frost. Since the present month began the same thermometer has fallen from 4° to 13° below the freezing point on all but two nights. The ground is now 3° colder than is seasonable, both at 1 foot and 2 feet deep. Rain fell on only one day during the week, and the amount deposited was scarcely sufficient to moisten the surface of the ground. There has been no measurable percolation of rainwater through either of the soil gauges for nine days. The sun shone on an average for $4\frac{3}{4}$ hours a day, or for $1\frac{1}{2}$ hours a day longer than is usual at the same period in October. Calms and light airs have alone prevailed, and the light airs have come principally from some southerly point of the compass. The mean amount of moisture in the air at 3 p.m. fell short of a seasonable quantity for that hour by 9 per cent. Most of the mornings were foggy, and on the early morning of the 11th there was, for some hours, a dense fog. *E. M., Berkhamsted, October 16, 1912.*

CATALOGUES RECEIVED.

Henry Drew, Longworth, Berks.—Thames Valley Roses
George Prince, Longworth, Berks.—Roses.
Mansell & Hatcher, Ltd., Rawdon, Yorkshire—Orchids.
S. Bide & Sons, Ltd., Alma Nursery, Farnham—Sweet Peas.
James Veitch & Sons, Ltd., Kings Road, Chelsea—New Hardy Plants from Western China.
Charles Blick, Warren Nurseries, Hayes, Kent—Carnations.
Elisha J. Hicks, Hurst, Twyford, Berks.—Roses.
Jno. Jefferies & Son, Ltd., Market Place, Cirencester—Roses and Trees.

FOREIGN.

A. Schwartz, 238, Grande Rue de Monplaisir, Lyons, France—New Roses.
Rivoire Pere et Fils, 16, Rue d'Algérie, Lyons, France—New Plants.
Willy Muller, Nocera Inferiore, Naples—New and Rare Plants.



Answers to Correspondents

Apple Hedge: *T. Taylor.* A good selection of early, mid-season and late Apples for the purpose you describe would be Stirling Castle, Lord Grosvenor, Lane's Prince Albert and Newton Wonder for cooking; and Mr. Gladstone, Beauty of Bath, James Grieve, Allington Pippin, Cox's Orange Pippin, and Duke of Devonshire for dessert. If worked on the Paradise stock, none of these would be very gross growers.

Crab: *Pleshey.* Probably a chance seedling. It is distinct from any variety of Crab known to us. We note with pleasure that you have read our pages for so long a period as 50 years.

Danger from Using Gas Lime: *R. O. F.* If you refer to the paragraph in "Answers to Correspondents'" column, page 276, under "Insect—*E. M.*," you will see that we advised our correspondent to defer planting crops on ground that had been dressed with gas lime until several weeks had elapsed. The injurious properties of the gas lime become exhausted in time, and the substance has then no injurious effects on the roots. It is always advisable to allow ground to remain fallow for so long a time as possible after it has been treated with such material, and for this reason it is best applied in the autumn and winter. The advice given by farmers on horticultural matters is not always the best obtainable.

Fungus in Dwelling House: *D. W. P.* The fungus is the dry rot fungus (Merulius lacrymans). Drench every part of the wood and soil with formalin twice, at intervals of 10 days.

Gardeners and the Insurance Act: *D. C.* In applying for insurance you will have to give your precise occupation. The fact that a head gardener is treated as a domestic servant, so far as his right to a month's notice is concerned, does not affect the point—an insurance society is entitled to know the precise risk which it is undertaking.

Insects in Dwelling House: *A. F.* The insect of which you sent us examples is Niptus hololencus, an interesting little creature clothed with fine, velvet-like, golden-yellow hairs. Its original home is Asia Minor, but it has been introduced with merchandise, and is now generally distributed throughout the British Isles. It has often been recorded as destructive to wool, drugs, &c., and seems fond of sugar, so much so that specimens are often found in vessels containing such material. It is not parasitic on man.

Melon Dying: *Hillfield.* The plant of Melon contains the mycelium of a fungus (Botrytis) in the vessels of the stem. All dead and dying plants of Melon and of any other kinds of plants in the house should be promptly removed and destroyed. The fungus Botrytis flourishes on any dead or dying vegetable matter (leaves, stems, &c.); if such are removed, the disease disappears.

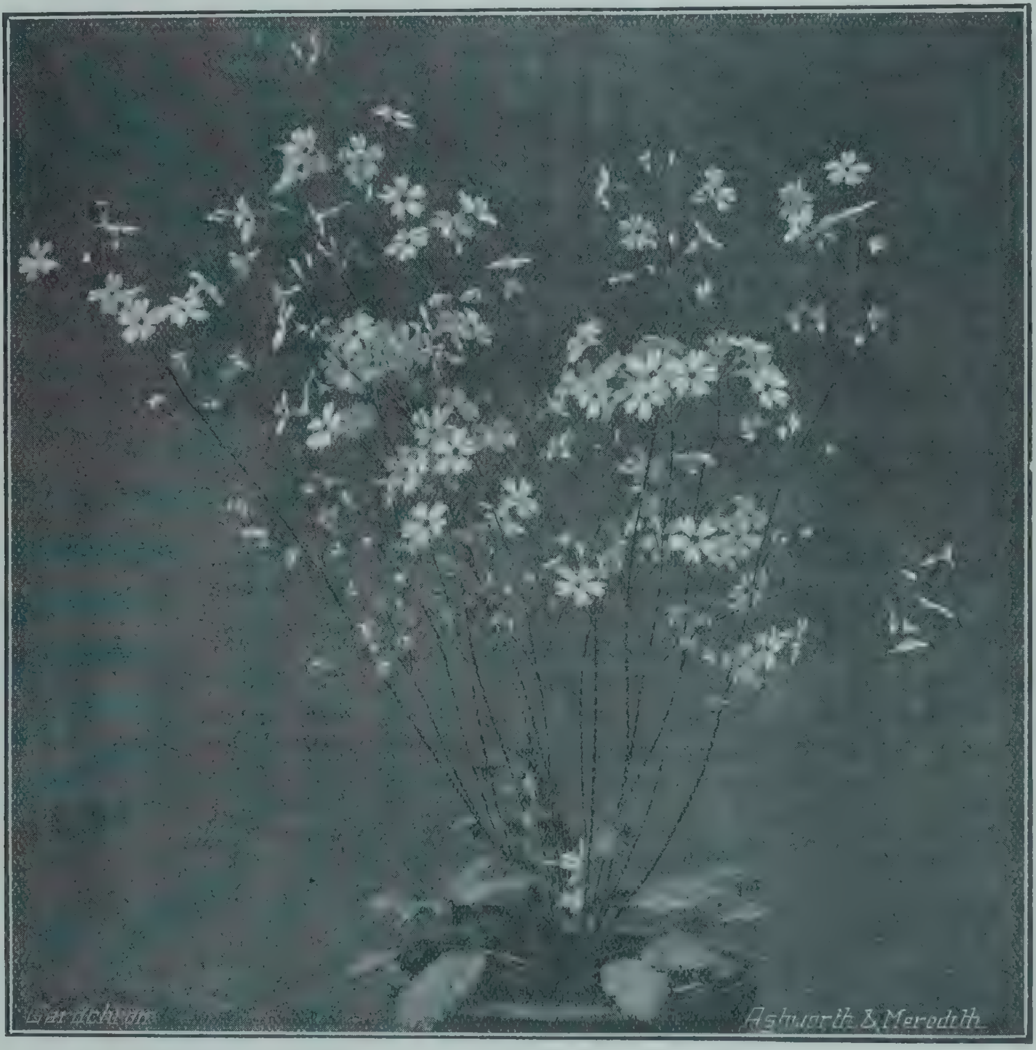


Fig. 135.—PRIMULA MALACOIDES: FLOWERS PALE PINK.

Names of Fruits: *H. M.* Nut Corylus Colurna; 1, Doyenné du Comice; 2, Joséphine de Malines; 3, Easter Beurré; 4, send again when ripe; 5, General Todleben.—*F. E. C.* 1, Minchull Crab; 2, Cullen.—*J. W. T.* Cox's Orange Pippin.—*E. E. B.* The numbers were detached; send fresh specimens, and write the numbers on stamp edging attached to the fruits.—*H. A.* 1, Lady Sudeley; 2. Biggs's Nonesuch 3, Melon Apple; 4, Winter Strawberry; 5, not recognised, probably a local variety.—*J. B. B. W.* 1, Beurré Bosc; 2, Autumn Bergamot.—*L. S.* The particulars you give are not sufficient for us to express an opinion on the subject.—*J. R. S.* Doyenné Gris.—*E. D.* 1, Durondeau; 2, Mme. Treyve; 3, Beurré Bachelier; 4, Uvedale's St. Germain; 5, Louise Bonne of Jersey.—*E. M.* 1, Catillac; 2, Bergamotte Esperen; 3, Maréchal de Cour; 4, Miller's Glory.—*A. F. W.* 1, not recognised; 2, Chaumontel; 3, Margil.—*Fisher & Son.* Wealthy.—*Oak.* 1, Warner's King; 2, Bismarck; 3, Golden Spire; 4, 5, 6, cannot name such inferior fruits; 8, please send again; 9, Maréchal de Cour; 10, Beurré Capiaumont; 11, Aston Town; 12, Prince Consort.—*Hortus.* Pears—1, Durondeau; 2, British Queen; 3, Soldat Laboureur; 4, Marie Louise d'Uccle; Apples—1, Beauty of Kent; 2, Broad End syn. Kentish Broading; this variety very much resembles Bramley's Seedling; 3, Flanders Pippin. (Thanks for 2s. for R.G.O.F. box.—Eds.)—*W. H. S.* Apple Lord Suffield; the six Pears were all numbered No. 2, they all seem to be dissimilar; send fresh specimens and number them in rotation.—*F. S.* 1, Mme. Treyve; 2, Beurré Sterckmans; 3, Triomphe de Jodoigne; 4, Bergamotte Esperen; 5, Joséphine de Malines; 6, Hormead's Pearmain.—*R. G. D.* 1, Waltham Abbey; 2, Warner's King; 3, Dumelow's Seedling; 4, Tom Putt; 5, Scarlet Costard; 6, Blenheim Pippin.

Names of Plants: *J. Francis.* 1, Aponogeton distachyon (seedlings); 2, Stachys lanata.—*F. E. C.* 1 and 7, Roses, Flower of Fairfield; 2, Hiawatha; 4, probably Mme. Willermoz; 5, probably Laurette Messimy; 6, unrecognisable. *A. J. G.* Rose Fellemberg.—*A. J. G.* 1, Senecio tanguticus; 2, Polemonium cœruleum variegatum; 3, Calceolaria integrifolia var.—*Hart.* 1, Olearia argyrophylla; 2, O. nitida.—*F. E. Gribble.* Pyrus vestita.—*O. D. K.* Polystachya luteola; of no commercial value.—*Hort.* 1, Masdevallia Barlæana; 2, Lanium Berkleyi; 3, Epidendrum latilabrum.—*Ajax.* Solanum nigrum.—*H. R.* Cotoneaster frigida.

Notice to Terminate Engagement: *J. W.* You neglect to furnish us with any particulars as to the exact position you filled in the nursery, but we assume it was that of a journeyman gardener. You are a weekly servant, and, presumably, entitled to a week's notice; but the question is involved by the announcement exhibited on the premises that no notice is given or expected on either side, which you might be expected to read. It will be better in all your future engagements to have a proper understanding on the question of notice before you commence work.

Peach Tree Unhealthy: *D. Mc. L.* No fungus present. The tree is diseased beyond remedy. It should be removed and burned.

Preserving Cobnuts and Walnuts: *G. S.* A good method of preserving nuts is to dig holes in the open ground, and sink Seakale pots up to the rims, placing a piece of slate at the bottom, in order to prevent worms from getting into the pots. The nuts should then be put into the pots and the lids placed on securely. In these circumstances, the nuts will remain in a fresh and firm condition for several months. Another method is to keep the nuts in tubs or boxes buried in white sand.

Primula malacoides: *Foreman, Gloucestershire.* Primula malacoides was introduced into commerce by Messrs. Bees Ltd., who raised plants from seeds collected in China by Mr. George Forrest. The answer to your first question, therefore, is that it is a natural species. The plant is hardy in some districts, but it flowers so late in the season that the species is more satisfactory when treated as a greenhouse plant, for which culture it is admirably adapted, owing to its free-flowering habit and elegant appearance. The flowers are pale-pink. If you turn to the *Gardeners' Chronicle* for December 5, 1908, pages 396 and 397, you will find illustrations (one is reproduced in fig. 135) depicting the character of the inflorescence and the habit of the plant, with a description by Professor Bayley Balfour, F.R.S.

Railway Expenses: *A. B. C.* An employer is not liable for the railway expenses of journeymen moving from one place to another unless he has agreed to defray them. The difficulty you describe has arisen because you failed to have a proper understanding before accepting the post. We are frequently urging gardeners to secure agreements before taking up situations, and if they neglect to provide themselves with this means of preventing difficulties they cannot hope to escape the consequences of their negligence.

Trees to Form a Screen by Riverside: *F. S.* You have a good opportunity of making a beautiful plantation when planting the large frontage with trees to screen the buildings. With this end in view, mixed species would be decidedly better than to plant the area with evergreen trees. To fully advise you, some knowledge of the aspect and "lie" of the ground would be necessary, but the following list includes fast-growing evergreen and deciduous trees which would be suitable for your purpose:—Evergreens: The Douglas Fir (Abies Douglasii), Picea Menziesii (P. sitchensis), P. Engelmannii, Cryptomeria japonica, Pinus austriaca, P. Cembra, P. excelsa, P. ponderosa, P. Strobus, and Thuya gigantea. In the deep, rich, red soil of south Devon the English Elm (Ulmus campestris) grows rapidly; the Scotch Elm (Ulmus montana) is a very suitable tree to plant in low-lying moist places. Other appropriate deciduous trees are the Ash, Larch, White Poplar, Balsam Poplar (Ailanthus glandulosa), Alder, such Birches as Betula alba, B. lutea, B. nigra, and B. papyracea; Sweet Chestnut (Castanea sativa), and the deciduous Cypress (Taxodium distichum). As you suggest, moderately close planting tends to "draw up" young trees, and such planting would provide the screen quickly, but this must not be overdone. The trees should be planted fully 4 feet by 4 feet apart, and thinning must be properly attended to in later years. We have found that it rarely answers to plant large specimens; they frequently "stand still" too long. The most satisfactory results are obtained from well-rooted young trees not more than 3 feet to 4 feet in height. The plantation would be much more ornamental if such flowering and berried shrubs and trees as Hollies, Rhododendrons, Cotoneasters, Cratæguses, Cherries, &c., were planted near the river front of the plantation. You do not state the precise district in which the proposed planting is to be done, but we assume that, as considerable building operations are going on, the trees will not be injured by rabbits.

Communications Received.—Barrington W.—J. A. Thompson—H. H.—J. E.—A. F.—T. B. R.—Hillside—B., Preston—G. D.—R. J. F.—F. S. C.—J. E. C.—H. S. T.—T. L.—P. O.—F. S.—S. A.—H. J. M.—W. M., Naples—T. S.—Doubtful—E. P. P.—F. M.—H. S.—W. F.—J. S.—R. P. B.—T. L. Y.—J. H.—E. R.—W. P. F.—K. M.—H. N.—A. T.—A. S. T.—W. A. M.—Hortus, Brighton.

THE
Gardeners' Chronicle

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A GLOUCESTERSHIRE WILD GARDEN.

There is maintained in the Public Park at Pittville, Cheltenham, a garden for the wild flowers of Gloucestershire—a living collection of only those plants that are found in the county. The scheme began as an experiment in 1896. The garden had to be made representative of Gloucestershire. The plants native to the county had to be brought together from remote places, and their weak and strong points had to be discovered; but the garden now is an established collection of over 200 plants.

Its chief features perhaps are the vitality of the plants and the wealth of blossom. These apparently are due to the fact that the wild plants simply revel in growth once they no longer have to fight their fellow-beings for a livelihood. As an instance, the Limestone Milkwort, with a mass of gentian-blue the size of a saucer, is a very different thing from the scrappy plant having a tussle with other plants in the turf of the upland wolds.

In the proposals made to the Corporation for such a garden, the plants to be brought together were indicated as being the rarer and more beautiful plants of the county. The reason for this limitation was to prevent the garden being considered as a mere botanical collection, with rows of specimens for students. It certainly has been used largely by visitors from the Cheltenham colleges and schools and various societies, but the garden grows as much for lovers of flowers and of the country as for devotees of botany. Accordingly, a certain amount of latitude was necessary for a happy compromise.

The limitations were perhaps lucky for the founder of the garden, since some excellent plants have disgraced themselves and have of necessity been banished. One cannot perhaps lay down rules for other gardens to be formed, but certainly the following species have wanted too much of this garden to themselves—the Yellow Vetchling, Biting Stonecrop, Whitlow Pepperwort, Dyer's Weed, Hawkweed, Cerastium arvense. These and others have dared to come up in all the beds once they got a root-hold in one bed. Birds seemed largely responsible for some of these extensions. Other plants, such as the pretty blue Skullcap, have quickly appropriated a whole bed, and then, creeping underground to the nearer beds, have come up in these as well, looking very pleased with themselves. So some plants, otherwise delightful, have had to go. At least, the intention has been to banish them, but they never quite disappear. They play a little game of their own. Remnants of them lie low and come up in concealed places, hiding behind other plants. Quite a little piece comes up and is not noticed, and suddenly some day a whole large plant is seen beaming. and by this time there may also be offshoots from it elsewhere.

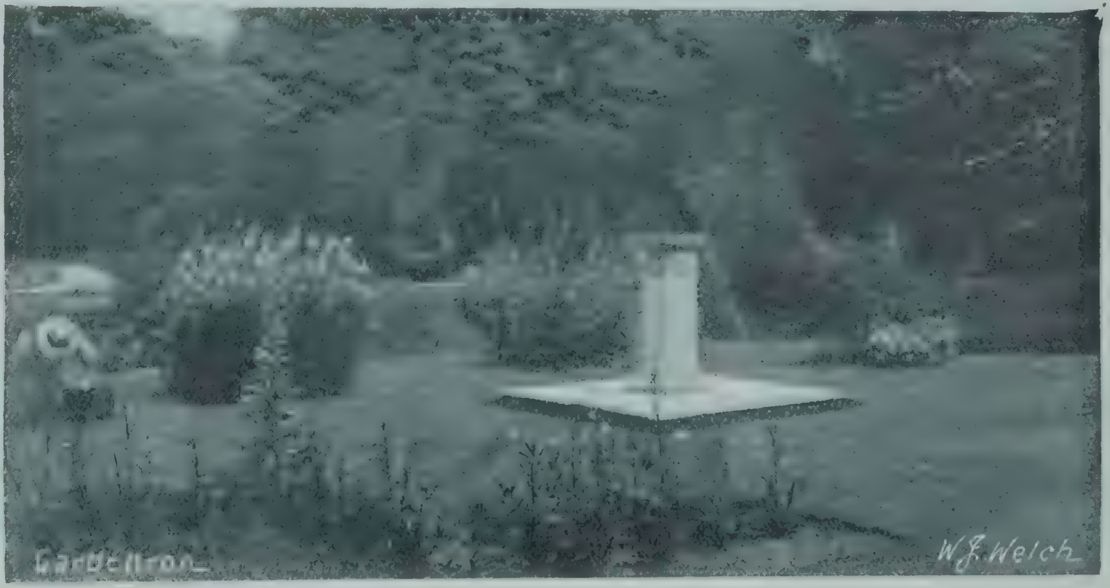

Fig. 136.—A GLOUCESTERSHIRE WILD GARDEN: THE TALL PLANTS IN BEDS BY THEMSELVES ARE THE NARROW-LEAVED WILLOW HERB AND COMMON TEAZLE.

Some creeping plants are more amenable. They certainly insist on having to themselves whole beds, but if these are bounded by lawn turf about 4 feet wide, which is cut, say, once a week, the plants keep within their confines. Such plants include the Dittander, Soapwort, Creeping Bellflower, narrow-leaved Willow herb (see fig. 136), Bistort, and Yellow Loosestrife.

As regards the arrangement of the garden, the chief care has been to make the plants feel at home, and so far as possible to adapt the natural features of the ground first for this purpose, and, secondly, for a picturesque grouping. Water-loving plants from the rivers and bogs must have the necessary moisture, those from the woods their shade and leaf-mould, and inhabitants of the limestone and oolite districts must have their chemical wants attended to. Even after these special beds are filled, there are still left large numbers of plants which can be put into ordinary beds and arranged in more or less classified order. Beginning with Candytuft, this series goes on through Corn Cockle, Campions, golden clumps of St. John's-worts, magenta and purple Mallows and Geraniums, Melilots and others away to Knapweeds, the violet Scabious group, a blue pillar of Chicory and many more, finally ending with brilliant red tufts of Wood Betony. To break any monotony in the lines of these beds, they have been grouped round a large sun-dial (see fig. 136), designed to embody the type of architecture of the old Cotswold manor-houses.

Although Gloucestershire is an inland county, still the penetrating Severn estuary has gained for it many plants of the seaside. Some of these when found in their wild state grow on a tiny beach of lovely red sand only some 80 yards long, which is swept by the south-west gales and the inrushing river-tides. Others grow higher up the river and get shifted about by the Severn bore. But they all grow well in the garden—Yellow Horned Poppy, Sea-pink, Sea-lavender, Sea-wormwood and others—just given a little rock salt to remind them of their old abodes. And some of them remind one in turn that they used to flourish in the county, but are being lost through the inroads of docks and civilisation.

For rock-loving plants there is a rockery of large boulders of inferior oolite. These fit together in layers, and dip from front to rear, so as to represent in miniature an outcrop of the escarpment above the Vale of Gloucester.

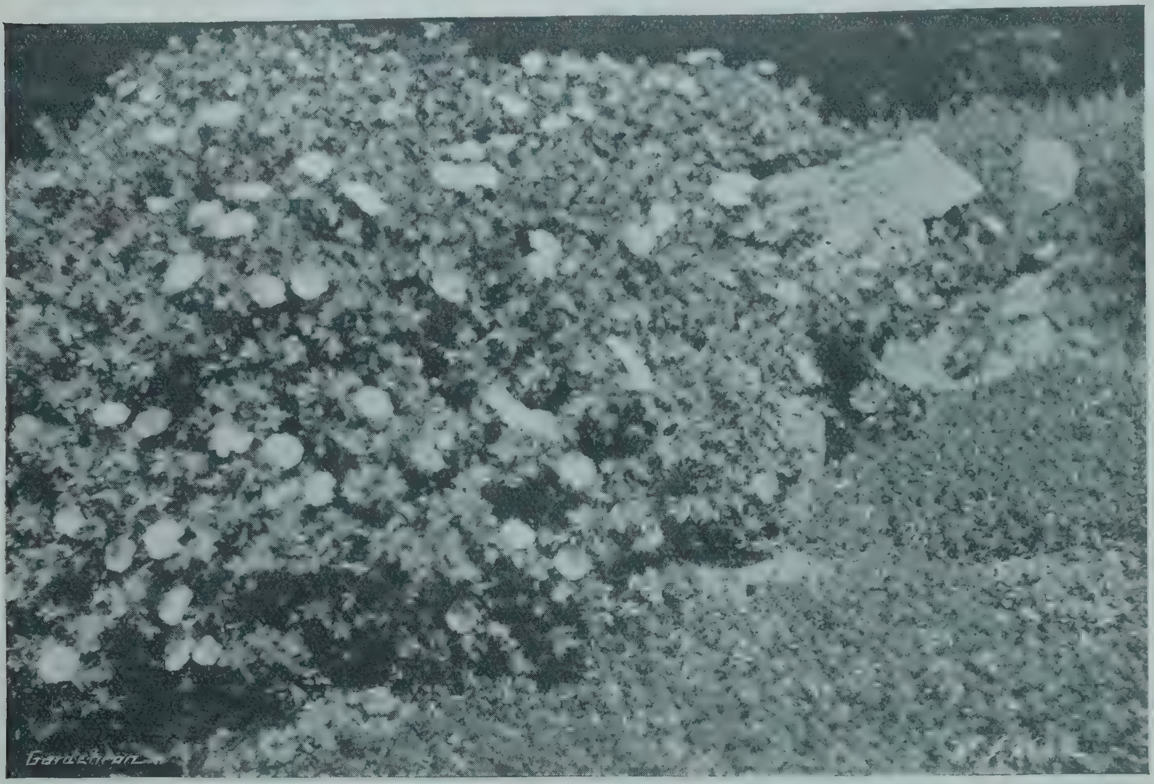

Fig. 137.—A GLOUCESTERSHIRE WILD GARDEN: GERANIUM SANGUINEUM AND THYMUS SERPYLLUM.

For some plants coming from the limestone country two large beds have been filled with the loose soil of their district carted from a distance. Mulleins, Dropwort, Purple Milk-Vetch, Viper's Bugloss, Clustered Bell-flower, Horseshoe-Vetch, Squinancy-wort, Woolly Thistle, and Senecio campestris, with its silky coat of white down, thrive in these beds. The soil, too, looks well, and is quite worth the extra expense.

Reference to the flowers of the limestone country suggests a little point about the garden which cannot be overlooked. It is that it has its delights not only for what it is and what it shows, but also for what it recalls, for it takes us in imagination into the county where the plants have their homes. As a native of the county looks at the massed groups of Geranium sanguineum (see fig. 137) and Spiked Speedwell, or the dainty Hill Meadow-rue, he lives for a moment on the summit of the St. Vincent Rocks, near Clifton. As he turns in another direction, Sedum rupestre and the Madder take him to the cliffs above the Wye Valley. Yet again, the Catsfoot, Meadow Saxifrage and Limestone Polypody represent the bleakest tops of the Cotswolds, whence one can see from Berkshire to Radnorshire.

So with other plants not on the rockery, it is wonderful what scenes they recall—the Daffodil and the fields of the red sandstone district yellow washed in the spring: Euphorbia stricta and the wild, steep banks overlooking Tintern Abbey: the inmost recesses of the Forest of Dean brightened by the crimson Martagon Lily (see fig. 138), which is naturalised in many parts of Great Britain: the Purple Loosestrife, and the quiet reaches of the Avon stretching away towards Stratford: the Bog-bean and little half-forgotten marshes that have not changed for centuries. And visitors from other counties find a similar pleasure in memories that are stirred—from an association of the Bastard balm and Devonshire copses to that of the Fritillary and Oxfordshire meadows.

Such a garden, too, serves as a treasure-house and show-place for rarities. At the same time great care has been taken in this particular garden not to attempt to grow plants difficult of culture, if this might lead to robbing the countryside of them. It is sacrilege to transplant the rarer Orchids for instance. On the other hand, such a plant as the Peach-leaved Bell-flower (only found as truly wild in two counties) was known to be a strong grower. So a small root was taken, and it has increased so much in the garden that there are now plenty of plants to spare for a spot near the original habitat, where, strange to relate, the species has been exterminated. Much the same line of argument applies to the Pasque flower, Anemone pulsatilla.

Only a few Orchids do well, at any rate in this garden, amongst those which succeed may be mentioned the pyramidal, sweet-scented, marsh and spotted Orchids (see fig. 138). Others seem to require special vegetable humus in the soil on which the roots can feed; or it may be that the fungus which infests the roots fails in all but special soils. Exact conditions such as these are difficult to maintain, not only for Orchids, but for the Eyebright, Lousewort, Centaury, Yellow-wort and other such commoner plants which also require them. Care, too, should be taken not to take from the country some of the more delicate bog-plants, unless proper peaty soil and plenty of soft water can be obtained for them. Otherwise it means a constant tax upon the natural abode of a species to keep it represented in the garden.

Amongst rarieties not hitherto mentioned that flourish in this garden are such plants as Arabis stricta, Cardamine impatiens, Stachys alpina, Polygonatum officinale, Scilla autumnalis, Ornithogalum pyrenaicum and Allium sphærocephalum.

Finally, during the flowering season the plants may be allowed a certain amount of latitude in their growth. The borders look better for an absence of extreme neatness and of curtailment as to similar-sized clumps of plants. But during the time of the first growth, and again when the blossoms are over, there cannot be too much method and careful cutting and arrangement. Also, the seeds, especially of biennials, must be properly harvested and sown with a fair amount of system, whilst sketch plans of the beds are found useful.

If other corporations will call in the aid of local botanists, and start such gardens, it is believed that the results will be found good, and that they will be appreciated.

But. . . ! to quote Mr. Rudyard Kipling:

"Our England is a garden and such gardens are not made
By singing, oh how beautiful, and sitting in the shade:

. . . . . .

And when your back stops aching and your hands begin to harden,
You will find yourself a partner in the Glory of a Garden."

—*W. Lock Mellersh.*

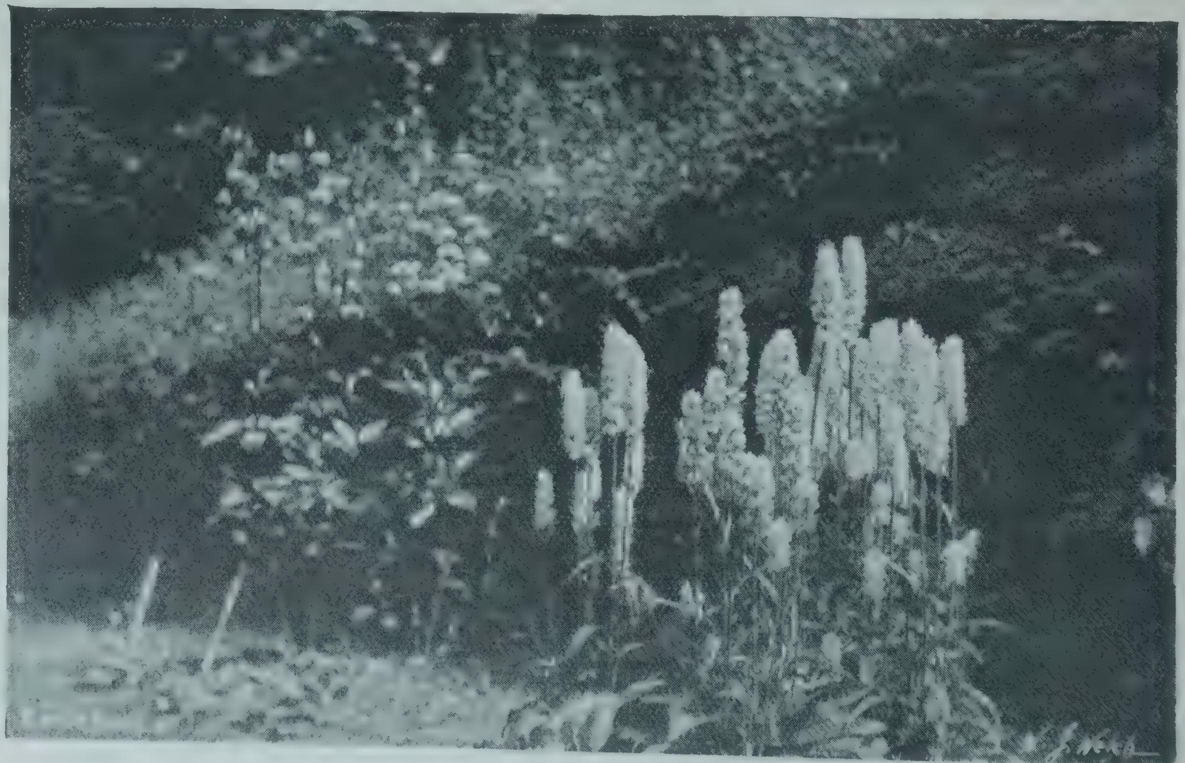

Fig. 138.—A GLOUCESTERSHIRE WILD GARDEN: LILIUM MARTAGON (FOREST OF DEAN) AND ORCHIS MACULATA × O. LATIFOLIA.

THE ROSARY.

CULTURAL NOTES FOR NOVEMBER.

If the ground has been prepared as advised in my last notes, there should be very few cases in which the freshly-purchased plants could not be in their permanent quarters by the end of November. If the soil is very wet, it is better to defer planting until the spring; still, autumn planting is much the best, and with a little judgment it is seldom impracticable. I have already referred to the value of firm planting and the spreading out of the roots. See that the latter are not exposed to drying winds, especially when the weather is inclined to be frosty, for much harm is done when the wood shrivels from a loss of sap.

Roses Under Glass.

Before housing pot plants, see that the drainage is perfectly free, and search for insect pests, which can be destroyed much more easily when the wood is ripe and dormant than after growth has commenced. When using strong specifics, place the plants on their sides to prevent the liquid reaching the soil in the pots. Any leaves that remain should, unless they are very young, be removed. Most of these would be cut away in the process of pruning, and removing them now may prevent disease or insect pests being introduced into the house. Under glass, pests and diseases spread rapidly, and thrive on the young, tender growths. Wherever possible, the interiors of the houses, including the benches and walls, should be washed thoroughly and disinfected before the Roses are brought indoors. Climbers should be unfastened from the walls and cleansed so far as circumstances will allow. A number of insects find shelter in crevices and behind the shreds with which the Roses are attached to the wall.

At first, the plants may be stood fairly close together, if necessary, in a small house, and be removed to more roomy quarters when the Chrysanthemums are over. But it must be remembered that Roses need plenty of light and air as soon as growth becomes active. Wall Roses need careful pruning and thinning. In the case of ordinary climbers, leave plenty of wood formed during the previous season. But some varieties, such as William Allen Richardson, should have a few of the healthy side growths spurred back to the original rod, provided the latter is not too old. Long, well-ripened growths on climbers flower much better and almost with certainty from every eye if they are trained as horizontally as possible.

Do not secure long rods to the roof at a nearer distance than 1½ foot from the glass. The new shoots will be sure to grow towards the light, and come into contact with the glass, only to be injured by cold and damp, and more especially hoar frost, that so quickly forms on the roofs of glasshouses.

On no account should Roses be hurried into growth at the start; the steadier they develop the better until about 2 inches of growth is made, when they may be forced a little. They will need extra fire-heat by that time, because the weather will be colder.

Considerable discretion must be exercised in syringing and damping at this season, as superfluous moisture may cause harm in the centres of the growing shoots and stop the formation of buds.

Fumigation is more suitable for the destruction of any insect enemies now than in the spring, when the trees may be syringed freely with clear water without fear of injury from damping. Avoid fumigation to excess, as this is very injurious to the points of the young shoots. I have frequently traced the greater part of a bad loss of flowers to this cause. Certain varieties are much more harmed by powerful fumigants than others. Niphetos is very susceptible to injury from this cause. Fumigation should always be carried out carefully at night time, and the plants syringed as soon as the weather will allow next day. This practice is a capital method of cleansing the growth and foliage from insects that are not dislodged, and renders the work more effective.

It should not be necessary to point out how much wiser and more effective it is to attack the first few foes than to allow the pests to gain a strong foothold; far too many growers are apt to delay fumigation because the insects are few in numbers.

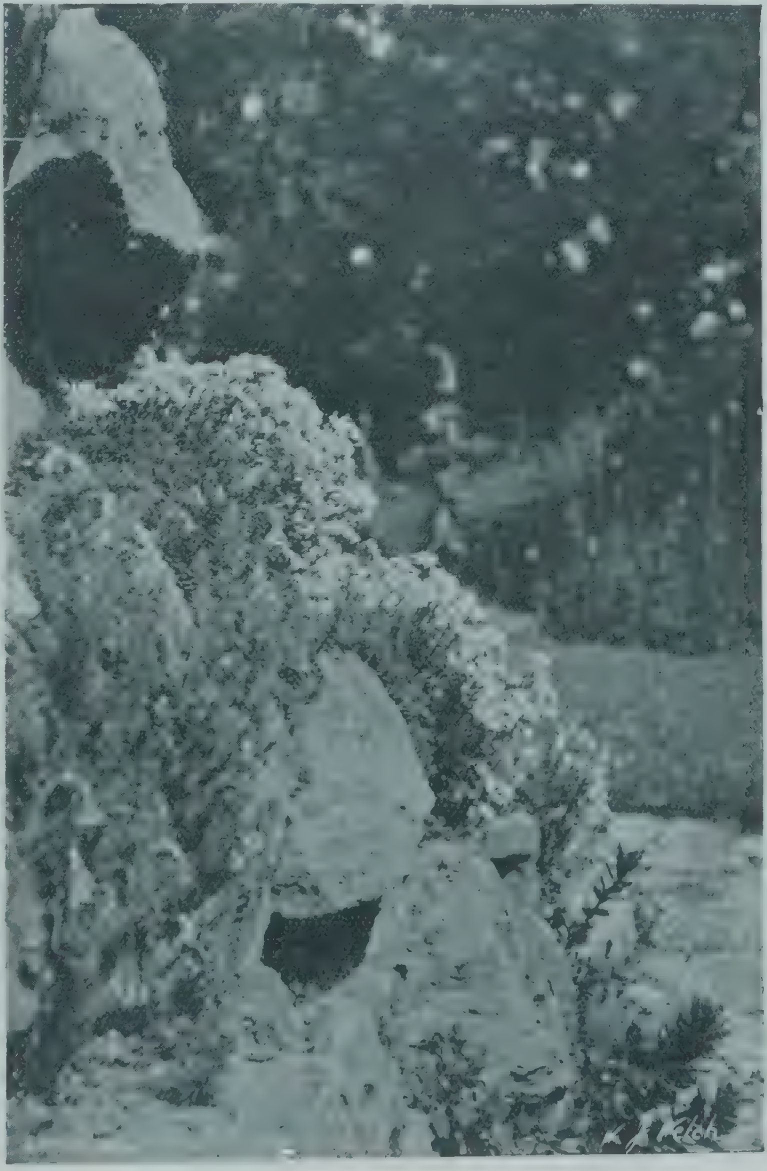

Fig. 139.—A Gloucestershire wild garden: Sedum album, S. reflexum and S. telephium.

(See p. 309.)

Grafting Roses Indoors.

A number of decorative Roses are not suitable for propagating from budding, either because the wood is not strong enough, or from a lack of suitable buds. Most of the China and Dwarf Polyantha Roses come in this category. Certain of the Teas and their hybrids are also more easily propagated by winter grafting. Peace, G. Nabonnand, Mme. Antoine Mari, Lady Battersea and others of a similar habit produce excellent grafting wood in the numerous small shoulders or side growths which carried the last blossoms. A grafted plant of these Roses is fit for planting out the following May, and will flower well from mid-June until frost appears.

If grafted low, the scion may be inserted upon the root of the stock itself, and the growth of suckers prevented. The life of a grafted Rose is as long and safe as that of a budded Rose.

In a previous note I referred to the potting of stocks; the more forward of these will be forming new roots by the middle or end of November.

The methods of grafting have been described on several occasions, and are generally known. The wood used for scions should not be the least affected by frost. I have never had good results from frosted shoots; even under the most careful and experienced treatment. A propagating case, with a temperature of 60° to 65°, is very suitable. Avoid dampness in any form. It will be necessary to wipe the glass or turn it over each morning and night to dispel the condensed moisture.

Our propagating cases are made much after the style of a miniature span-roofed house. The squares of glass lie loosely over the case, resting against a cross board, instead of a pitch-plate, and just overlap the sides of the case at the bottom. This allows the superfluous moisture to run down and avoids drip, which is so fatal to the Rose graft in its younger stages.

I would warn, too, against practising overhead waterings in the early stages. It stops the formation of the callus, and is often the main cause of failure. Keep the frame closed and avoid strong light; the plants may be kept quite dark for a couple of weeks or until a callus has formed and growth is proceeding rapidly. If water is necessary, it should be applied with extra care to avoid wetting the graft. More light may be given as the plants develop, and air may be admitted gradually.

The propagating cases should not have wooden bottoms; fungus soon grows on wood in a close, warm atmosphere, unless the timber is thoroughly seasoned and painted. Nor, for the same reason, do I advise the use of leaf-mould or manure in the potting compost. Pure loam and a little sand are all the plants require until they are potted. Very small pots may be used at first, and thus a large number of plants may be grafted in the same case.

The more forward of the plants should be removed to one end of the case so that they may receive more light and air. Grafted Roses seldom develop evenly, and a few must be kept closed longer than the others.

By using loose squares of glass, the ventilation in the frame can be regulated perfectly; the case may be partitioned with squares of glass placed upright. *Practice.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA SCHRÖDERÆ IN CANADA.

I am enclosing a photograph of a house of Cattleya Schröderæ taken last Easter in these nurseries from which about 5,000 flowers were cut for the Easter trade. With it is a specimen plant of C. Schröderæ alba, which flowered among them. I was grower for many years to Messrs. Hooley Bros., Southampton, before coming here, and I find that Cattleyas grow much finer here. Many of the spikes carry four to seven flowers, and several of the plants 22 to 36 blooms. The house is 100 feet long with the stage spanning both ways. We have a similar house of Cattleya Mossiæ. *W. J. Jones, Dale Nurseries, Brampton, Ontario, Canada.*

NOTICES OF BOOKS.

JAPANESE GARDENING.*

ENGLISH gardens owe much of their beauty to the fine hardy flowers which we have received from Japan. They first came to us in the early years of the eighteenth century, and from that time to the present a very large number have found their way into English gardens, having the strong recommendation that they are not only beautiful, but hardy. To mention only a few, from Japan have come to us Chimonanthus, Pyrus japonica, many Magnolias, Hydrangeas, Aucuba, Azalea, Diervilla, Ginkgo, Anemone japonica, many Irises, and Lilies.

And we have many books on Japanese gardens and flowers, all pretty, and some of them (as the *So Moku*) scientific.

The beauty of Japanese gardens, and the delight they are to the Japanese, are fully brought home to us in Mrs. Taylor's book; but we are glad to see that she does not recommend that we should make copies of them in England. They are an important part of a Japanese home, and they suit the Japanese; but it would be as foolish to make our English gardens exact copies of the Japanese as it would be to build our houses on the model of the houses in Japan.

In Japan, gardening is a religion, and a very conservative religion. The Japanese gentleman of to-day carries on the tradition of the garden that was cultivated by his father and grandfather. But is it such a success that we should wish to see the same in England? No one has a more intimate and artistic acquaintance with English and Japanese gardens than Lord Redesdale, and this is his verdict, as published in the *Bamboo Garden* in 1896, and repeated in a more recent book :—

> "The Japanese garden is a mere toy, that might be the appanage of a doll's house. Everything is in miniature—a dwarf forest of stunted Pines; a Lilliputian waterfall, running into a tiny pond; stone lanterns of grotesque shape springing up here and there; paths made of great, flat stepping-stones; dwarf Conifers; all spick and span, intensely artificial, a miracle of misplaced zeal and wasted labour; all governed by laws sacred and immutable."

Surely we do not want that! Yet the experiment is being tried in a few places, and there are many who think that all that is wanted to produce the charm of a Japanese garden can be got by a bridge, a few stone lanterns, paved paths, and many pots.

There are two things which the Englishman demands of his garden, for which the Japanese gardener cares little or nothing. In all Mrs. Taylor's pretty pictures there is no thought for a good lawn, without which an English garden lacks its chief beauty; and though the Japanese likes large stones in his garden, he has no thought for the rock-garden with moraines, which English gardeners now so much affect. The Japanese thinks little of small Alpines, but he thinks a great deal of rows of pots holding plants and tree Pæonies!

We have left ourselves too small a space to speak of the merits of Mrs. Taylor's book. We should have liked it better if it had been half the size; she knows her subject well, and she has a ready pen, but it has tempted her to write at too great a length. The sentences are long and involved, and the language is for the most part stilted, so that the reading is very often far from easy. A new edition, half the size, and in simpler English would be an improvement.

Still, in spite of this faint praise, we can recommend the book; it is a dainty book, and, with its pretty illustrations and general good get-up, it is well fitted for a drawing-room table, but we cannot give to it a much higher rank than that. *H. N. Ellacombe.*

EDOUARD BORNET.

A SPECIAL interest attaches to No. 4 of the *Bulletin de la Société Botanique de France* (vol. 59, 1912) in that it contains an admirable biography of the veteran and distinguished botanist Edouard Bornet, who died in December of last year. Bornet was born in 1828, and lived to the advanced age of 83, and of him as of Hooker it may be said with truth that though he grew old he never grew antiquated. His life was devoted to botanical science, and the most important of the long series of contributions which Bornet made to that science were in the domains of plant breeding and of cryptogamic botany.

His most memorable contributions in the latter branch of science were the discovery of the remarkable mode of sexual reproduction which occurs among the red algæ, and the complete demonstration of the truth of the hypothesis put forward and supported by strong evidence by Schwendener that Lichens are not single and specific organisms, but that they are composite beings made up of two partners or symbionts, namely, an alga and a fungus. It was Bornet who first showed that the algal cells or gonidia of the Lichen give rise only to algal cells and not to the Lichen, and that in order for a Lichen to be formed the algal constituents must come into intimate relation with the hyphæ of the fungus. Schwendener's discovery, now a commonplace of botany, gave rise to fierce and acrimonious discussion, for the Lichenologists were by no means willing to allow their pets to be degraded—as it seemed to them—into the position of joint-stock companies. Bornet, however, showed his wisdom in disregarding the controversialists—

. . . Bent low before the blast,
In patient, calm disdain,
He let her legions thunder past,
Then turned to thought again.

No less epoch making was the part which the distinguished savant played in establishing the garden of acclimatation at Antibes. This justly celebrated garden was established originally by Bornet's friend and former teacher, Thuret, in order that the two colleagues might have a suitable laboratory and garden wherein to carry on their joint investigations. So long ago as 1857 Thuret purchased the site of the present garden, which lies between the Golfe de Nice and the Golfe Juan, in what is one of the most beautiful situations of the world, the Cap d'Antibes. There they established all manner of sub-tropical and other exotic trees and plants, Pittosporums, Callistemons, Stapelias, many species of Cistus, and a host of exotic plants introduced into Europe for the first time. Readers of Georges Sand will remember her enthusiastic description of the garden of the Villa Thuret, from the lawn of which emerges the sudden apparition of blue sea and great white Alps above the topmost branches of the trees—"an Eden which seems to be borne on the bosom of infinite space." Bornet's work in hybridisation was carried out principally on the species of Cistus, many of which he succeeded in crossing with one another. He demonstrated, moreover, that many—no fewer than 250 of the hybrids which he obtained—yield fertile seed, and thereby helped to destroy the notion which prevailed so long and so generally that species hybrids are sterile. It is interesting to observe that Bornet's hybridisation work was carried on at the same time as that of Mendel, and it is a misfortune for the student of genetics that the former, absorbed by his no less important algological studies, did not publish the results of his experiments, which were made and recorded with scentific precision.

The Villa Thuret, which was for so many years the scientific home of Bornet, was bequeathed by its owner to the State, and still flourishes as a centre for those scientific studies which will always be associated with the names of Thuret and Bornet.

Both were men of a model which is becoming rarer with the professionalisation of science. Neither sought anything except truth, and as a result both have found lasting fame and high regard, even among their successors so busily occupied with the engrossing work of getting on.

NOTES ON FORESTRY.

FORMING NEW PLANTATIONS.

ALL preliminary operations in connection with the formation of new plantations, such as drainage, fencing and pitting, should now be taken in hand so that by the end of the year planting may be engaged in.

Except in certain situations, autumn planting is to be preferred to that carried out in the spring, the exceptions being cold, wet lands or exposed and high-lying grounds.

The preliminary work will include in certain cases marking out the site of the plantation, clearing the ground of all scrub and rough-growing herbage, relieving the soil of excessive moisture, fencing, and opening the pits for the reception of the young trees at a later date. Local conditions will often have a distinct bearing on how these operations should be carried out, while the actual cost will be greatly influenced by the rate of wages paid in the particular district of the country where the plantations are to be formed.

WILLOWS FOR CRICKET BATS.

THE demand for "maiden" or unpollarded Willow timber, suitable for making the best class of cricket bats, was never greater than at present. During the past summer £10 was paid for a Willow tree in London, and in the Epping district £5 each was offered and refused for a number of trees of the white or Huntingdon species, while a large quantity of the same timber in another district fetched from 3s. 6d. to 5s. per cubic foot, but the trees were not of prime quality or the size desired.

These prices, double or treble that of Oak, clearly point to the fact that Willow timber suitable for the manufacture of high-grade cricket bats is well worth cultivating, and when, in addition, we consider how readily the tree is accommodated in the matter of soil and situation, as well as ease of propagation, one cannot but wonder why the timber is expensive.

True, every class of soil will not grow Willow timber successfully, but there are many dampish fields of fair class loamy soil that would grow the tree to perfection.

Neither will every species of Willow produce timber suitable for making the best class of cricket bats, the true white or Huntingdon tree (Salix alba) or, better still, one or two of its varieties, alone being suitable for the manufacture of such.

WOODLANDS FOR SALE.

ABOUT 300 acres of freehold woodlands, including timber, are to be offered for sale on the Gwydyr Estate, North Wales, at an early date. The plantations are situated in the Conway Vale of Trefriw, Capel Curig and Bettws-y-coed, places that are well known for their beautiful mountain scenery. Some time ago it was mooted that all the trees in the Vale of Conway, near Llanrwst, were to be cut down, but a letter from the agent of the estate assured me that such was not the case, and that the famous clump of Weymouth Pine (Pinus Strobus) would be carefully preserved.

These trees, which are growing on the mound near the old mansion and chapel of Gwydyrucha, have no equals in this country, many of the individual specimens being from 80 to 100 feet in height, and with stems which girth 10 feet and upwards at a yard from the ground level. Incidentally, and as showing to what size trees grow in the Conway Vale, it may be mentioned that a Spruce Fir blown down near these trees some years ago was 124 feet in height. *A. D. W.*

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* *Japanese Gardening*, by Mrs. Basil Taylor. (Methuen & Co.) 21s. net.

TROPICAL WATER-LILY HOUSE, KEW, IN SEPTEMBER.

(Concluded from p. 294.)

Beside the Gourds, there are also numerous other climbers. There are several species of "Yams," which thrive well. Dioscorea bulbifera var. sativa (see fig. 140), the common Yam of the tropics, is bearing a large crop of aerial tubers in the axils of all the principal leaves. Another common Yam is D. alata, but this species is devoid of stem tubers. Both species are largely grown in many tropical countries, the tubers being cooked like Potatos. Two large specimens of the West Tropical African D. prehensilis are trained on wires over the Water Lilies, the lateral branches forming a light and graceful curtain on either side and hanging down almost to the water. The roots of this plant are remarkable, being covered with short lateral rootlets, which harden and become spinous. The tuber is enclosed in a perfect network of these spiny roots. A large spreading vine, Vitis pterophora, is also trained on wires across the tank; the stems are four-angled, and bear large, handsome foliage. A few long, slender, aerial roots are developed; when they reach the soil they act as additional feeders for the rapid-growing stem. Late in the autumn of each year the ends of the stems hang down, and a length of about 1 foot becomes enlarged and stored with nutriment, finally falling to the ground, where it remains dormant until the following growing season. This curious method of vegetative reproduction enables the plant to cover enormous areas of the forest regions of Brazil, of which it is a native.

Many other climbers are dotted about amongst the Gourds, including the Snail Flower (Phaseolus Caracalla), with its curious spiral buds and flowers; the light and graceful Ipomœa Quamoclit, with its small, feathery pinnate leaves and bright scarlet flowers, and the beautiful cobalt-blue-flowered Clitoria ternatea and its white variety. Of the larger woody climbers the best is Allamanda cathartica var. Hendersonii, of which a large specimen is covered with its large, handsome, yellow and brown flowers. Several Passifloras, the lavender-flowered Solanum Seaforthianum, the yellow-flowered Stigmaphyllon ciliatum, Aristolochia grandiflora, with its curious pouch-shaped flowers, and rather unpleasant smell; these and many others form a beautiful vegetative curtain. Beneath the climbers, and planted out in the same border, are groups of beautiful foliage plants, interspersed with a few flowering dwarf shrubs and herbs. Species of Eranthemum, with beautiful and highly-coloured foliage, are a feature. E. atropurpureum, with dark, bronzy-red leaves and large, terminal white and red flowers; E. tricolor, with dark reddish-green, blotched and striped with shades of pink, red and purple; E. tuberculatum, a charming dwarf shrub that is covered several times a year with numbers of white flowers, each more than an inch in diameter, and E. Cooperi, a companion plant with lanceolate leaves and white spotted with purple flowers. Acalyphas are largely planted, such well-known kinds as A. macrophylla, A. macrostachya (A. musaica of gardens), A. Godseffiana, A. marginata, A. Wilkesiana (A. tricolor of gardens), A. Clibranii, A. obovata and A. Hamiltoniana being used with fine effect. The bulk of these plants are planted in masses, and their foliage becomes highly coloured in the autumn. A large clump of Graptophyllum Nortonii is extremely handsome, the leaves being dark reddish-green, irregularly marked along the bright red midrib with bright-rose or deep red markings. The undersides of the leaves are plum-red with bright crimson markings. The well-known Caricature Plant (Graptophyllum hortense) is grown in several parts of the house, and is a fit companion to the other species. The markings on the leaves are yellow on a groundwork of green, and in many cases the outline of a man's face is to be seen, hence the common name of the plant. A large mass of a new species of Sanchezia—S. parvibractea—occupies a prominent position on a corner of the stage. The leaves are large and beautifully striped along the principal veins with bright yellow. It is a larger and more erect-growing plant than the old S. nobilis, and makes a very pretty object when grown in pots. Several species of the genus Nautilocalyx are grown in small groups. All the species of this genus in cultivation are decorative. N. Forgetii, a recent introduction from Peru, is of bushy habit, with edges of the leaves prettily crimped. The flowers are primrose coloured and nearly 2 inches long. N. bullatus and N. Lynchii have recently been transferred to this genus from Alloplectus. Two other new species, N. pallidus and N. hirsutus, introduced by Messrs. Sander & Sons from Peru, are growing in this house. Many other kinds of foliage and flowering plants are cultivated on the side stages, and all thrive remarkably well.

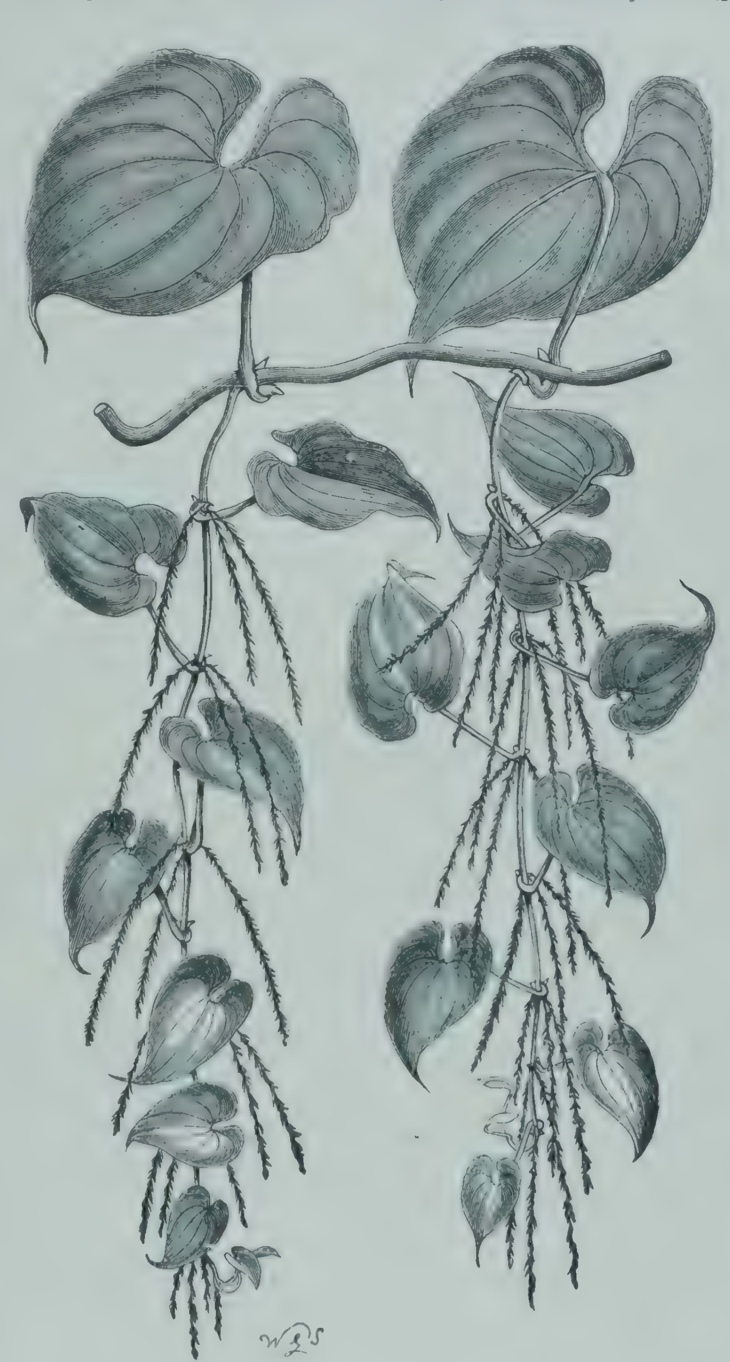

Fig. 140.—Dioscorea bulbifera.

The small tanks devoted to bog plants in each of the four corners of the house are filled to within a few inches of the top with loamy soil, and in this are growing such plants as Sagittaria montevidensis, S. lancifolia, the former reaching to a height of 9 feet, and Montrichardia aculeata, a large and strong-growing Aroid, with light-yellow spathes. A large mass of the distinct and handsome Pontederia cordata occupies a central position in one of the tanks. The flowers are pale blue in short spikes on long peduncles and are borne in quantity during several months. Nearly the whole of one side tank is filled with a large mass of the "Papyrus" (Cyperus Papyrus). A pretty bog plant is Hydrolea spinosa, of half-shrubby habit and covered with bright-blue flowers. Two of the tanks contain masses of the curious Limnobium bogotensis and Salvinia natans, which float on the surface of the water in the same way as the common Duckweed. The Salvinia is a curious and anomalous Fern ally; the leaves are borne in whorls of three at each node; two of these are ordinary round or oval foliage leaves, and the third is a submerged and much-divided leaf, springing from a short petiole and covered with brown hairs. The plant does not form roots, the function of the roots being performed by the submerged leaves. Reproduction in this plant is somewhat rare, but for the past three years a small percentage of the Kew specimens have borne their curious sporocarps.

A number of fine basket plants hang near to the sides of the centre tank. One of the best is Jacobinia sub-erecta, which has been a mass of flowers all the summer. Dissotis plumosa is a pendulous-growing Melastomad with mauve-coloured flowers. A particularly charming basket plant is Coccocypselum hirsutum; its bright violet-coloured fruits are freely produced. Several kinds of Achimenes are grown, also a fine basket of each of the Hemigraphis—H. colorata and H. repanda. The new Torenia atropurpurea, a native of Perak, has flowered freely in a basket all the summer; the flowers are rosy-violet in colour and about two-thirds of an inch in diameter. *C. P. Raffill.*

PLANT NOTES.

COCHLIOSTEMA JACOBIANUM.

This old plant is now but seldom grown in gardens, and yet it is well worth cultivating for the intense blue colour and quaint structure of the flowers. It is usually raised from seed, which, under suitable conditions, germinates freely. A brisk, moist heat is necessary for the successful culture of this plant, but when in flower, it may be removed to a cooler structure and kept drier at the root. These conditions will prolong the flowering period. The lax inflorescences are freely produced from the sheath-like bases of the leaves.

When out of flower the plant resembles certain of the Bromeliaceæ, being practically stemless, and having rigid, long, recurving, pale-green leaves. *Jonathan Fiona, Ultima, N.B.*

FURCRÆA BEDINGHAUSII IN AUSTRALIA.

I forward a photograph of one of several plants of Furcræa Bedinghausii, C. Koch. (Syn. Furcræa Bedinghausii, C. Koch. "Bedinghausen's Giant Lily," Mexico). The plants have flowered luxuriantly in these gardens during November, December and January last. They grew 30 feet 6 inches in height, and the height of the scape, bearing the inflorescence, was 21 feet 7 inches. The species thrives well in this climate, and a good fibre is obtained from the leaves. *J. Cronin, Curator, Melbourne Botanic Gardens, South Yarra.*

The Week's Work.

THE ORCHID HOUSES.

By J. COLLIER, Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey.

ONCIDIUM.—Plants of Oncidium varicosum, O. crispum, and O. Forbesii are developing their flower-spikes, and must not suffer drought at the roots, or the flower-buds may drop. These plants produce strong, branching inflorescences, which exhaust their energies. Therefore only robust, well-rooted specimens should be allowed to flower. Those that are weakly should have their flower-spikes removed as soon as the latter appear, and be given every encouragement to grow strong. In no case should the flower-spikes be allowed to remain on the plants after the pseudo-bulbs show the least signs of shrivelling. O. Papilio and O. Kramerianum that are producing a succession of flowers from their slender stems should not be allowed to become dry at the roots at any time, and the flower-stems should be removed after three or four flowers have developed. These plants are best grown in shallow Orchid pans or teak-wood baskets, which should be suspended in a light position in the warmest part of the Cattleya house.

VANDA.—Plants of the tall-growing section, which includes V. tricolor and V. suavis, and their varieties, should receive attention at the roots, either repotting them or affording fresh surfacing materials only, as may be necessary. Those plants that have sufficient rooting space for another season's growth and with the lower leaves still attached, should be provided with fresh material after a quantity of the old compost has been removed from the surface. Well-rooted specimens that are growing in pots too small for another season should be repotted afresh in receptacles of a suitable size. In turning the plants out of the receptacles it will be found that some of the roots are clinging to the sides, and care must be exercised that they are not damaged. Provide pots that will accommodate the roots without crowding them, and arrange the plant in the centre of the pot with the lower leaves almost level with the soil. First place a large piece of potsherd over the drainage hole, and then arrange the lower roots in position, taking care not to crack or break them. Fill the pot to within half its depth with clean crocks and over these arrange a layer of Sphagnum-moss, finishing with a mixture of Sphagnum-moss and A1 fibre in equal parts, the latter cut into short portions, and the whole mixed with plenty of small pieces of crock. Work the compost well amongst the roots, pressing it firmly, and arranging it to the level of the rim. The potting is completed by a layer of living Sphagnum-moss on the surface. Specimens with healthy roots but bare of most of the bottom leaves should have the old potting materials and drainage removed, but without detaching the roots which are clinging to the sides of the pot. The lower part of the stem may be cut away, so as to bring the bottom leaves almost level with the soil; the plant may then be repotted in the usual way, using the compost recommended. The growth should be tied to neat stakes to keep the plants firm and in an upright position. Aerial roots should be pegged to the moss; the longer ones may be directed into the soil. Newly-potted plants should be shaded from sunshine, and their immediate surroundings kept moist by frequent syringings around and between them. It is essential that the plants are always stood on a damp bottom. Water will not be necessary for a few days after the potting, but later they should receive copious waterings. As often as the surface moss becomes dry, it should be sprinkled with water to keep it alive. These plants delight in plenty of fresh air, and the bottom ventilators near to them should be opened at all times when the external temperature is not lower than 50°. These Vandas will grow well in the intermediate house or the cooler end of the Cattleya house. The leaves and stems of the plants should be sponged with a suitable insecticide to cleanse them from dirt and insect pests. A small brown scale insect attaches itself firmly to the leaves; great care is necessary when dislodging the pest or the leaves may be damaged. After the sponging is finished the foliage should be well washed with tepid water. V. Kimballiana and V. Watsonii are developing their flower-spikes, and the atmosphere should be kept rather warmer and drier. Sufficient water should be afforded the roots to keep the Sphagnum-moss growing, but when the flowers have fully expanded, the amount of moisture at the roots should be reduced and only sufficient given to keep the leaves firm and plump.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Hertfordshire.

CABBAGES.—Examine the rows of Cabbages and make good any failures. There is yet time to plant another breadth of Cabbages, and it is advisable at this season to set them as thick again as it is intended to allow them to remain. Plant very firmly and water the roots thoroughly. Spare plants in the seed-bed should be transplanted fairly thickly together in rough, skeleton frames, where a little protection may be afforded them.

TURNIPS.—Turnips have done remarkably well, and, in many cases, those sown with the object of providing roots during the winter are already matured. Roots that are large enough should be lifted and stored in sand or ashes. Very late sowings of Turnips promise well; the plants should be thinned moderately, and the soil hoed frequently.

ASPARAGUS.—The plants of the permanent beds have completed their growth and no benefit is gained by allowing them to remain. The stems should therefore be cut down and burnt so that the beds may be cleared of fallen leaves and other rubbish. The speediest and best way of clearing the Asparagus growth is to use a pair of hedge shears, and the rubbish should be burnt on the nearest vacant ground. Clear the beds of all weeds and spread over the beds a little well-decayed farmyard manure, which should be covered with a little soil from the alleys. Leave the latter in a straight and tidy condition, and the beds will present a pleasing appearance and need no further attention until next spring.

FORCING ASPARAGUS.—Forced Asparagus is always much appreciated, and cannot be had in season too early. If suitable means and materials are available, forcing may be commenced at any time from now. To obtain stems at this season of the year and for the next three or four months, a warm house provided with bottom heat is calculated to produce the best results. In some establishments a special shed exists for the purpose, in which a hotbed or two may be made, the structure being provided with hot-water pipes and lighted by means of a skylight. Manure mixed with leaves will furnish heat for a longer time than manure alone. The materials of the hotbed should be allowed to settle before covering them with soil on which to place the roots, and also to allow the rank gases to escape. Select well-matured crowns for forcing, and do not expose the roots to the air longer than is absolutely necessary. Just cover them with soil and give a good watering. During the growth of the stalks keep the bed and surroundings well damped with the syringe, using water warmed to the temperature of the house. The use of such a structure, a forcing pit or other warm house is preferable at this season to cold frames placed on hot-beds, unless ample covering can be given the frames in cold weather. Oftentimes the covering must perforce remain for a considerable time, and this causes a weak growth.

TARRAGON.—To keep up a supply of young growths of this herb a few roots should be lifted and placed in a box of light soil. Stand the boxes in a cool house in a light position and do not allow the compost to become very dry.

MANURES.—Generally, cow manure is preferable for light soils, whilst horse-dung, with plenty of litter, is best for heavy retentive land, being also of a warmer nature. Certain soils should have a dressing of lime yearly when the ground is dug. Gardens that have been overdone with manures are rendered much more fertile by discarding dung for a season and giving the land a good dressing of wood ashes, soot or lime.

THE FLOWER GARDEN.

By J. G. WESTON, Gardener to Lady NORTHCOTE, Eastwell Park, Kent.

ROSES IN THE WILD GARDEN.—Many of the stronger-growing and hardier varieties of the Wichuraiana section and other climbing Roses provide suitable subjects for planting in clumps in the semi-wild garden or by woodland paths. Planted against old tree stumps, or over clusters of old roots, they soon become objects of beauty, and a few of them should be planted each autumn. Only strong-growing and proved varieties should be selected for such positions. The ground should be prepared for their planting, and if the natural soil is unsuitable a properly prepared compost should be incorporated with it to give the plants a good start. These Roses require very little attention after they are planted, for they are seen at their best when growing naturally and unrestrained.

PERENNIAL ASTERS.—The fine weather of September and October was favourable to the blooming of border Asters, and the plants have been a prominent feature in the flower garden for some weeks past. The flowers are little injured by moderate frosts. At Eastwell Park we plant these flowers not only in the mixed borders, but also in a long border by themselves. In such a border the varieties may be compared readily and inferior sorts eliminated. Those who contemplate planting this season will find the following varieties suitable:—Climax, which is one of the very best of the tall, strong-growing sorts, the large, clear, light-blue flowers being borne on long stems; Feltham Blue, which approaches Climax closely for general excellence, the loosely-petalled flowers being exceedingly beautiful; Keston Blue, a very distinct sort, with prominent yellow disc; Mrs. Hudson Morris, Triumph, Miss Southall, Sensation, and F. W. Burbidge, all these being tall-growing varieties. Beauty of Colwall is by far the best double variety and superior to Peggy Ballard, a newer introduction. The best forms of Aster Novæ Angliæ are Lil Fardell, with large, rose-coloured flowers; Mrs. J. F. Rayner, Mrs. S. T. Wright, and A. acris roseus, A. Coombe Fishacre, and A. diffusus horizontalis have graceful shoots covered with small flowers, and should be included. Those of the ericoides and cordifolius sections are very popular; the long, graceful sprays of innumerable flowers are produced in the greatest profusion, and have a very decorative appearance either on the plants or as cut blooms. Enchantress, Hon. E. Gibbs, Bianca, Maidenhood, Desire, and White Diana are amongst the best in these sections. Those of the Amellus type are particularly neat growers, and do not spread so rapidly; they are, in consequence, suitable for the front of the border. A. Amellus, Bessarabicus (one of the oldest) is still one of the best; Beauté Parfait, Riverslea, H. J. Cutbush, and Little Gem are all good sorts. Other dwarf-growing varieties, such as St. Egwin, Porcelain, and King of the Dwarfs, are especially suited for planting in small borders, being of neat and compact growth. Peter's White (a new introduction) is the best white variety and superior to Mrs. Peters or Norah Peters, and is of robust growth. Several of the species provide valuable border plants; Aster Thompsonii blooms continuously for several months; the pale lavender flowers are very attractive. A. puniceus pulcherrimus, A. vimineus, A. salicifolius, A. longifolius var. formosus, A. lævis, A. Henryi, and A. acris may all be recommended as good representatives of their respective sections.

SENECIO CLIVORUM.—This is a capital subject for planting in swampy places by the side of a lake or stream or in the semi-wild garden. The showy, golden-yellow flowers are borne on strong stems, and stand well above the bold foliage. The latter, even when not surmounted by the flower-spikes, is distinctly striking. It is a strong-rooting subject, and will thrive almost anywhere, so long as the roots enjoy plenty of moisture. The flowers are produced in July and August. Senecio Clivorum is very effective when grown in masses.

SALVIA PATENS.—Except in very favoured districts, it is not safe to leave plants of Salvia patens in the flower-beds. They should be lifted and planted in boxes for the winter, pruning the stems to about 6 inches. Keep them in a cool frame, where they are not subjected to extremes of dampness or dryness.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Late Grapes.—In ordinary seasons all late Grapes should be perfectly ripe by this date, but possibly, in some districts, certain of the latest kinds may be some days yet before they can be regarded as well finished. It is quite possible, too, that some kinds will fail to finish as perfectly as usual, owing to the extraordinary amount of sunless weather which was experienced when the bunches were in the early stages of colouring. Where Grapes are still unfinished, plenty of air must be admitted to the vinery whenever the weather permits, and it will be as well to keep a little heat in the hot-water pipes to dispel moisture, which will quickly condense on the berries if the atmosphere is allowed to become too cold. The roots must not be allowed to get too dry, but one more watering should be sufficient till the Grapes are cut, unless the borders are very shallow. Afford water only when the weather is quite bright, and before noon, when both the top and bottom ventilators may be opened. A layer of clean straw placed on the borders after watering will do much to keep the atmosphere dry. At this season of the year the gardener has to use all his resources to house various plants, and it is not unusual to see vineries containing ripe fruit utilised for the purpose. One cannot condemn this practice too severely, and, unless it is absolutely necessary, it should be avoided. In other cases, select plants which will cause the Grapes the least injury. Plants which require very little or no water should be chosen, and these should be placed as far away from the vines as possible. Plants which are being sheltered in fruit houses where permanent trees are planted should be placed on shelves raised off the borders. Such plants should be given no more water than is really necessary. Carelessness in these matters is the cause of the soil in fruit borders becoming sour and stagnant in a very short time, and this is the principal cause of badly-finished fruit.

Figs.—Plums and Peaches being finished, there is not a very wide range of fruits suitable for dessert purposes. Consequently, every effort should be made to keep up a supply of Figs for as long as possible. Some of the later trees may be encouraged to ripen fruits for a considerable time with very little trouble. The atmospheric conditions necessary for ripening the fruits will also favour the ripening of the wood that will furnish next season's crop. It will be necessary to maintain a little heat in the hot-water pipes at all times, and a constant circulation of air, more or less, according to the weather conditions. The trees will not need so much moisture at the roots at this time of the year, although the soil must not be allowed to get too dry, especially if the trees are planted in shallow, restricted borders. Trees which are in an unsatisfactory condition will need attention at the roots. It will invariably be found that those which are inclined to grow too strong are provided with far too much rooting space. In such cases a good portion, if not all, of the roots should be lifted and planted again in a more restricted border. Make sure that the soil is well drained, and, when adding fresh compost, mix plenty of old broken bricks and mortar rubble with it, and take care to make the border quite firm.

Early Fig Trees in Pots.—For the earliest supplies of fruit, a batch of trees may be placed under glass early in November. If the trees have been subjected to early forcing in former years, the wood should now be sufficiently well ripened. But in selecting trees which have not been forced early, much care must be exercised. Trees with short-jointed wood of medium strength respond best to early forcing. They should be pruned and cleaned before being placed indoors. The pruning consists chiefly in removing weak growths or thinning the shoots where they are too dense. The wood should be cleansed thoroughly with a solution of soft-soap and sulphur, using a soft brush for the purpose. A careful search must be made for scale insect, which sometimes causes much damage to the plants. These insects are very hard to eradicate once they become established. Care must be exercised when cleansing the trees not to damage the young fruits, which may now be seen quite plainly on the well-ripened shoots. For the first few weeks no attempt should be made to force the trees into growth, and, unless the temperature outside is very low, fire heat should not be used. A temperature of 45° or 50° will be suitable till the trees show signs of growth. Spray the plants lightly with tepid rain-water on bright mornings, and damp the walls and paths in the house on these occasions, but avoid creating a stagnant atmosphere by the excessive use of moisture. The roots will not require much moisture till the trees are in active growth, nevertheless, they must be examined carefully at regular intervals, and, when water is required sufficient should be given to soak the soil right through. Trees which have recently been repotted need very careful watering till growth and roots are active. Fallen tree leaves and stable litter should be collected and prepared for the making of a hot-bed about the middle of December. The materials should be thrown in a heap and turned several times at intervals of a few days, to allow the rank gases to escape. It will then provide a hot-bed of moderate temperature, which will suit the trees till they are in active growth. The hot-bed should be formed in a house which is not too lofty, so that the trees will be quite close to the glass. The house should face due south.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Show, Fancy and Regal Pelargoniums.—Plants that were pruned early in September are developing plenty of new growth, and should be repotted. Some of the old soil should be removed, and a few of the coarser roots cut back to allow the plants to be repotted in the same receptacles. Rich, gritty loam mixed with a little manure from a spent Mushroom bed, leaf-mould and bone-meal will provide a suitable potting medium. Pot moderately firmly, as this will favour firm, short-jointed growths during the winter months. After they are potted, the plants may be grown in a fairly close frame, and when the roots have penetrated into the new soil air should be given freely, according to the weather conditions. Young plants rooted during the summer should be ready for shifting into larger pots, receptacles 3 inches or 4½ inches in diameter being large enough. When well grown, these young plants flower for a longer period than older specimens. Zonal Pelargoniums in the plant houses should be growing freely; extra care must be taken in watering them, keeping the soil on the dry side, as soft shoots which have grown fast do not flower so well as those that are sturdier. Admit air freely during bright weather, and maintain a little warmth in the hot-water pipes during damp weather to keep the atmosphere of the house dry.

Plumbago rosea.—The earliest plants of this beautiful winter-flowering subject are developing their flower-spikes, and should be afforded rather less moisture than during the growing season. The temperature of the house should be maintained at about 55° at night. The blooms will open a good colour and keep for a considerable time in this temperature. Plumbago rosea is one of the prettiest of all flowers for dinner-table decorations, and every effort should be made to secure a good crop of bloom. Younger and probably later plants should be kept growing freely, feeding them, as is necessary, with manure water. These plants will come into bloom as those of the earlier batch are finishing.

Poinsettia.—The Poinsettias, known more correctly as Euphorbia pulcherrima, are fast developing their bracts, and, as they come to maturity, will need less moisture at the roots and a drier atmosphere. The temperature of the house may be lowered to about 50° at night, as cooler conditions will result in the plants flagging less when brought into the dwelling-house or conservatory.

Chrysanthemum.—Many of the Japanese varieties are at their best condition of blooming. Where the conservatory permits of groups being arranged on the ground, this is the best method of displaying them. Arrange the flowers to the best advantage, and label the varieties, writing the names on cards that are more readily seen than the labels in the pots. The early buds are opening well this season, without the least indication of coarseness. Such well-known varieties as Lady Talbot, Master James, Frances Jolliffe, Mrs. L. Thorne, Mrs. A. T. Miller, White Queen, Hon. Mrs. Lopes, Captain Mitford, Evangeline, F. S. Vallis, and Kara Dow are all good sorts, whilst among the novelties King George V, His Majesty (probably the best of all the crimsons), Gladys Herbert, Japan, Mdlle. Jacqueline Ochs, Miss Roope, Francis Rowe, Thomas Lunt, Mrs. Gilbert Drabble, and Queen Mary are all more than promising. The groups in the conservatory should not be arranged too stiffly, and may include some of the Single and Decorative varieties, with dwarfer specimens, such as those of the Caprice du Printemps type, for an edging. At this stage, watering must be done very carefully; moisture should be withheld until the plants are fairly dry, allowing as little as possible to wet the stages and floor. If a tiled or cement floor, the superfluous water should be mopped up as soon as it has drained from the pots. The remarks on watering apply also to the plants in the ordinary houses, and where blooms are being kept for show purposes, every precaution must be taken to keep the atmosphere of the house dry, especially in foggy or damp weather.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Winter Dressings.—The application of a suitable winter dressing to fruit trees is most necessary. The winter moth and many other insect pests of Apples, Pears, Plums and Cherries change from the chrysalid stage at this season of the year. The female of the winter moth creeps up the stems of the trees and deposits her eggs in crevices and injured parts of the bark near to the buds. In the spring the eggs hatch and the caterpillars commence at once to eat the young leaves. Grease-proof papers, which may be purchased cheaply ready for use, should be placed around the tree-trunk to trap the moths. It may be necessary to apply fresh grease at intervals to prevent the grease-band from becoming too dry. Spraying is more popular, and more generally practised than grease banding. Two or three sprayings during the autumn and spring will generally suffice to destroy insect pests, but those who have applied grease bands with success should continue to use them. It is advisable to remove and burn the surface soil from beneath trees that have been badly attacked this season, as this will destroy numbers of the pests. As a further precaution, a dressing of soot and lime should be given before fresh compost is applied. The above remarks refer chiefly to trees grown in the open, including those in orchards; wall trees and those trained to fences and trellises are not so easily treated. Spraying the trees during the winter and spring is not only effectual in destroying insect pests, but it also clears the trees of moss and lichens. If only a small quantity of winter wash is required, it is an advantage to purchase it ready made, but care must be taken to observe the directions given by the manufacturer or serious damage may be done.

Morello Cherries.—At the first opportunity Morello Cherry trees should be pruned, cleansed and trained, so that the work may, if possible, be done before bad weather sets in. But no matter how carefully the work is arranged, a considerable amount of pruning and training fruit trees on outside walls has to be done, perforce, under conditions of discomfort to those engaged in the work. Whenever possible, the trees should be detached from the walls and all shoots which will not be required removed. All shoots on young trees may be required for extension, but the shoots on established trees should not be closer than 4 to 6 inches apart. After the pruning is completed, the prunings and rubbish should be conveyed to the fire heap; many insect pests will be destroyed in this way.

Pruning.—Late varieties of Peaches and Nectarines are cleared of their fruits and may be pruned and the shoots regulated to let in the light and air. Although the sun has not much power now, it is imperative that useless shoots should be removed as early as possible, for if the wood is fully exposed it has a better opportunity of becoming well ripened. It may appear a small matter, but attention to these little details may mean all the difference between success and failure the next and subsequent years.

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APPOINTMENTS.

TUESDAY, OCTOBER 29—
Nat. Chrys. Soc. Sh. at Crystal Palace (3 days). Kent Commercial Fruit Sh. (2 days).

WEDNESDAY, OCTOBER 30—
Kent. County Chrys. Soc. Sh. (2 days). Borough of Croydon Chrys. Sh. (2 days.)

THURSDAY, OCTOBER 31—
Torquay Dist. Gard. Chrys. Sh.

FRIDAY, NOVEMBER 1—Hinckley Chrys. Sh. (2 days).

SATURDAY, NOVEMBER 2—
Soc. Française d'Hort. de Londres meet.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—47·1.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, October 23* (6 P.M.) Max. 51°; Min. 38°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, October 24* (10 A.M.): Bar. 29·3°; Temp. 48°; *Weather*—Dull.
PROVINCES.—*Wednesday, October 23:* Max. 50° Cornwall; Min. 44° Shields.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY, WEDNESDAY AND THURSDAY—
Dutch Bulbs, Rose Trees, Shrubs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

TUESDAY—
Clearance sale of Greenhouses, Piping, &c., and Stock, at 67, High Road, Ponder's End, by Protheroe & Morris, at 12.

WEDNESDAY—
Azaleas, Rhododendrons, &c., at Protheroe & Morris' rooms, at 5.
10,000 Gloxinias and Begonias, also Palms, Azaleas, &c., at Stevens's Auction Rooms, at 12.30.
Well-grown Nursery Stock, at The Nurseries, Twickenham, by Protheroe & Morris, at 1.30.

THURSDAY AND FRIDAY—
Healthy Nursery Stock, at Arthur's Bridge Nursery, Woking, by Protheroe & Morris, at 12.

FRIDAY—
Important consignment of Orchids from Singapore, at Protheroe & Morris' rooms, at 12.45.

Illustration Farms in Canada.

So much is written in the daily Press of the wonderful developments in the agriculture of Canada and the United States that the untravelled Englishman is apt to suppose that the work of cultivating the land is conducted in an abler manner in distant countries than it is in his own. This opinion is reinforced by the fact that if he is an observant man he may find many examples—in lack of co-operation, in failure to utilise fully or to apply judiciously artificial manures, in neglect of orchards and so on—testifying that farming practice in parts of Great Britain are susceptible of improvement. Hence it is with particular pleasure that we call the attention of those of pessimistic proclivities to the courageously outspoken and, as we believe from our own limited observation, true statements made by Mr. James W. Robertson, the Chairman of the Committee on Lands of the Dominion of Canada, in the course of his evidence before the Select Standing Committee on Agriculture and Colonisation, 1912. Before proceeding to deal with some of the facts recounted by Mr. Robertson, we may congratulate both that gentleman and the Dominion at large on the fact that truths, even though they are not of the sugared sort of self-praise, may be stated frankly and printed without "editing" in a Government publication. It bodes well for the future of a country when it is willing to make a critical examination of its progress, neither minimising what is admirable nor concealing that which is susceptible of improvement. Mr. Robertson's evidence of the progress of agriculture in Canada is based on a survey of 985 farms in 1910. The most impressive result of that survey consists in the discoveries, first, that systematic rotation was practised on only 9 per cent. of the farms inspected, and, second, that "weeds are very prevalent—dangerously prevalent." Mr. Robertson's travels in Europe enable him to affirm that in contrast with the farms of Canada those of Europe are clear of weeds. As everyone knows, there are grave difficulties in the way of farming land in Canada to the same pitch of excellence which may be practised in Europe. Labour is scarcer and more expensive, and the farms are larger; but what impresses us most in Mr. Robertson's statements is that he does not waste time in finding excuses. He states the facts and focusses attention on remedial measures; an attitude as welcome as it is unusual in discussions of this kind.

Thus the incurable optimist might dissemble truth by pointing to the vast and rapidly-increasing magnitude of the farming industry in Canada; but the wise observer is more concerned to learn that, according to the survey, the returns from individual farms in Manitoba show, in 46 per cent. of cases, a yield less than those of 10 years ago, and, in connection with this fact, to learn that farming in Manitoba consists in the main in taking two years' grain followed by one year of summer fallow.

It will be evident at once that such a system must impoverish the land, and that the reduction of yield to an unremunerative level is only a matter of time.

Our own country learned its lesson by bitter experience. Thus, 400 years ago the yield of Wheat on English farms was about 26 bushels per acre. From this level it fell and fell till, 200 years ago, it is said to have been 8-10 bushels. Then progress was made again—thanks largely to rotations, and also to drainage—till the yield is now 32-34 bushels.

Mr. Robertson recognises clearly that if production is to reach anything like its proper level in the Dominion steps must be taken to disseminate among the farmers information with respect to and examples of better practice. He refers to the system practised for many years in Denmark, and now adopted also in Ireland, which enables young farmers, by means of grants, to learn farming systems and methods by working on the best farms of the country. As the result of this system, and of other progressive measures, Denmark has been enabled to take out of the United Kingdom annually over £2,000,000 more than any other country obtains from a similar quantity of farm produce.

Another measure which is advocated by Mr. Robertson, with which we are in fullest sympathy, is the establishment of illustration farms managed for profit. Research stations, agricultural colleges, and all the apparatus for the amelioration of farming with which we are so familiar in this country are well and good; but they do not and cannot teach the novice how to farm. They may help the farmer with advice on particular points, but in order that he may be convinced he must see in his own neighbourhood a farmer who, without superior advantage, does things better than himself. They have a habit in Canada of giving practical effect to ideas, and we do not doubt that illustration farms will become established facts, and that they will play a great part in introducing higher standards. Of course, we shall be told that conditions here are not what they are in Canada; but nothing that we may be told is likely to shake the conviction bred of experience that, if there is room for improvement in farming or horticultural practice in Great Britain, the improvement will be achieved, not by the sporadic talk of occasional visitors—no matter what may be their diplomas and knowledge of the science of agriculture as expounded in text-books and as taught in colleges—but by the devotion of good farms to the demonstration of good and suitable practice. We would fain hope that, if the whole of the Development Grant has not been swallowed up in the establishment of research institutes and the endowment of applied science, some may be forthcoming for the amelioration of agriculture by some such system as that urged by Mr. Robertson in the case of the Dominion of Canada.

Brittany Early Potatos.

The climate of many parts of Brittany is so favourable to the production of early vegetables that it is no wonder that this branch of horticulture has progressed so rapidly of recent years. The rate of this progress may be gathered from the fact that whereas 12 years ago the exports of early Potatos equalled 19,500 tons, they amount now to 60,000 tons. A note in *Le Jardin* on the subject states that Fluke Geant, with yellow skin and almost white flesh, is the variety which is cultivated most for this purpose. In addition to early Potatos, Brittany sends, chiefly by way of St. Malo to Southampton, Hull and Liverpool, Tomatos, Strawberries, Onions, Cauliflowers, Artichokes and also an increasing number of flowers. Anyone who has visited that most desolate of all spots in a country of inhospitable coasts, namely, Penmarch, has before his eyes an illustration of the possibilities of the Brittany climate, even more striking than the actual demonstration of successful practice exhibited in the neighbourhood of Roscoff and of Paramé.

There at Penmarch, which looks out over miles of wicked and low-lying rocks into the Atlantic, is a range of Peach houses erected by an enterprising but over-sanguine horticulturist. We have no doubt that the abandonment of these houses was due not to the impossibility of growing the fruits, but to the fact that Penmarch lies far away from any line of railway, and is, except in the tourist season, abandoned by all except the lighthouse keepers and the lace-making villagers. Indeed, it may be said with confidence that in Brittany, wherever shelter may be obtained from the devastating western winds, early produce may be raised. The growing importance of Brittany as a competitor with our favoured south and south-west centres has to be reckoned with, the more because the Bretons have shown great enterprise in linking up the whole countryside with ports such as St. Malo, St. Brieuc and Treguier. To maintain their advantage of proximity to the markets, it will be necessary for our growers to pay increasing attention to matters of transport. One or two days make all the difference with respect to prices.

National Chrysanthemum Society.—This Society will hold its second autumn show of Chrysanthemums at the Crystal Palace, Sydenham, on the 29th, 30th, and 31st inst.

National Rose Society.—The provincial show of the National Rose Society next year will be held at Gloucester on July 15. The decision of the Council has given the greatest satisfaction to rosarians in the city and county of Gloucester.

Perpetual-flowering Carnation Society's Exhibition.—The winter show of this society will be held in the Royal Horticultural Hall, Vincent Square, Westminster, on December 3 and 4. The society undertakes to stage exhibits from members residing more than 50 miles from London. The secretary is Mr. E. F. Hawes, Ulysses, Fortune Green, London.

Chrysanthemum Shows in the London County Council Parks.—We are informed that the annual Chrysanthemum shows are open to the public at the undermentioned London County Council parks:—Battersea, Brockwell, Finsbury, Southwark, Victoria, and Waterlow.

The Welsh National Emblem.—A question was raised in the House of Commons on Monday last as to the use of the Daffodil on the Insurance stamp instead of the Leek, as emblematic of the Principality of Wales, and what was the incident that occasioned the adoption of the Daffodil. A Welsh member, Mr. Llewellyn Williams stated that the Welsh word for Daffodil is "Ceninen Pedr," which being interpreted is Peter's Leek. He questioned whether it was not due to a blunder of Shakespeare, or Bacon, or some other equally ignorant Saxon, that the Welsh national emblem had been changed from a charming flower to a stinking vegetable. The Chancellor of the Exchequer, in reply, stated that the use of the Daffodil in lieu of the Leek for the Health Insurance stamps followed the precedent of the Insignia of the Prince of Wales at his Investiture at Carnarvon last year.

The Germination of Juniper Seed.—Nurserymen and others who have to raise Junipers know how slow and difficult to germinate are the seeds of certain Junipers, such as J. virginiana, J. Cedrus, and J. phœnicea. Experiments by Dr. Perez, of Teneriffe, show that seeds of J. bermudiana immersed in boiling water for 3 to 10 seconds, and then placed in water at 20° C. and allowed to cool, give rapid germination. The same author states that yet more drastic treatment gives fair results with the refractory J. phœnicea. The method consists in soaking the seed in alcohol, but we should not recommend anyone to try it on an extended scale, except after testing the method on a small number of seeds. Mr. Jahandiez, writing in the *Annales* of the Natural History Society of Toulon (1911), recommends the treatment used by Mr. Thays for seeds of Ilex paraguayensis, namely, immersion in water at 80° C., the water being renewed every six hours during four days.

Latex in Plants.—The use subserved by the milky juice or latex which occurs in many plants, Euphorbias, Poppies, and rubber-producing species generally, has been the subject of much discussion among botanists. Some hold that it is of the nature of a waste product; others that it represents an accumulation of food materials on which the plant may draw in time of need; others, again, combine these views, and regard the latex, which contains various substances in solution and suspension, as serving both functions. Recent work by Bernard (*Ann. du Jard. Bot. de Buitenzorg*, 1910) serves to show that latex may function as a reserve of food substances. By cultivating laticiferous plants in an atmosphere containing no carbon-dioxide the formation of sugars is suppressed and the starved plants utilise the starch grains suspended in the latex. At all events, these grains become corroded just as they do when they are acted on by a diastatic enzyme in the normal course of the "digestion" of starch, that is, the conversion of starch to sugar.

Flowers and Insects.—It is known largely through the observations of Mr. F. Plateau that many flowers, though they possess brightly-coloured petals, fail to attract insects, and hence are not cross-pollinated. Thus it is to be inferred that insects require other signals than those provided by colour before they will deign to visit flowers. By the simple experiment of introducing into such flowers either a substance with an odour agreeable to insects or a sweet substance which appeals to their sense of taste, Mr. Plateau has succeeded in alluring insects to flowers which they neglected formerly, and has thus shown that the senses of smell and taste play, with the sense of sight, an important part in bringing about the cross-pollination of flowers.

The Germination Capacity of Seeds.—A paragraph in *Horticulture* (October 5, 1912) appears to indicate that the U.S. Department of Agriculture suggests that "the sale of packeted (vegetable) seed will not be on a proper basis until each packet is labelled with the percentage of live seed which it contains." Anyone who has had experience of the germination capacity of seed of different harvests, and of the rapidity with which seeds of certain crops fall off in respect to germination capacity, will know that much as we all desire to secure good seed and to penalise those who distribute inferior seed, such a proposal as that suggested cannot be put into practice. To take one point only, the percentage of germination of not a few kinds of seed will vary very considerably according as the trial is made in germinations between blotting paper or in earth. We share the aspiration, but we deprecate the suggested method.

Co-operatives and Small Holdings.—The Mansfield Woodhouse Small Holdings Co-operative Society has purchased from the Duke of Portland eight dwellings, each with five acres of land, for the purpose of small holdings. The total cost of the land and buildings is £4,089 16s. 9d., and this sum, which has been advanced by the Duke of Portland with interest at 3 per cent., is repayable over a period of 35 years by annual amounts calculated on the annuity system. The Duke of Portland pays his own expenses in connection with the matter, so that neither the society nor the holders have to find any capital, except for stocking and cultivating the holdings.

A Strike of Seedsmen.—The daily Press records that 40 employees of Messrs. Toogood & Sons, Southampton, have left their work. The firm presented for signature a radius agreement, which prohibited any employee from engaging in a business of a similar character within 30 miles of Southampton for a period of two years after leaving their employ, and proposed that one month's notice should be given on either side. It was further stipulated that no man could leave the firm's service between the months of January and May inclusive. Six employees who refused to sign were, it is stated, paid off, whereupon the other employees ceased work and commenced to picket the premises.

French Chrysanthemum Society.—The 17th annual congress of the French Chrysanthemum Society will be held from November 12 to 17, at Nantes, in conjunction with the local horticultural societies, which have arranged a show of flowers, fruits, and vegetables. The agenda for the congress comprises questions relating to a pocket edition of the colour chart (*Répertoire de Couleurs*), how to measure the diameter of a Chrysanthemum bloom, classification, selection of easily-grown varieties for beginners, and other subjects. As is customary, several days are appointed for festivities and visits to places of interest.

Publications Received.—***The Journal of Agricultural Science.*** October. Vol. v., Part 1. (Cambridge: University Press.) Price 5s.—***Notes from the Royal Botanic Garden, Edinburgh.*** September. (Edinburgh: Royal Botanic Gardens.) Price 9d.—***Monthly Leaflet of the Women's Agricultural and Horticultural International Union.*** October 15, 1912. Secretary, Miss Ella Gill, 45, Queen Anne's Chambers, S.W. Price 2d.—***Tulips,*** by the Rev. Joseph Jacob; and ***The Rock Garden,*** by Reginald Farrer; with preface by Dr. Bretland Farmer, F.R.S. Present Day Gardening Series, edited by R. Hooper Pearson. (London and Edinburgh: T. C. & E. C. Jack.) Price 1s. 6d. each volume.

ECHIUM WILDPRETII.

(See Coloured Supplement.)

There are supposed to be about 80 species of Echium, and 20 of the largest of them have been found in Madeira and the Canary Islands, where they form a conspicuous feature of the vegetation, some growing to a good size and bearing noble panicles usually of blue-purple flowers. E. simplex, which develops a very large rosette of long, green, hairy leaves on a short, unbranched stem, and ends its career when about three years old by producing a tall candelabra-like panicle of blue flowers, is known as the "Pride of Teneriffe." By far the most striking of them, however, is E. callithyrsum, which has many synonyms, including E. candicans, the name under which it is figured in the *Botanical Magazine*, t. 6868 (1886). I have seen this species in the Temperate House at Kew with a stout, woody stem and many branches up to 8 feet in height, and when in spring almost every branch bore a broad panicle a foot long of blue-purple flowers it was a magnificent picture. Such an effort of flowering invariably kills the plant, and, so far as I know, all these arborescent Echiums are monocarpic, that is, they flower once and then die. They are well worth waiting for, and as they usually seed freely, fresh stock is soon available.

E. Wildpretii (see Supplementary Illustration) made its début at Kew in 1899. It was raised there from seeds sent by Mr. Wildpret, curator of the Botanic Gardens, Orotava, Teneriffe. They were sown in heat, and the seedlings were grown on in a sunny greenhouse, with liberal provision of good loamy soil and root room, their final shift being into 8-inch pots. They were two years old when they flowered in May, and by sowing seeds annually a batch of plants has been on show at Kew every spring since. Even before the flower spike develops, the plants are attractive; their leaves, covered with silky hairs after the manner of the Silver Tree, forming a handsome rosette 18 inches high and through. The flower spike adds another 2 feet to this height, and when the purplish-pink flowers are all open the plant is singularly handsome. I know no plant like it. Certainly, among the many plants grown at Kew for the conservatory, there is not one that attracts and pleases the visitors more than does a batch of this Echium. The altitude at which it grows wild in Teneriffe has not been recorded, but it is probably some distance above sea level, and, therefore, the plant ought to be a good one for open-air gardening if protected from frost. The suggestion has been made that it is a natural hybrid, but from the fact that it comes quite true from seeds and is, moreover, distinct enough in foliage and habit from the other species found in Teneriffe, we may accept it as a good species. In such gardens as that of Sir Thomas Hanbury, at La Mortola, and Mr. Dorrien Smith's, at Tresco, this Echium ought to be quite at home; indeed, I can imagine that, where the essential conditions of bright sunshine, light, well-drained soil and no frost are present, it might easily become a troublesome weed, as our own beautiful native Bugloss (E. vulgare) sometimes is to farmers in this country. *W. W., Kew.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Alpine Plants and Manure.—It is a matter of common knowledge to those who grow Alpine plants that many of them are injuriously affected by manure. As the result, partly of observation in the Alps and partly of experiment in the garden for some years, I have come to the conclusion that the pronouncement against manure, regarded as a general statement, is largely fallacious. It is perfectly true that for the higher and more difficult Alpines *nitrogenous* manure is apt to result in disaster. The plants may thrive luxuriantly for a time, as do some of the Androsaces and Saxifrages, but, with me at any rate, they get too soft and die out during the winter. The sappiness encourages attacks of mould (Botrytis), to which the plants fall an easy prey, and those that escape this danger are apt to suffer badly from frost and thaw. But it is quite otherwise with certain chemical manures. Quite remarkable results were obtained by using phosphate of potash, especially with the non-calcareous Alpines, though many lime-lovers have also flourished exceedingly under the treatment. I obtained the best results by using about a teaspoonful to a square yard in late spring, and find that things such as Primula viscosa, Geum reptans, Morisia, Edraianthus, and Saxifraga species have all profited by it, whilst Androsace lanuginosa, A. Chumbyi, A. villosa, and others have made a strong, hard growth, which has enabled them not only to come well through the winter, but to flower far better than they have ever done with me before. The colours of some species were greatly brightened, and two clumps of Saxifraga oppositifolia illustrated this in a surprising degree. They were obtained by the division of a single plant. One of the clumps was treated with the phosphate of potash, the other was not. When in flower, the difference in size, colour, and abundance of flower was so great that they hardly seemed to belong to the same species. There is obviously room for much more experiment in this direction, and doubtless various conditions, such as the nature of the original soil, will be found to exert some influence on the result. In my own case, I obtained the most striking success with plants growing in a moraine of granite chippings, to which lime rubble and a little ordinary soil were added when it was first made. But the influence of the salt was no less obvious on some of the easy, rampantly-growing plants, such as Saponaria ocymoides, which were grown in a light, sandy loam. The brilliance of the colouring was greatly enhanced, and the period of flowering was considerably prolonged. It is not unlikely that others may have made similar experiments, and the chief object of this note is to elicit from others the results of their experience. *J. Bretland Farmer.*

Where the Board of Agriculture Might Help.—On the 10th inst. Mr. Henry Hooper gave an extremely helpful lecture at the Horticultural Hall, Westminster, on "An English Fruit Farm in the Making" (see p. 307), with special references to the newly-instituted horticultural branch of the Board of Agriculture; and the truth of his remarks on the amount of work which might be done by the Department in this direction cannot be too strongly upheld. The cultivation of fruit trees should be viewed from a slightly different standpoint than other crops, as being essentially a provision for the future, and if it is properly carried out, both as to choice and culture, there can be no better national investment. The Kent Commercial Fruit Show, to be held at Maidstone on the 29th and 30th inst., should prove a useful object-lesson to many growers who are unable or unwilling to keep their methods up to date. The efforts of those who, in spite of many difficulties and hindrances, have succeeded in attaining a high standard of culture and the best of results, are surely worthy of encouragement and assistance from those whose business it is to foster the resources of our own country. In very many instances experiments of world-wide utility have been carried out by growers entirely at their own expense and risk; these efforts should be adequately recognised, and facilities granted to all who are willing to undertake experimental work, and who yet are unable to afford either the necessary time or money. The paragraph in the last issue of *Gardeners' Chronicle* (see p. 301) immediately following the announcement of the fruit show, is an indication of what is being done in France for the assistance of horticulture. The permanent museum to be established in the Rue d'Athènes, Paris, will be a constant object-lesson to those connected with this most important industry. Museums in England are apt to be regarded only as collections of archaic implements and objects of various kinds, showing how poorly off were our ancestors for proper tools and instruments. Indeed, many of those which we are content to use to-day deserve a place in such a collection, especially, perhaps, the transport vehicles, in which fruit and vegetables—often of a highly-perishable nature—are carried from place to place. We should see to it that a museum be attached to every large market, showing the most up-to-date methods of transport, and the best and most modern implements and instruments of every description. This would be a standing means of instruction for every grower, and would do a great deal to stimulate emulation and invention. As yet, however, transport methods are in a state of chaos, to the great detriment of most of the fruit and the more perishable vegetables. Goods are carried long distances by porters (as through the swamps of Africa), instead of by rail. No wonder the charges for handling are often greater than the profit gained by the grower! Then the markets themselves—and especially Covent Garden Market—are extremely congested; they are too small, and even the space available is not used to the best advantage. There should be large halls, with two or three broad galleries (not too high up), where the lighter goods could conveniently be raised by a lift, and there displayed. There should also be dustproof storage-room under the floor. Another difficulty is the inaccessibility of many of the best markets to the fruit-growing districts. Naturally, railway communication to all parts is impossible, but good motor services would help materially to solve the problem, if sufficient accommodation were provided at the markets. It is often extremely difficult to load and unload quickly, owing to the want of space, and this involves sometimes a serious loss of time and money. It is unnecessary to enlarge further on this subject, but sufficient indication has been given of the directions in which the Horticultural Department of the Board of Agriculture, or the Board of Trade, might help, viz., in establishing markets within reach of every fruit-growing district; in making and keeping all markets up-to-date, and giving every convenience and facility for showing and storing goods; and in encouraging, by means of instruction and the establishment of museums, improvement in methods of culture and transport. *A Market Grower.*

Loquat Fruiting Out-of-doors (see fig. 141).—Enclosed is a fruiting branch of the Loquat (Eriobotrya japonica) from a tree planted against a south wall in the open in the gardens of A. E. Byron, Esq., at Culver, about five miles south-west of Exeter. It is rare to find the Loquat fruiting in the open in England, but this particular plant had several branches with ripe fruit this season. *Robert Veitch & Son, Exeter.*

Blue Tits and Sweet Peas (see p. 287).—I have been troubled the same as Mr. A. J. Elgar with these little pests, but, happily, I hit on a plan which completely frightened them out of the garden. I first tried quassia extract and afterwards a shot gun, but without success. I then shot a seagull and fastened it on a thin cord stretched across the garden from wall to wall The seagull's wings were spread out, and most surprising results followed. The tits were frightened by this large, white bird, which seemed to be in full flight as the wind swayed it. Next year I intend to place more seagulls in the garden in the same way. *W. A. M., Coolfin, Banagher, King's Co.*

An Orchidaceous Air!—Novelists, horticultural lecturers and others in search of adjectives might refer with advantage to a brilliantly-ornate article written by the dramatic critic of *The Times* in the issue of that journal for October 23. In the course of a eulogy and critical appreciation of Sarah Bernhardt, the writer refers to the "sinuous grace, attenuated form, and orchidaceous air" which distinguish the great French actress. "Orchidaceous air" is good! It suggests, moreover, a mould for the coining of numerous new adjectives. Liliaceous in the form of lily-white is already bespoken by the poet; but iridaceous has an expansive and chromatic aspect; amaryllidaceous should prove useful for sportive characters; and scrophulariaceous might serve as a new adjective of abuse. When ordinal names are exhausted, the descriptive writers might fall back on those of genera. Cattleyal and cypripedial—the latter, of course, for a slippery customer—suggest themselves at once, and doubtless a little research in the *Index Kewensis* would result in the discovery of an array of new ornaments with which our drab nouns might be bedecked, and flowery language might thus be put on a sound and scientific basis. *Eccentric.*

The Narcissus Fly.—The note by Mr. Bliss (see p. 298) suggests several points for consideration. The entry of the grubs at the base of the bulb in every instance is interesting, as proving a fact in a definite instance. As shown in my article last week, the larvæ remains (as larvæ) for some months in the bulbs, but it is unlikely that the eggs or "young grubs" remain "dormant." The points as to eradication are deserving of consideration since they suggest:—(1) Early lifting and quick drying of the bulbs, in the hope of killing the young grubs; and (2) the possibility of spraying growing bulbs, to deter the flies from egg-laying. It may be added that since my article appeared last week I have been informed of a case in which, in connection with an extensive infestation, soaking the bulbs in cold water for 24 hours resulted in the drowning of very large numbers of the larvæ, and it is believed to be a completely successful means of combating the pest. *H. C. Long.*

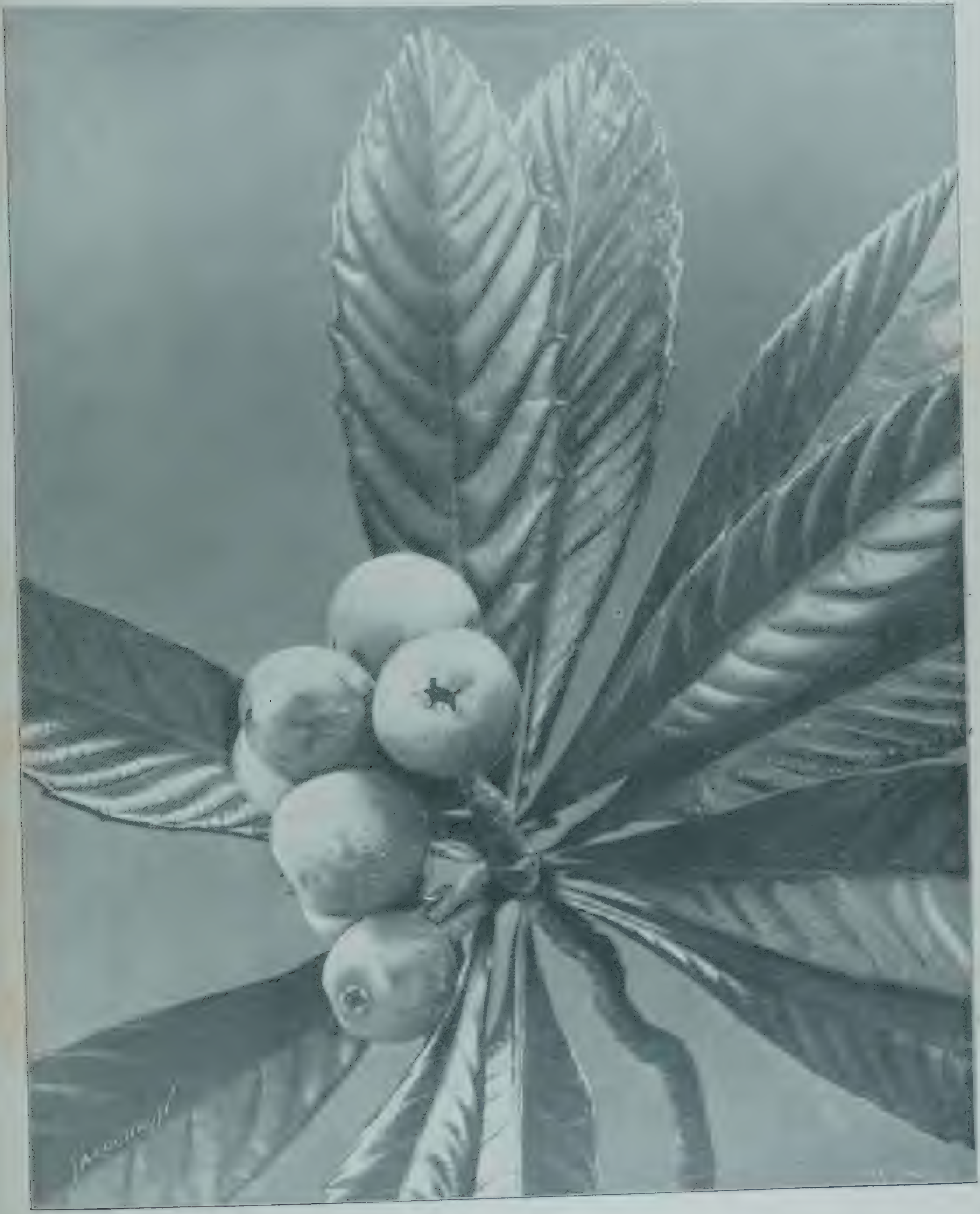

Fig. 141.—Fruiting branch of Eriobotrya japonica (Loquat).

(See p. 318.)

A Plea for Old Fruit Trees.—I agree with Mr. Thomas (see p. 302) that too often old trees are destroyed that would give good crops if they were only afforded proper attention. Gardeners are too eager to produce large bunches of Grapes instead of being content to secure heavy crops of medium-sized bunches of high quality, and the result is that young vines only are appreciated. When I planted the vines at Swanmore Park in February, 1879, similar work was done in two other gardens. In one of these gardens the same vineries have been planted twice since, whereas the vines here are as good to-day as they have ever been during the 33 years of their existence. Grapes have been largely exhibited from all three places. As Mr. Thomas says, assistance at the roots with common-sense management of other details are the means of obviating the necessity of removal and replanting. Of course, much depends upon how the vines are managed during the first 10 years, for, if they are allowed to ramble away at will, and almost fill the allotted space in a brief period, one does not wonder that they require renewing. A more restricted pruning of the leaders than is too often practised is necessary for the welfare of the vines over a long period. Many growers wish to see the roof space covered as quickly as possible, but this is not the best policy. In the Yorkshire garden where I started my gardening career, some 50 years ago, Black Hamburgh and Muscat of Alexandria vines had been flourishing there some years. When I visited this garden some six years ago these same vines were still giving good crops of Grapes. I hope Mr. Thomas's remarks will be noted by those who contemplate rooting-out their old trees, and trust they will be the means of staying their hand. *E. M.*

Measurement of Timber.—I have just read the notice of the paper on Kerry Woods by Mr. R. L. Robinson, on p. 261. In it the writer remarks that "it is particularly satisfactory to see the usual makeshift ways of measurement (quarter-girth, &c.) abandoned in favour of more accurate methods. If forestry ever gets a hold in this country, the system of measurement will have to be improved." This subject is probably not less than 200 years old. It must be remembered that in the case of irregularly-grown trees, any system of measurement is more or less arbitrary, and that any alteration in the system at present in use, and generally accepted, would involve a corresponding change in prices, so that the inconvenience which would be caused would scarcely have any real justification. *Saml. Maryerison, Calverley, near Leeds.*

SOCIETIES.

ROYAL HORTICULTURAL.

October 22.—The show on Tuesday last was smaller than the previous one, but it was quite equal to the average of these exhibitions in autumn. The Floral Committee awarded two Gold Medals to collections of stove and greenhouse plants and ornamental shrubs respectively. Other exhibits in this section were Chrysanthemums, Carnations, Begonias and hardy plants. This Committee granted one First-class Certificate and eight Awards of Merit; seven of the latter were awarded to Chrysanthemums.

Collections of Orchids were not so numerous as usual, but the Committee granted four First-class Certificates and six Awards of Merit.

The Fruit and Vegetable Committee had several groups brought to its notice, and this body granted a provisional Award of Merit to a new Apple.

At the 3 o'clock meeting in the lecture room, the Rev. Prof. George Henslow gave an address on "The Senses of Plants."

Floral Committee.

Present: Henry B. May, Esq. (in the Chair); Messrs. Charles E. Shea, W. Cuthbertson, W. J. James, Chas. T. Druery, W. P. Thomson, H. J. Jones, C. Dixon, Arthur Turner, John Green, W. B. Cranfield, E. A. Bowles, F. Herbert Chapman, J. W. Barr, R. C. Notcutt, C. Blick, J. F. McLeod, Wm. Howe, J. Jennings, John Dickson, Chas. E. Pearson, E. H. Jenkins, Ed. Mawley, R. Hooper Pearson, W. J. Bean, R. C. Reginald Nevill, and W. G. Baker.

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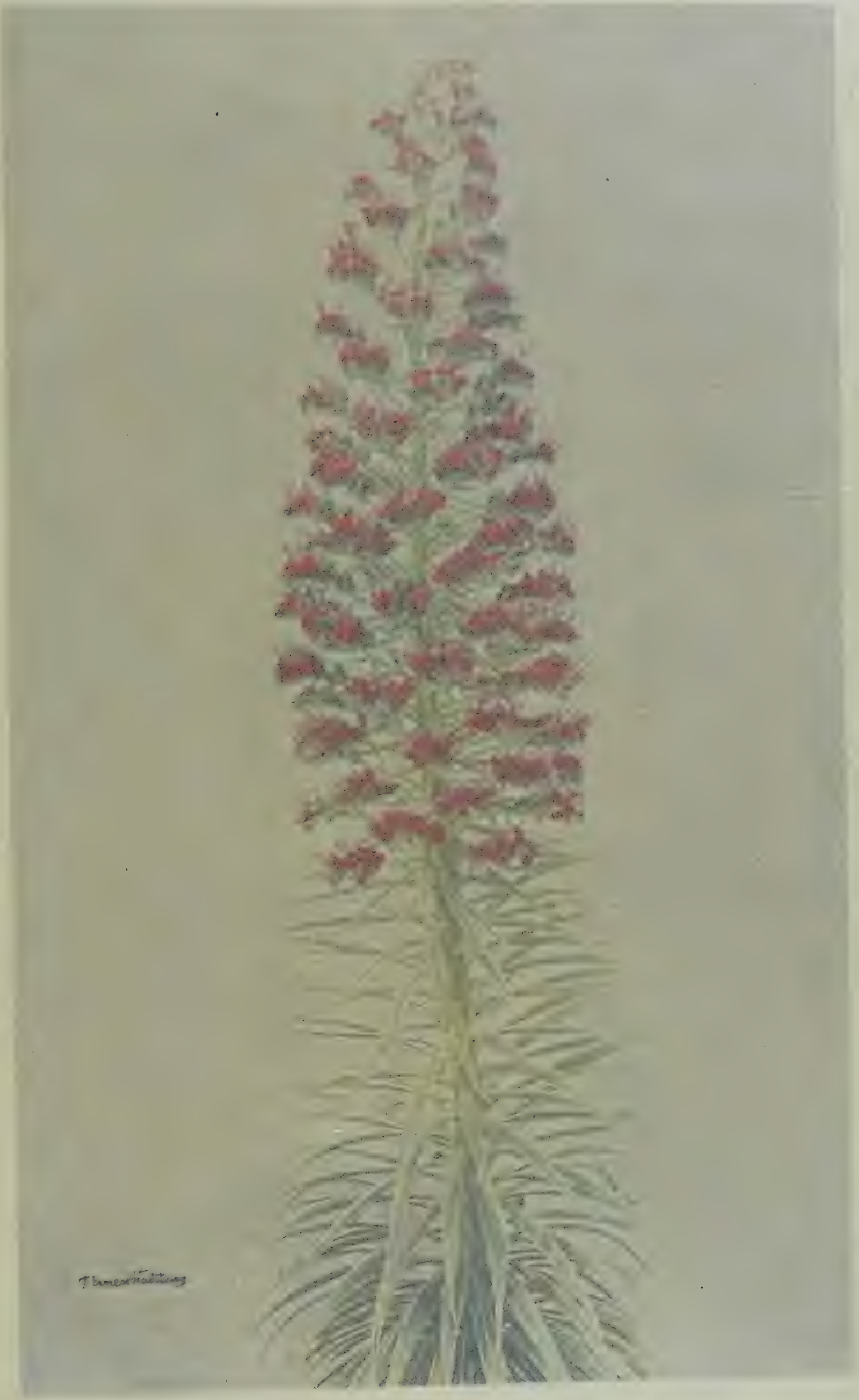
Supplement to the "Gardeners' Chronicle."



ECHIUM WILDPRETII

A Plea for Old Fruit Trees.—I agree with Mr. Thomas (see p. 302) that too often old trees are destroyed that would give good crops if they were only afforded proper attention. Gardeners are too eager to produce large bunches of Grapes instead of being content to secure heavy crops of medium-sized bunches of high quality, and the result is that young vines only are appreciated. When I planted the vines at Swanmore Park in February, 1879, similar work was done in two other gardens. In one of these gardens the same vineries have been planted twice since, whereas the vines here are as good to-day as they have ever been during the 33 years of their existence. Grapes have been largely exhibited from all three places. As Mr. Thomas says, assistance at the roots with common-sense management of other details are the means of obviating the necessity of removal and replanting. Of course, much depends upon how the vines are managed during the first 10 years, for, if they are allowed to ramble away at will, and almost fill the allotted space in a brief period, one does not wonder that they require renewing. A more restricted pruning of the leaders than is too often practised is necessary for the welfare of the vines over a long period. Many growers wish to see the roof space covered as quickly as possible, but this is not the best policy. In the Yorkshire garden where I started my gardening career, some 50 years ago, Black Hamburgh and Muscat of Alexandria vines had been flourishing there some years. When I visited this garden some six years ago these same vines were still giving good crops of Grapes. I hope Mr. Thomas's remarks will be noted by those who contemplate rooting-out their old trees, and trust they will be the means of staying their hand. *E. M.*

Measurement of Timber.—I have just read the notice of the paper on Kerry Woods by Mr. R. L. Robinson, on p. 261. In it the writer remarks that "it is particularly satisfactory to see the usual makeshift ways of measurement (quarter-girth, &c.) abandoned in favour of more accurate methods. If forestry ever gets a hold in this country, the system of measurement will have to be improved." This subject is probably not less than 200 years old. It must be remembered that in the case of irregularly-grown trees, any system of measurement is more or less arbitrary, and that any alteration in the system at present in use, and generally accepted, would involve a corresponding change in prices, so that the inconvenience which would be caused would scarcely have any real justification. *Saml. Margerison, Calverley, near Leeds.*

SOCIETIES.

ROYAL HORTICULTURAL.

October 22.—The show on Tuesday last was smaller than the previous one, but it was quite equal to the average of these exhibitions in autumn. The Floral Committee awarded two Gold Medals to collections of stove and greenhouse plants and ornamental shrubs respectively. Other exhibits in this section were Chrysanthemums, Carnations, Begonias and hardy plants. This Committee granted one First-class Certificate and eight Awards of Merit; seven of the latter were awarded to Chrysanthemums.

Collections of Orchids were not so numerous as usual, but the Committee granted four First-class Certificates and six Awards of Merit.

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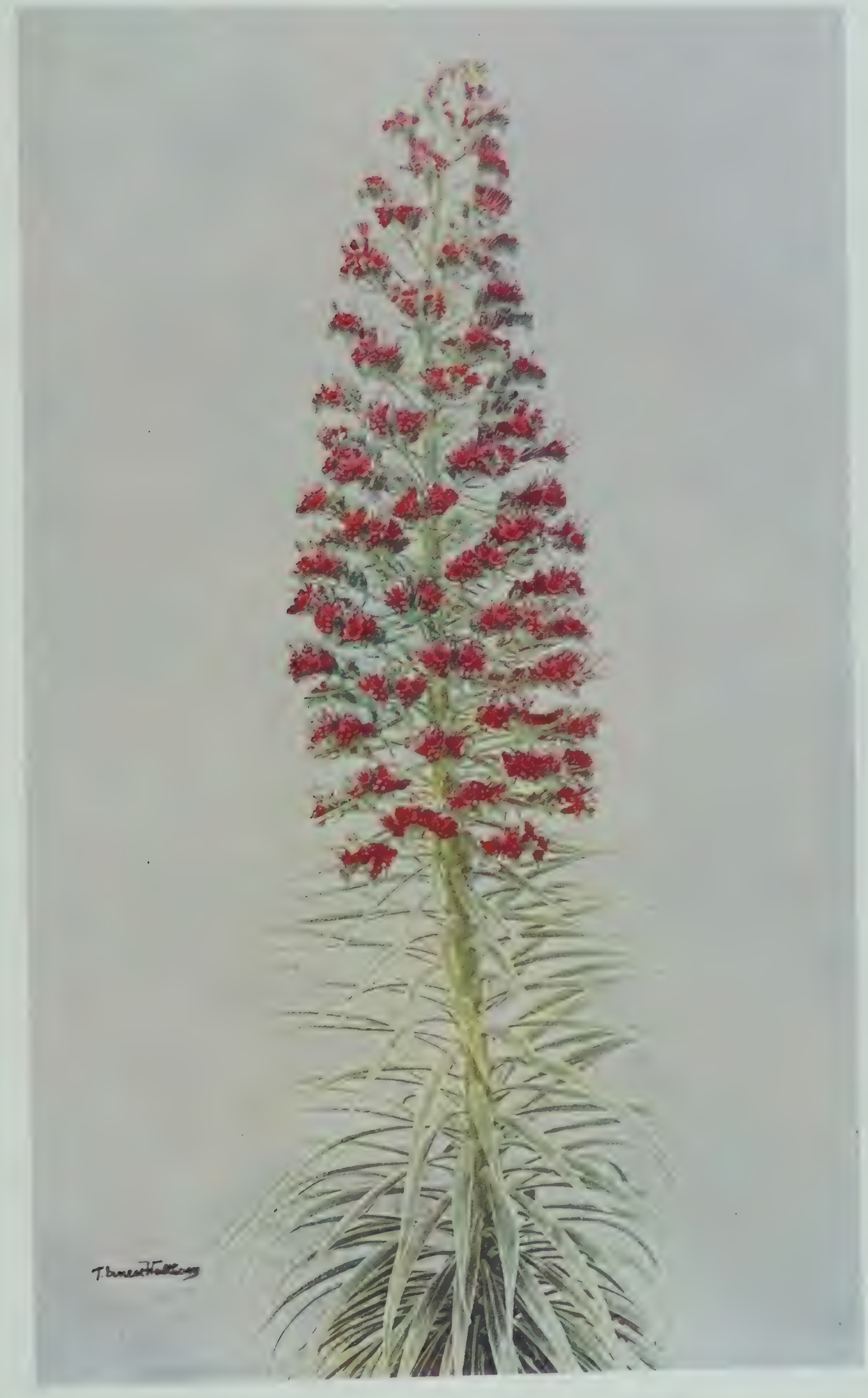


ECHIUM WILDPRETII

C. Miss M. Borrer.—A pretty, rose-pink (violet-rose, shades 2 and 3 of the *Rep. de Couleurs*) single variety, and the only variety securing an award that was shown in the spray form. The flowers are not large, nor of great substance, but the stems are sturdy, and the growths break freely and give a great profusion of bloom. Shown by L. F. HARRISON, Esq., Orchards, East Grinstead (gr. Mr. A. H. Chapman).

C. Mrs. John Maher.—This is a handsome, pure-white, decorative variety, with flowers 5 inches in diameter. The wiry stems and clean foliage make it an admirable representative of the market type of bloom. Shown by Mr. T. PAGE, Hampton Nurseries.

C. Mrs. Loo Thomson.—This is a sulphur-yellow sport from Mensa. The disbudded blooms are nearly 5 inches in diameter, and gain considerable substance from the disposition of the ray florets in four or more rows. They have the smooth surface characteristic of Mensa, drooping slightly at the margins. Shown by Mr. NORMAN DAVIS.

Nephrolepis Millsii.—This is a distinct variety of Nephrolepis. Derived, perhaps, from Fosteri, it has a very characteristic open habit, not crested and dense, as are most of the recent varieties, but more wiry in growth, with small, finely-crenated divisions of the fronds. Shown by Mr. W. A. MANDA.

SOME FURTHER NOVELTIES.

Twenty-seven of the 40 novelties submitted to the notice of the Floral Committee were Chrysanthemums, and, although a number secured awards, many varieties were passed over. As a decorative plant, attention might be drawn to Ideality, shown by Mr. NORMAN DAVIS. It is a white single variety derived from Mary Anderson × Mensa, and possesses the dwarf habit of the former variety, never growing more than 2 feet.

Messrs. JAMES VEITCH & SONS showed three new Chinese species of Berberis, but the genus is already so richly represented in gardens that there is a natural hesitation in commending anything not distinctly better than those already in cultivation. B. Veitchii is a sub-evergreen, with pendent clusters of numerous plum-purple, oval, glaucous berries. B. Geraldii has very small purplish red berries in very large branched clusters. B. Coryi, the most ornamental of the three, has round, glaucous, currant-red berries, very densely borne round the stem, and appears to be evergreen, bearing clusters of spoon-shaped leaves, which are glaucous below.

Kniphofia modesta, shown by Messrs. T. S. WARE (1902), LTD., was perhaps the most distinct novelty exhibited, but the foliage was very weak, and it can scarcely be recommended for outdoor culture. Tyson discovered the plant in 1884 in Griqualand East, and it has also been found in Natal. The raceme is cylindrical or tapering, a foot in length on 2 feet stems; the flowers are pure white and expand in funnel shape from a constriction just above the ovary. The small corolla lobes spread at right angles to the tube, and, as usual, the stamens and style are exserted. The species is figured in *Bot. Mag.*, t. 7293.

Col. STEVENSON CLARKE, Cuckfield, sent a flowering specimen in a pot of the very rare Delphinium macrocentron, discovered in 1884 in the mountains of East Tropical Africa. The corolla is very distinct in form, and the long, straight, erect spur is typical. There is a peacock-like combination of blue and green in the flowers, but the constitution of the plant seems to render it of doubtful value out-of-doors. The species is figured in the *Bot. Mag.*, t. 8151.

Another interesting plant was Nephrolepis Giatresii, shown by Mr. MANDA, a sport from the variety Scottii, but peculiarly compact in growth, and therefore a good decorative subject. The fronds are scarcely more than 1 foot in length, and arch gracefully.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); Messrs. Jas. O'Brien (hon. sec.), Gurney Wilson, J. Wilson Potter, R. G. Thwaites, F. J. Hanbury, T. Armstrong, A. McBean, C. H. Curtis, W. Bolton, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, C. J. Lucas, Stuart Low, R. Brooman-White, J. S. Moss, de B. Crawshay, and Sir Jeremiah Colman, Bart.

Baron BRUNO SCHRÖDER, The Dell, Englefield Green (gr. Mr. J. E. Shill), staged a small group of splendidly-grown Orchids of fine quality, for which a Silver Flora Medal was awarded. It included the new white Brasso-Cattleya Digbyano-Mossiæ "The Dell variety," which secured a First-class Certificate; Cattleya labiata Opal, a splendid blush-white form; a clear yellow Cattleya Dowiana aurea; two fine plants of C. Dowiana alba, with white sepals and petals and richly-coloured lip; C. Corona (Hardyana × Mantinii); Lælio-Cattleya George Woodhams (L. purpurata × C. Hardyana), a very fine deep-rose flower with large ruby-purple lip, and various good Cypripediums.

C. J. PHILLIPS, Esq., The Glebe, Sevenoaks (gr. Mr. Bucknell), sent Cattleya aurea "Glebe variety," a noble clear yellow form, with very dark lip veined with gold; Lælio-Cattleya Bola (L.-C. callistoglossa × C. labiata), large and of good colour; and Cattleya Basil (Mantinii × Enid).

Lieut.-Col. Sir GEORGE L. HOLFORD, K.C.V.O. (gr. Mr. H. G. Alexander), showed the pretty Cattleya Mercutio (Harrisoniana × Lord Rothschild) and a fine form of Lælio-Cattleya Golden Oriole (see Awards).

H. S. GOODSON, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), was awarded a Silver Banksian Medal for a group rich in Sophronitis crosses, and which included Sophro-Lælio-Cattleya Menippe var. "H. S. Goodson" (see Awards), Sophro-Cattleya eximia, S.-C. Atreus, and other forms. Some good Odontoglossums, Cattleyas, various showy Lælio-Cattleyas, Phaio-Cymbidium Chardwarense and Brasso-Cattleyas were also noted.

R. LE DOUX, Esq., Marlfield, West Derby (gr. Mr. Fletcher), sent Cattleya Ena "Marlfield variety" (Hardyana Massaiana × bicolor), a very effective flower.

Messrs. J. CYPHER & SONS, Cheltenham, were awarded a Silver Flora Medal for an excellent group of Cypripediums arranged with Dendrobium Phalænopsis Schröderianum, Miltonia vexillaria Leopoldii, Houlletia odoratissima, fine white Dendrobium formosum giganteum, Cattleya Fabia, C. Dietrichiana and Masdevallias.

Messrs. STUART LOW & Co., Bush Hill Park, secured a Silver Flora Medal for a group in which good Vanda cœrulea, Cattleya labiata, Oncidium varicosum and Dendrobium formosum giganteum were well represented. Specially noteworthy also were a very dark Lælio-Cattleya Dominiana, forms of Cattleya Iris and C. Fabia, and Miltonia vexillaria Leopoldii.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Flora Medal for an attractive and varied group, prominent in which were good hybrid Cattleyas, among the forms of C. Fabia the variety Invicta being remarkable. Cattleya Portia varieties, the fine C. Hardyana picturata, C. conspicua, C. Iris C. J. Davis and various showy Lælio-Cattleyas and Odontoglossums were also remarked.

Messrs. HASSALL & Co., Southgate, were awarded a Silver Banksian Medal for a group of good forms of Cattleya labiata, C. Fabia, the primrose yellow form of C. Sylvia (Fabia alba × aurea), C. Hardyana, the pretty C. Hassellii (Empress Frederick × labiata), C. Mantinii, &c.

E. H. DAVIDSON, Esq., Orchid Dene, Twyford, showed a selection of fine Orchids. For his Sophro-Lælio-Cattleya Sandhage (C. Enid × S.-L. heatonensis), see Awards. Another fine novelty was Lælio-Cattleya Orion var. "J. Lakin" (L.-C. Haroldiana × C. Dowiana aurea), a beautiful pale yellow flower slightly freckled with rose and handsome deep rose lip with gold veining. The very dark claret-purple Cattleya Mantinii "Fowler's variety," and other good Cattleyas were also noted.

Messrs. J. & A. McBEAN, Cooksbridge, staged a small group including the attractive Cattleya Lord Rothschild variety albens; C. Fabiatia (Portia × Fabia); Sophro-Lælio-Cattleya Helen (S.-L. heatonensis × L.-C. Gottoiana), a very charming hybrid with large, deep-rose flowers with a slight violet shade, and deep ruby lip. A very fine novelty.

Messrs. CHARLESWORTH & Co., Haywards Heath, staged a small group in which were Angræcum Buyssonii, with a long spray of white flowers; good Odontoglossum grande, some fine Lælio-Cattleyas, including a good hybrid between Lælio-Cattleya callistoglossa and Cattleya Mantinii; Cattleya Hardyana, with prettily-freckled sepals and petals; C. Fabia, Oncidium varicosum Lindenii and several good hybrid Cypripediums.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cattleya labiata The Sultan, a white variety with purple on the lip; and C. labiata Lady Duff, a good white with slight blush tint on the lip.

WALTER COBB, Esq., Normanhurst, Rusper (gr. Mr. C. J. Salter), sent his fine variety of Zygo-Colax Charlesworthii which had previously secured an Award of Merit; and Cattleya Fabia "Cobb's variety," a very dark-coloured form.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya labiata Opal, from Baron BRUNO SCHRÖDER, The Dell, Englefield Green (gr. Mr. J. E. Shill).—A very fine white variety with a slight pure pink veining on the front of the lip, which has a light yellow disc. The finely-grown plant bore a spike of four flowers.

Brasso-Cattleya Digbyano-Mossiæ "The Dell variety" (Brassavola Digbyano × Cattleya Mossiæ Wageneri), from Baron BRUNO SCHRÖDER.—A very large form with broad segments and well-developed, fringed lip. White, with primrose-yellow disc to the lip.

Cymbidium Doris (Tracyanum × insigne) from Messrs. J. & A. McBEAN, Cooksbridge.—A remarkable cross, with the erect habit and form of C. insigne, but with larger flowers, coloured as in C. Tracyanum. Sepals and petals cream-white, tinged and lined with chocolate-red. Lip straw colour spotted with red.

Cypripedium Pallas-Athene (parentage unrecorded), from W. R. LEE, Esq., Plumpton Hall, Heywood (gr. Mr. Branch).—A model flower, showing much of C. insigne Harefield Hall, but larger and broader in all its parts, the large dorsal sepal being greenish at the base and white above, and bearing dark-purple spotting, changing to rose in the middle white portion.

AWARDS OF MERIT.

Sophro-Lælio-Cattleya Sandhage (C. Enid × S.-L. heatonensis), from E. H. DAVIDSON, Esq., Orchid Dene, Twyford.—A very handsome flower, equal in size to Cattleya labiata; the colour is rose, with an intense ruby-crimson lip. The influence of Sophronitis in this cross is very obscure.

S.-L.-C. Menippe var. "H. S. Goodson," from H. S. GOODSON, Esq., Fairlawn, Putney (gr. Mr. G. E. Day).—Flowers are equal to Sophro-Cattleya Doris, but of a rich, reddish mauve, darker in the lip, and of a glowing tint.

Lælio-Cattleya de Hemptinne (C. Dowiana aurea × L.-C. Ronselensis), from Count JOSEPH DE HEMPTINNE, St. Denis, Ghent.—A remarkable hybrid, with bright, chrome-yellow flowers of good size, the lip tinged with red.

Cattleya Comet var. "Princess Mary" (Warneri alba × Dowiana), from PANTIA RALLI, Esq., Ashtead Park.—A very attractive white flower with gold disc and veining to the lip, the base bearing some purple markings.

C. Maggie Raphael "Goodson's variety."—Flowers large and of fine shape, the lip being specially good and of a deep crimson colour, veined with gold from the base.

Lælio-Cattleya Golden Oriole "Holford's variety" (L.-C. Charlesworthii × C. aurea).—In size this resembles a good C. Dowiana, but the sepals and petals are clear orange-red colour; the lip ruby-crimson, with gold disc and veining. From Lieut.-Col. Sir GEORGE L. HOLFORD, K.C.V.O. (gr. Mr. H. G. Alexander).

Fruit and Vegetable Committee.

Present: C. G. Nix, Esq. (in the Chair); Messrs. W. Bates, J. Davis, E. Beckett, W. Pope, G. Reynolds, A. Bullock, J. Jaques, Owen Thomas, John Harrison, H. Somers Rivers, A. Grubb, and A. R. Allan.

An exhibit of Apples and Pears, shown by Messrs. GEO. BUNYARD & Co., Maidstone, Kent, was very pleasingly displayed, the fruits being arranged in baskets covered with white paper and on a white ground. There were very choice fruits of (Apples) Washington, Gascoyne's

Scarlet Seedling, Allington Pippin, Lord Hindlip, Cox's Orange Pippin, Ribston Pippin, and other well-known sorts, also (Pears) Doyenné du Comice, Emile d'Heyst, Beurré de Jonghe, Charles Ernest and Beurré Diel. (Silver-gilt Banksian Medal.)

Messrs. Dobbie & Co., Edinburgh, staged about 40 plants of their exhibition strain of Parsley, the plants being magnificent specimens, with unusually large leaves, which were curled to a remarkable degree. It was one of the finest exhibits of this herb we have ever seen. (Silver Banksian Medal.)

An exhibit of fruit was shown by the Essex Education Committee, from the school-garden at Purfleet. The collection included Grapes, Apples, Pears, Plums, Raspberries, and Cobnuts. (Silver Knightian Medal.)

C. E. Baring Young, Esq., Oak Hill Park, East Barnet (gr. Mr. J. G. Walker), showed 20 varieties of Apples and Pears and a dish of good Medlars.

Mr. Pope, Highclere Gardens, showed a seedling Apple named Guelph. The variety, which was raised by Mr. Chas. Ross from Houblon × Rival, resembles in appearance the variety named after Mr. Ross. The Committee expressed a high appreciation of its quality and a deputation will inspect the tree next September, and report on its cropping qualities, with a view to conferring an Award of Merit.

NATIONAL SWEET PEA.

October 17.—The annual general meeting of the National Sweet Pea Society was held in the Hotel Windsor, Westminster, on this date. About 50 of the members were present, and the president, Mr. Robert Sydenham, presided.

EXTRACTS FROM THE REPORT.

Both at Sutton Green and at Burbage the Society's trials of Sweet Peas were afforded greater space than in previous years. This was the first occasion on which duplicate trials were conducted. The trial grounds were 100 miles apart, and respectively on light and heavy soils. Two hundred and fifty-five stocks were tested, and the Committee wishes to thank Mr. Harry Foster and Major C. C. Hurst, F.L.S., for their able conduct of this important branch of the Society's work. At Burbage the trials were not in full bloom when visited by the members on July 12, whereas the day previously, at Sutton Green, the rows were splendidly in flower. Burbage is probably 10 or 14 days later in the matter of climate than Sutton Green.

The Floral Committee met at Sutton Green on July 4, and at Burbage on July 5. Every member was present each day. An Award of Merit was granted to each of the following:—*King White* (Trial No. 2), sent by Messrs. Alex. Dickson & Sons, Newtownards and Belfast; white. *Lady Miller* (Trial No. 22), sent by Mr. A. Malcolm, Duns, Berwick; apricot or cream, suffused with pink. *Decorator* (Trial No. 60), sent by Messrs. Dobbie & Co., Edinburgh; old rose, a waved form of "Rose du Barri." *Decorator* (Trial No. 61), sent by Messrs. G. Stark & Son, Great Ryburgh; rich crushed-strawberry. *Decorator* (Trial No. 83), sent by Mr. A. Malcolm, Duns, Berwick; old rose, a waved form of "Rose du Barri." *Agricola* (Trial No. 135), sent by Mr. Robert Bolton, Warton, Carnforth; blush, suffused rosy-lilac. *Improved Bertrand Deal* (Trial No. 136), sent by Mr. Bertrand W. Deal, Brooklands, Kelvedon; rosy mauve. *R. F. Felton* (Trial No. 162), sent by Mr. Robert Bolton, Warton, Carnforth; lavender. Trials Nos. 60, 61 and 83 were declared to be identical, and the Committee recommended that one and the same name be used for them. This recommendation has been accepted. The Provisional Silver Medal award was made in favour of Trials No. 22 and No. 162, the Committee considering these to be of equal merit.

Although the Society's London Exhibition, held at the Royal Horticultural Hall, Westminster, on July 9 and 10, was favoured with splendid weather, the paying attendance was not so large as usual. The takings were £36 8s. 6d. as compared with £41 in 1911. The flowers displayed were of unusually high quality, and in the competitive classes no fewer than 2,257 bunches were displayed, while as many more were on view in the trade exhibits.

One hundred and eighty-six new members were added to the list, and at the time of closing the accounts about the same number of old members had omitted to pay their subscription for 1912. Doubtless many of these omissions will be rectified before the new list of members is issued.

The Society is to be congratulated upon its sound financial position. Early in the year £50 was placed on deposit, this amount bringing the Society's reserve fund up to £200. The profit on the year's working was less than in 1910 and 1911, but this may be largely accounted for by the shortening of the financial year by two months. Accounts were closed on September 30, and as September is now one of the holiday months, and is a busy time for seedsmen with crops to inspect and harvest, there were many unpaid subscriptions on that date. However, the Committee hope that these matters will soon right themselves.

Arrangements have been already made for holding the Society's trials at the Burbage Experimental Station, Hinckley, in 1913, under the conduct of Major C. C. Hurst, F.L.S. The Committee understands that it will not be possible to hold trials at Sutton Green again, therefore a larger test will be made at Hinckley. The "Annual" and Schedule for 1913 will be issued to members during the first week of December, 1912. Mr. Lester Morse will contribute his "Impressions of the London Show"; Dr. Boxall has promised "Notes on Sweet Peas in New Zealand," and in addition to the Reports, Audit, Prize List of 1912, and List of Members, the "Annual" will include the Conference Proceedings and many items of special interest. The London Exhibition of 1913 will be held on Thursday, July 17, and will continue for the one day only. Arrangements are in progress for holding a Provincial Show in the North of England about the second week in August. The Carlisle Horticultural Society has promised a hearty welcome to the National Sweet Pea Society.

The financial statement shows a balance in hand of £53 11s. 5d. and a sum of £200 on deposit. The subscriptions for 1912 amounted to £315 5s. 3d.

The secretary, Mr. C. H. Curtis, said that the balance-sheet represented the income for 10 months only instead of 12, and but for this fact the amount credited to subscriptions for 1912 would be considerably higher. The adoption of the report and balance-sheet was proposed by Mr. Sydenham, seconded by Mr. Christie, and carried without comment. Mr. John Collingridge proposed a vote of thanks to the officers and committee, which was carried unanimously. The next business was the election of President for the ensuing year. The retiring President, Mr. R. Sydenham, said that it was customary to elect a member of the trade one year and a private member the next. Mr. W. Cuthbertson therefore proposed the name of Sir George Trevelyan, Bart., as President for 1913. It was understood that this gentleman had been approached, but he had written to say that his age was so great as to preclude him from taking an active part in the affairs of the Society. However, it was considered that if it were the wish of the meeting, Sir George Trevelyan would consent to hold the office, and on the proposition of Mr. Stevenson his election was carried by the unanimous vote of those present. Mr. H. Smith was elected chairman of committee; Mr. Edward Sherwood was reappointed hon. treasurer; and Mr. Richard Gluyas, of the Union of London and Smith's Bank, reappointed auditor. The hon. secretary, Mr. C. H. Curtis was also re-elected on the proposition of Mr. Robert Sydenham, who spoke of the valuable work Mr. Curtis had done for the Society. Mr. Sydenham also recommended that an honorarium of 70 guineas be given to the secretary. The re-election of Mr. Curtis was carried with acclamation, and the honorarium granted.

The next motion on the agenda was the election of the general committee. The old members were re-elected *en bloc*, with the exception of three who were disqualified through having failed to make the necessary number of attendances, and one of the members had died. The four vacancies were filled by Messrs. Dipnall, Bertram Deal, H. W. Wilkins, and J. Harrison Dick. The election of the Floral Committee caused considerable discussion. Captain Ashworth moved that the meeting consider the situation created by the proposal of Mr. Walter P. Wright to establish trials, and the intention of Miss Hemus to start a new society. Captain Ashworth earnestly begged that the meeting should make some concession to the feeling that had been aroused, and he hoped that even at the eleventh hour they might be able to get rid of this trouble. He could state on behalf of Miss Hemus that she would tear up her proposal if the affairs of the Society were based on a sound footing. Captain Ashworth stated that the Floral Committee was dominated by the trade, and that while nobody could prove any unfairness or bias on the part of the members, yet its constitution was not calculated to command general confidence. Touching upon Mr. Wright's scheme, Captain Ashworth pointed out that Miss Hemus's name and probably others had been included without authority. He condemned it as a one-man scheme, likely in the end to produce the same kind of trouble as is aroused by the present constitution of the Floral Committee. With regard to Miss Hemus's scheme he announced her readiness to withdraw it, and a wish to work for the prosperity of the present Society if the meeting were prepared to make some concession. Mr. Lumley supported Captain Ashworth. Mr. Sydenham said he regarded the situation brought about by Mr. Walter P. Wright as a very serious one, but he expressed a doubt as to whether Miss Hemus would gain the confidence of the public. However, he hoped that these little ruptures would be healed over, and that all would work harmoniously for the interests of the Sweet Pea as in the past. He considered that experts were required on the Floral Committee, and that amateurs did not possess such qualifications as those who had made the flower a lifelong study. The members were men of the highest integrity and honour. Mr. Stevenson said that he was impressed by the fairness of Captain Ashworth's remarks, but he was bound to take exception when it was stated that the Floral Committee was dominated by the trade (Captain Ashworth rose to say that he referred to numbers only). Mr. Stevenson said that he had been a member of the Floral Committee for several years past, and on more than one occasion he had seen members of the trade vote against their own varieties. Mr. G. W. Leak said that there was undoubtedly dissatisfaction respecting the constitution of the Floral Committee, but it was in the power of the members to alter the rules. Several members spoke of the impossibility of the great majority of the members attending these meetings in London. After discussion, Captain Ashworth withdrew his original proposition, and moved that the general committee be recommended to take a postal vote of all the members of the Society on any proposition brought forward for alterations of rules that may be submitted before the next general meeting. This was carried, and the chairman considered that the proposition was a good one, because it tended to bring about harmony. He would ask the secretary to include it in the report. Captain Ashworth said that he was satisfied, and he would do all in his power to push the interests of the Society. Meanwhile the scrutineers returned, and announced the election of the Floral Committee as follows:—Messrs. Thomas Stevenson, T. Jones, A. Ireland, R. Bolton, G. W. Leak, H. E. Bide, A. Hallam, F. H. Chapman, and H. D. Tigwell.

Mr. Brander, a member, regretted that no further information was forthcoming from the Society about the streak disease of Sweet Pea, and he considered it a matter which the Society should take seriously in hand. He moved that the committee reopen the question of diseases, and endeavour to find a remedy for streak. Mr. Sydenham said he had no doubt that the committee would give it serious attention.

DINNER AND CONFERENCE.

About 30 members were present at the dinner, which was presided over by Mr. Robt. Sydenham. The conference was held directly after the dinner was over, the newly-elected chairman of committee, Mr. Herbert Smith, presiding. The chairman briefly introduced Major Hurst, F.L.S., who gave a paper dealing with Sweet Pea rogues. Major Hurst said that for the past 10 years or so he had been interested in Sweet Peas. He had noticed with interest in 1911 that the trials at Sutton Green showed a very large percentage of dominant rogues. These puzzled him considerably, and he decided to investigate the matter closely. For this purpose he obtained 206 distinct stocks, and they were grouped apart from the N.S.P.S. trials.

The latter embraced 254 stocks, and, in addition to these, he had a further group of his own Mendelian stocks numbering 43. These three groups were classed as Tables No. 1, 2, and 3. No. 1 contained about 3,339 plants, No. 2 about 5,551 plants, and No. 3 about 8,000 plants. The 43 Mendelian stocks he termed pure line stocks, but none of them had been isolated or protected from outside fertilisation.

In Table No. 1 108 plants per 1,000 proved to be rogues. In Table No. 2 114 plants per 1,000 were rogues, and in Table No. 3 only five per 1,000 were rogues, none of these being type rogues. Type rogues, the lecturer explained, were not true Spencers. The Spencer type has an open, extended keel, whilst the so-called grandiflora type has a closed or clamped keel.

As showing the difference in the seeding of the two types, he mentioned that from one acre of Spencers not an ounce of seed had been seen, whilst the clamped keel type seeded quite freely. Major Hurst explained that clamped keels are always dominant, and if this type was excluded from the seed ground, there was no reason whatever why plain or clamped rogues should appear in a stock of Spencers. He was certain that a carefully rogued stock of Spencers would not throw dominant clamped keels the following year.

In tabulating the rogues in the three tables, he classed them as dominant, recessive, and type rogues, and whereas in Tables 1 and 2 all three forms were present, in Table 3 only dominants were present. Dominant and recessive rogues might be both colour and type rogues. Dominant colour rogues could always be removed, as they appeared in the second year. Recessives appeared the following year. The first year from the cross every plant was dominant. Whereas type rogues were easily preventable, colour rogues required closer attention.

Cream was the lowest recessive, white is dominant to cream, whilst the old blue bicolor was dominant to all other colours. Salmon shades were more prevalent in giving colour rogues than any other, and cream followed closely.

Rogues were interesting, and they were not always due to faulty roguing, for he felt convinced that some seed was cross-fertilised by outside agency, as it had been found that a stock of light-coloured seed had produced coloured rogues, including maroons and mauves.

A cream flower self-fertilised gives cream progeny, but if fertilised from another cream plant the chances are that coloured varieties would appear, because there are three classes of creams: those that possess no other colour factors, those possessing red factors, and those possessing blue factors. If any two are brought together a break-up follows, and all colours appear in the progeny. Owing to the bad season, they had not been able to save seed of the dominant rogues in Table 3, so a number of cuttings had been inserted in the hope of saving some for flowering next season.

It was curious that the orange-scarlet varieties at the trials showed very few rogues, and he felt sure that the one rogue in Dobbie's Thos. Stevenson at Sutton Green and the plant in his Table No. 1 were due to outside influence. At the same time he could offer no absolute proof that insects did fertilise the flowers, although he surmised that the leaf-cutter bee was a culprit in this respect. Regarding the recessive rogues in the commercial stocks in Table 1, more than half of them were found in the cream-pink section. Touching upon the varieties Audrey Crier, Miriam Beaver, and Syeira Lee, these were unfixable, as they resembled the Andalusian fowl, inasmuch as they always produce about 50 per cent. true, and 25 per cent. each light and dark.

How to avoid rogues appearing was a matter that growers were decidedly interested in, and he advised saving all stocks from single plants, and sowing separately, allowing 50 yards between each stock or variety. By this means the chance of insects affecting the flowers was reduced, and if growers were careful to remove all clamped keels as soon as they appeared, they need not fear that similar types would again appear.

THE DISCUSSION.

At the invitation of the chairman, Mr. Robt. Sydenham asked whether Major Hurst advised saving all seed from one plant together, or whether it would be wiser to save every pod separately and grow on for two years.

Major Hurst agreed that it would be a good plan, but those who attempted to follow it would find themselves concerned with a very big problem, for, assuming that a score of pods were saved in the first year, the following year there might be several thousands, and to keep every one separate would be an almost endless task.

Mr. Sydenham stated that his firm saved about a dozen pods of Maud Holmes the first year, and 130 the second, and nine-tenths of these bred true in the third year. Would it be safe to assume that a variety was fixed in the third year?

Major Hurst said it depended upon the colour. If the dominant rogues were pulled out, only recessives would appear the next year, and then would come the tremendous amount of work if every pod was kept apart.

Mr. Andrew Ireland stated that when they planted their first seeds of George Herbert it gave one type rogue. The remainder were saved, and next year type rogues again appeared, but the following year all came true, and remained so. Regarding Thos. Stevenson, he mentioned that at Messrs. Dobbie's nursery he found one rogue, an orange-pink variety, in 40 plants growing indoors, whilst outdoors they had half-a-mile of plants, four to the yard, and only one rogue was found in the lot. Regarding Sunproof Crimson, he found this in their stock of John Ingman. It came true, and never gave a rogue until this year, and this was a white with a wire-edge of red. He also mentioned that from 48 plants of a white variety he obtained a purple bicolor.

Mr. G. W. Leak said he had always been puzzled by breaks among Sweet Peas, and he mentioned that when Sybil Eckford gave a number of white seeds he thought the men had got the seeds mixed. The white seed, however, produced none other than James Grieve, which kept true. Respecting Miriam Beaver, as Major Hurst had said, this produced two other shades, but this season, for the first time, it gave a third, a very deep pink, but, owing to the season, not a seed could be saved.

Mr. Vernon Hill asked whether he was correct in assuming that rogues in the first year were dominants, and if pulled out recessives would follow, and that these should be pulled out also. Regarding cross-fertilisation by outside agencies, he mentioned that he had observed blue tits and bullfinches among his Sweet Peas, and on close inspection he found the birds were mutilating the flowers and extracting the unripe pollen. This was particularly noticeable in dull weather. In hot weather the buds developed too fast, so that the pollen became ripe quickly, and the birds did not interfere with it.

Mr. H. E. Bide confirmed Mr. Hill's remarks on the tits. He also noted the white tail among Sweet Peas, but found that these birds were after aphis. He also stated that he effected a cross between Paradise Ivory and Lord Nelson, and secured a blue Spencer, which came true one year and then broke.

Mr. H. W. Harvey mentioned that early this year several correspondents complained that cream-coloured seed varieties, like Etta Dyke and Clara Curtis, had broken into many colours, and on enquiry he came to the conclusion that such seed had been grown in California, and had become fertilised by insects. Curiously enough, mauve varieties from the same grower were perfectly true.

Mr. E. W. King stated that when in California he looked in vain for clean cream and white stocks. Sweet Peas grow so finely there, and the grandifloras came so large, that it was impossible for anyone but an expert to pick them out. He mentioned a field of Aurora Spencer, which looked superb, and the grower asked him what he thought of it. Mr. King hazarded that 60 or 70 per cent, were true, but when he got to a worker who was busily roguing out the plain types, he found that the Spencers only averaged about 30 per cent., all the rest being grandiflora, the original Aurora.

Mr. Wm. Cuthbertson took heart from Major Hurst's statement that only five rogues per 1,000 plants appeared in the Mendelian pure line stocks at Hinckley, for if such could be obtained there he saw no reason why he and others should not get similar results. Regarding the rouges in Tables 1 and 2, it would be interesting to know whether any of these stocks were foreign-grown. With reference to clamped keels, if these were to be kept out rigorously, did it mean that so fine a variety as Nora Unwin must not be grown anywhere near the others? Was it true that soil changes caused variation? Although he was interested in Mendelism, he found it difficult to understand why apparently true stocks should break up. Did it mean that there was much more crossing by insects than has hitherto been imagined? He assumed that in California the pollen of Sweet Peas would always be in better condition than at home, and thus more liable to bring about intercrossing. So far as his firm were concerned, the proportion of rogues appearing on their Essex farms was very small, and he imagined that even with Spencers home growers had little to fear from outside crossing. They might not be able to get their stocks biologically pure, but he was satisfied they could always get them pure enough for commercial purposes. The problem of the increasingly protruding stigma in the Spencer Sweet Peas was an important one in his view.

Mr. Thos. Stevenson stated that although he had raised two or three varieties, he had never made a cross. The John Ingman that he first showed he found in Countess Spencer; from this, next year, he obtained a veined-blue break, and the seed from this gave no two flowers alike. He had every colour imaginable, and his Rosie Adams, America Spencer, and Black Knight Spencer all came from this break. The remainder were either lost or were worthless. The few that he saved never gave any further rogues.

Mr. H. A. Perkin said that he had changed his soils from light to heavy, but got no variation. He noted, however, that whereas he saw many leaf-cutter bees on the light land, practically none were seen on the heavy soil, although the two places were only half-a-mile apart.

Mr. T. A. Weston, referring to the mixtures coming from Californian seed, believed that weather had much to do with it; for he had seen it stated by one grower that after a very hot day it was impossible to find a Sweet Pea flower in form. The heat caused the wings and keel to gape or wilt, leaving the stigma open to all outside influences. He asked Major Hurst whether any crosses with perennial Peas had been made, and what had happened. He referred to a cross made with Lathyrus tingitanus, which produced a small chocolate-coloured variety, that never once broke. Why was it?

Major Hurst, in rising to reply, regretted that time would not allow him to deal with everything fully. Regarding the two rogues at Marks Tey and the two in the trials, found in Thos. Stevenson, he felt certain that these resulted from a grain or two of pollen being conveyed to some flower last year. The fact that only one plant in half-a-mile was wrong proved that. The crimson from John Ingman was probably created by an outside cross, made two years before. He, too, had observed the deep pink in Miriam Beaver this year, but in his case the flowers were clamp-keeled, whereas Mr. Leak's was a Spencer flower.

Mr. Bide's blue was an instance of the F_2 generation coming true and then breaking. Mr. Harvey's remarks about cream and white varieties breaking, bore out what he had said about the colour factors coming together. The fact that Mr. King observed inability of Americans to pick out type rogues proved why such rogues were common.

There was no reason whatever why type rogues should appear in commercial stocks. He doubted whether the pollen in California was wind-borne. He saw no evidence that soils caused rogues. It was quite unthinkable that a change of soil brought a new colour factor into play. Mr. Stevenson's blue-veined break was a dominant. All blues are dominant, and for that reason gave much trouble. He considered the leaf-cutter bee the most probable cause of outside crossing. Regarding perennial crosses, he made a number some years before, but failed to obtain seed. He noted No. 9 at the N.S.P.S. trials had a strong resemblance to the perennial, in having small flowers carried in larger numbers than usual, whilst the growth was not unlike a perennial species.

At this point Mr. Ireland handed over a letter from the raiser of the variety referred to, and from this letter Major Hurst learned that Earl Lovelace resulted from a cross made some years ago between Dorothy Eckford and Sadie Burpee.

Mr. Sydenham asked why Sweet Peas sent to Madeira and Sicily reverted back to the old wild form in about two years.

Major Hurst surmised that the quick reversion was due to insect agency. Possibly in Sicily there were insects that worked among the flowers, and as the wild form was natural there the latter were brought into touch by the insects, and, being dominant, eclipsed the other colours. Regarding the seedling referred to by Mr. Weston, he thought this was on a par with certain Orchids. He had cross-fertilised certain species of Orchids, and although the cross stimulated the ovules sufficiently, yet the resultant seedlings retained the characteristics of the mother only.

The seedling Pea was of a like nature, for it carried the leading factors of the Sweet Pea but would not break. Such seedlings are termed false hybrids, and they do not change from their first appearance.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

October 14.—The monthly committee meeting was held at the R.H.S. Hall on this date; Mr. Thomas Winter occupied the chair. One hundred and thirty-one new members were elected. It was stated that the sick pay for the month amounted to £38 13s. A grant was made from the benevolent fund to enable a member to pay his contributions, also a grant to a member from the convalescent fund, and one member was allowed to withdraw his interest. Business relating to the National Health Insurance was also dealt with, and a sub-committee formed to deal with current business arising from the same.

NORTH OF ENGLAND HORTICULTURAL.

October 17, 18.—This Society held its monthly exhibition of fruit, flowers, and vegetables at the Corn Exchange, Leeds. This was the first occasion on which it has been extended to two days, and the innovation was a qualified success. The principal prizes were two challenge cups, one valued at 80 and the other at 15 guineas. The more valuable one was offered for the best exhibit in the show, and the other was restricted to amateurs. J. Pickersgill, Esq., Leeds, won the 80-guinea cup with a large group of Codiaeums, Cattleyas and Oncidiums. The other cup was awarded to W. D. Cliffe, Esq., Meanwood Towers, Leeds, for a collection of 75 varieties of vegetables.

Plant and Floral Committee.

The following medals were awarded in this section :—

Gold Medal to J. Pickersgill, Esq., Bardon Hill, Weetwood, Leeds (gr. Mr. J. Donoghue), for a miscellaneous group of plants that was awarded the Premier Cup.

Large Silver-gilt Medal to Messrs. Dickson & Robinson, Manchester, for a group of Asters and Chrysanthemums.

Large Silver Medals to Messrs. W. & J. Brown, Peterborough, for a stand of Roses; Messrs. W. Wells & Co., Merstham, for Chrysanthemums; and Messrs. John Hill & Sons, Stone, Staffordshire, for a collection of evergreens.

Silver Medals to Messrs. Young & Co., Cheltenham, for Carnations; J. Blackburn, Huddersfield, for Carnations; J. C. Fordey, Castleford House, Northumberland, for a collection of Gladioli; and Messrs. Little & Ballantyne, Carlisle, for a collection of shrubs.

Large Bronze Medals to Messrs. Wm. Cutbush & Sons, London, for Asters and Roses; and Wm. Bonsall & Son, Harrogate, for a group of Bouvardias.

Bronze Medals to Messrs. Kerr & Son, Liverpool, for Cyclamens and Crotons; Mr. F. C. Edwards, Leeds, for hardy Chrysanthemums; A. C. Watson, Moseley, for Begonias of the Gloire de Lorraine type; Messrs. Harkness & Sons, Bedale, for Asters; Mr. G. Bradshaw, Leeds, for Carnations; Messrs. S. Broadbent & Son, Huddersfield, and Messrs. G. Gibson & Co., Bedale, who both showed rockwork and Alpine plants.

Novelties.

Second-class Diplomas were awarded Chrysanthemum "Mrs. J. Fielding," a sport from Goacher's Crimson, shown by Messrs. Harkness & Sons, Bedale; Berberis Wilsonae, shown by Messrs. G. Gibson & Co., Bedale; and Aster "Stella," shown by Mr. G. Yeld, York.

Orchid Committee.

This Committee made the following awards :—

Gold Medal to Messrs. Mansell & Hatcher, Rawdon, Leeds, for a large group of Orchids.

Silver-gilt Medal to W. H. St. Quintin, Esq., Scampston Hall, York (gr. Mr. F. C. Puddle), who showed an interesting collection of seedling Cattleyas.

Bronze Medals to Mr. W. Shackleton, Bradford, for a small group; J. H. Craven, Esq., The Beeches, Keighley (gr. Mr. F. W. Corney), for a collection.

Novelties.

First-class Diplomas to Cattleya "The Bride," shown by Mr. W. H. St. Quintin; and Cypripedium Boltonii, shown by Mr. J. H. Craven.

Second-class Diplomas to Laelio-Cattleya scampstonensis, shown by Mr. W. H. St. Quintin; and Cypripedium Charlesworthii, shown by Mr. W. Shackleton.

Fruit and Vegetable Committee.

Large Silver Medals were awarded to Messrs. W. Seabrook & Sons, Chelmsford, for a collection of Apples; W. D. Cliffe, Esq., Meanwood Towers, Leeds (gr. Mr. W. N. Haigh), who showed 75 varieties of vegetables, including fine "Premier" and "Barnet Hero" Onions; Mr. Wm. E. Sands, Hillsborough, Ireland, for a collection of Potatos of 60 varieties.

A *Silver-gilt Medal* was awarded to Mrs. Hogg, Meanwood, Leeds, for an exhibit of bottled fruit; and a *Silver Medal* to Messrs. Little & Ballantyne, Carlisle, for a collection of fruit.

Large Bronze Medals were awarded to Messrs. Little & Ballantyne for Potatos; and Mr. W. Lawrenson, Yarm-on-Tees, for a collection of Apples and Pears.

Obituary.

George Carpenter.—Horticulture announces the death of Mr. George Carpenter, florist, Philadelphia, U.S.A. He conducted a florist's business at Gerard Avenue, Philadelphia, for over 30 years. Mr. Carpenter was a native of England.

James Kerr.—Mr. James Kerr, of the Floral Farm, Kaiti, and formerly the junior member of the late firm of Messrs. Kerr Brothers, nursery and seedsmen, Dumfries, died recently at Napier Hospital, New Zealand. Mr. Kerr went to New Zealand about six years ago.

ANSWERS TO CORRESPONDENTS.

Begonia Gloire de Lorraine : *R. E. F.* The roots of your Begonias are affected with eelworm. There is no cure; destroy the plants by burning, and sterilise the soil in which they have been grown.

Bulrushes : *W. B.* The best method of establishing Bulrushes in water is to plant them in round hampers or wicker baskets of any kind, using on the top a layer of turves. Secure the turves with strong cord so that they will not float off when the basket is lowered into the water. In time the basket will decay and the plants establish themselves in the mud at the bottom, and require no further attention. Bulrushes may be purchased from the nurserymen who specialise in hardy plants, and may be planted at any time during the late autumn, winter, or early spring.

Fremontia californica Dying : *W. P. F.* The shoots are injured by Cladosporium, which has caused gumming. Continue to spray the plants at intervals with the liver of sulphur. The reason that spraying appeared to be of no avail was due to the plants having been infected before spraying was commenced.

Gooseberry Bushes Dying : *Hortus.* No disease is present; the trouble must be looked for in some unsuitable cultural conditions.

Heath Garden : *J. A. F.* If it is intended to keep the different varieties separate, it will be advisable to plant them in irregularly-shaped beds. Before planting, the ground should be deeply dug, and, as your soil is a heavy loam, a quantity of sand, leaf-soil, and peat should be incorporated at the time of digging. Peat is not necessary, provided the soil is made light with the addition of sand and leaf-mould. Stones are not necessary, and it would not be wise to plant the Heaths in grass. They will make more rapid growth if the ground around them is kept free from weeds for a few years; after that time the Heaths will smother the weeds. It will be best to start them in beds, but in time the plants will grow into irregular, natural groups. The distance to leave between the plants depends on the varieties and the space available.

Madresfield Court Grapes Unhealthy : *J. E.* No disease is present; the trouble is due to some wrong cultural treatment.

Marrow : *J. B.* The terms vegetable and fruit have each a different significance, according to the sense in which they are used. Botanically, the Marrow is a fruit, as are Beans and Peas; but these being used for culinary purposes are also termed vegetables.

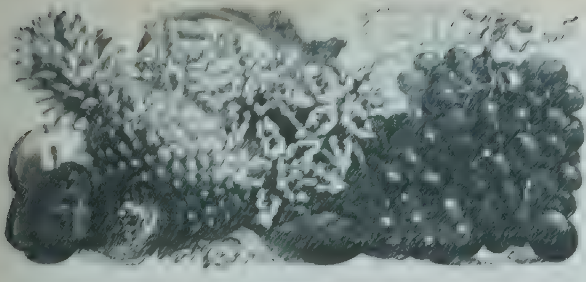
Names of Fruits : *T. B. R.* 1. Délices d'Angers Fondante du Panisel; 2. Beurré Bachelier; 3. Léon Leclerc de Laval; 4. Gansel's Bergamot; 5. Winter Nelis; 6. White Nonpareil.—*H. H.* 1. General Todleben; 2. Mme. Treyve; 3. Duchesse d'Angoulême; 4. Doyenné du Comice; 5. Emile d'Heyst; 6, Marie Louise. Beurré Diel is very liable to crac
especially in a wet season. It is caused by
Fungus. Wash with a good fungicide, early i
spring.—*J. K. C.* 1 and 2, too small to name
3, Reinette Grise; 4, [illegible]; 5, General
Todleben; 6 and 8, Mosel; 7, Thompson's
9 and 10, Beurré Bosc; 11, Mme. Treyve; 1
Beurré d'Anjou; 13, Beurré Diel; 14, Fore
—*F. P. P.* Peasgood's Nonesuch.—*E. J.*
1, Winter Hawthornden; 2, Cox's Pomona
3, Washington.—*T. S. C.* Apple much bruised
and partly decayed on arrival; it resembles
Lord Grosvenor.—*Dunsmore.* 1, Beurré
Hardy; 2, Black Worcester; 3, Magnate; 4
Autumn Bergamot; 5, Marie Louise; 6, Mme.
Treyve; 8, Gansel's Bergamot; 10, Catillac
Several of the numbers detached on arrival.—
M. E. 1, Chaumontel; 2, Soldat Laboureur
3, Beurré Diel; 4, Uvedale's St. Germain
5, Sturmer Pippin; 6, Golden Harvey.—
F. L. P. Comte de Flandre.—*G. T. S.* 1
Franklin's Golden Pippin; 2, Langton Non
such; 3, Lady Sudeley; 4, Cockle Pippin; 5
Lord Suffield; 6, Potts's Seedling.—*G. F. S.*
1, Hayshe's Prince Consort; 2, General Todle
ben; 3, Hambledon Deux Ans.—*W. & S.*
Fondante d'Automne.—*H. L.* 1, Lord Derby
2, Golden Pippin.—*C. W.* 1, Fondante
d'Automne; 2, Maréchal de Cour; 3, Vicar o
Winkfield; 4, Gansel's Late Bergamot; 5, n
fruit; 6, Josephine de Malines; 7, no fruit
8 and 10, Doyenné du Comice; 9, Chaumontel
11, Bishop's Thumb; 12, Beurré Diel; 4,
and 5, numbers detached. One of the Pea
decayed and stained the numbers; we hav
done the best we can. There were three "3's,"
but only two were Doyenné du Comice.—
Apple. 5, Gravenstein; 6, Tom Putt;
Warner's King; 8, Mère de Ménage; 1, 3 an
9, Peasgood's Nonesuch; 10, not recognised
4, no fruit; 11, Henry Morning; 12, [illegible]
Pippin; 2, Golden Noble; 13, Ribston.—*C. E.*
Grape Mrs. Pince's Black Muscat.

Names of Plants : *Ignoramus.* 1, Mesembry-
anthemum cordifolium; 2, Aster "Robe
Parker"; 3, A. vimineus; 4, A. dumosus
5, A. cordifolius elegans; 6, A. diffusus hor
zontalis; 7, A. Novae Angliae var. rube
Hopeful. J. W. 1, Lamium maculatum;
Salvia Horminum; 3, [illegible]
4 and 6, too scrappy to be identified;
Erigeron speciosus (probably).—*E. B.*
Polygonum polystachyum.—*J. H.* 1, N
specimen; 2, Dendrobium sp., cannot nam
without flower; 3, Cordyline stricta; 4 and
garden forms of Dracaena terminalis;
Vinca rosea.—*Fernside.* 1, Juniperus Sabina
2, J. chinensis variegata; 3, Ilex crenata;
Leucothoe Catesbaei; 5, Cryptomeria japonica
6, Genista tinctoria plena.—*Foreman.*
Cattleya Forbesii; 2, Brassia maculata
Maxillaria rufescens; 4, Pleurothallis
thera; 5, Cochlioda vulcanica; 6, Odontoglo
sum Lindleyanum.—*Bermuda.* 2, Isol
[illegible]
gardens; 1, Thuya occidentalis.—Cypripe
dent. 1, Rose William Allen Richardson;
and 3, not recognised.—*F. G.*, Chelmsford
1, Eupatorium Weinmannianum; 2, E. pu
lare; 3, Freesia aurea.

Pelargonium Mrs. W. E. Cuner : *C. J.*
Foreman. This Pelargonium grows too big
for use as a bedding variety, but it makes a
excellent pot plant in a conservatory or gree
house.

Stocks : *Doubtful.* There are many varieties
the Paradise Stock employed for work
Apples, and they vary in their dwarfing cap
other. They are all raised from cuttings,
they would not come true from seed. Pe
are grafted on the Quince stock or on see
lings raised from the wild Pear; Plums a
Peaches on various kinds of Plums—Damas
Mussel, &c. Cherries are grafted on
Mahaleb for dwarf trees and on the wild Che
for standards. Crab stocks are supposed to
raised from Crabs, but they are most of
merely seedlings raised from Apples with
regard to variety.

Communications Received.—E. W.—H. F. E.—F. C.
[illegible]



THE
Gardeners' Chronicle

No. 1,349.—SATURDAY, November 2, 1912.

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JOURNEYS BY THE RIVER OF GOLDEN SAND.

WHEN collecting plants for Bees Ltd. last year in western China, I first struck the Yangtze—the River of Golden Sand—at the point where it makes a big, close loop, running north and south round the Lichiang mountains, thus adding hundreds of miles to its length before definitely setting out eastwards to cross China; we were then some 2,500 miles from its mouth.

It was early April, and the Chionanthus trees were in full bloom, growing in the rockiest places, and hanging at times right over the water just as Willows do in England. The flowers are polygamous, and, though scentless, are visited by numerous insects, chiefly small flies, since there is no attempt at concealing the honey.

I saw this tree again, in even greater profusion, in the valley of the Mekong, where, however, it is restricted to a small region which we may call the rainy belt.

There were not many flowers out on this occasion, two or three Boraginaceæ, including a lovely blue Cynoglossum, which was the most conspicuous.

The river platform, which averages, perhaps, half a mile in width, was, however, extensively cultivated. Peas are the chief spring crop, and scattered amongst them I was interested to observe not a few opium Poppies; but so closely did the white and magenta Poppies blend with the Peas that the former were not readily detected, and I soon came to the conclusion that this was no chance sowing, but a deep design to outwit the provincial authorities, who had recently come down heavily on the opium farmers.

The proscribed plant was no longer to be seen alongside the main road, but I had already passed a small field of it hidden away in the mountains between the Salween and Mekong rivers, and in May I came across another field of it further north.

The mountains, which here closely invest the Yangtze, are built up mainly of limestone, and except on their southern slopes are thickly forested; in the gullies are to be found a rich assortment of deciduous trees, but the exposed slopes are covered with Conifers. On April 14 I tried to reach the summit of the western range, which rises to a height of 3,000 or 4,000 feet above the river, in order to see whether the mountain flora was beginning to appear; however, at an altitude of about 10,000 feet above sea-level we found the corries full of snow, and a barrier of clean-cut limestone precipices, one of which I all but fell over when plunging blindly through a thicket, prevented us from reaching the top.

From Pine forests below we passed through Firs above, and then Bamboo brake and dwarf Rhododendrons; but we were too early for the Alpine flora.

Camp was pitched beneath a grove of Oaks, Quercus incana (which has leaves very like the Spanish Chestnut), on which grew the curious Mistletoe, Viscum articulatum; other shrubs along by the river were species of Pistacia, Berberis, Spiræa, and so on, but with the Chionanthus trees like great masses of snow everywhere, I had eyes for little else, though the rocks were sometimes blue with Iris tectorum.

At this time I had an escort of two soldiers, one armed with a rifle of which he was very much afraid, the other with a fan. Sometimes I had a little rifle practice at the expense of the Chinese Government, and there were always yellow ducks to shoot, though this meant swimming occasionally across an icy-cold backwater in order to secure the booty.

On the sixth day we left the Yangtze and set out westwards over the mountains towards the Mekong; more than three months passed before I again saw the River of Golden Sand, some 300 miles further north.

It was the end of July when I received a message from the French priest three days south of Atuntsi saying that the English had taken Lhasa, and that the Chinese had sworn to exterminate the English in Yunnan. It was five o'clock in the evening when the news came, and early next morning we were on the road to Batang, eight days' journey to the north, though we did it in six.

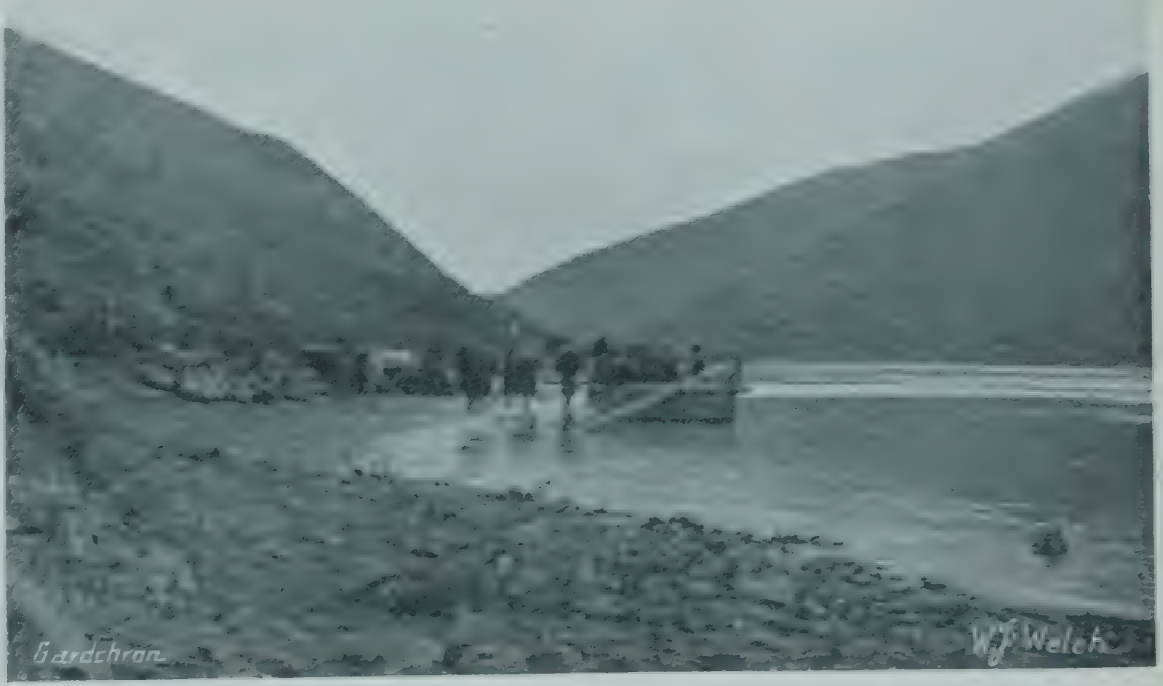

FIG. 142.—THE YANGTZE RIVER IN THE ARID REGION, 3,000 MILES FROM ITS MOUTH. THE BATANG FERRY IN THE FOREGROUND.

The last stage takes us for about 20 miles along the banks of the Yangtze, here very different in appearance to what it is further south, for we were now in the arid region. That country is characterised by (i) an open shrub formation; (ii) a number of rosette plants, such as are met with in dry regions elsewhere; and (iii) wherever granite occurs, by thickets of Opuntia vulgaris, cultivated for the sake of its fruits. It would be interesting to know how this Mexican plant became distributed throughout the arid valleys of western China.

The shrub formation varies a good deal according to the degree of aridity, reaching a minimum development, both in number of species and individuals, in the Salween and Mekong valleys, where the rainfall probably does not exceed five inches a year. In the arid region of the Yangtze we are now concerned with, familiar shrubs are Sophora viciifolia, Rosa species, Caragana, Clematis Delavayi, a small bushy species with inconspicuous white flowers, Wikstrœmia, with small orange flowers, Bauhinia densiflora, and others. There is a marked tendency amongst them to develop thorns or spines.

The rosette plants include Eremurus chinensis, local but abundant along the Yangtze below Batang, the flowering stems reaching a height of 3 or 4 feet and bearing a long pyramid of white flowers; Androsace Bulleyana, a most beautiful species with a compact umbel of vermilion flowers (it should be hardy in East Anglia at least); Saxifraga candelabrum, like the last, a biennial, Didisandra lanuginosa, with pale blue or white flowers, and a Selaginella, closely resembling a Californian species, which rolls itself up into a ball in the driest weather, a performance which is to some extent imitated by the Fern Cheilanthes farinosa, also abundant here, each frond of which curls up, exposing the brightly-silvered undersurface.

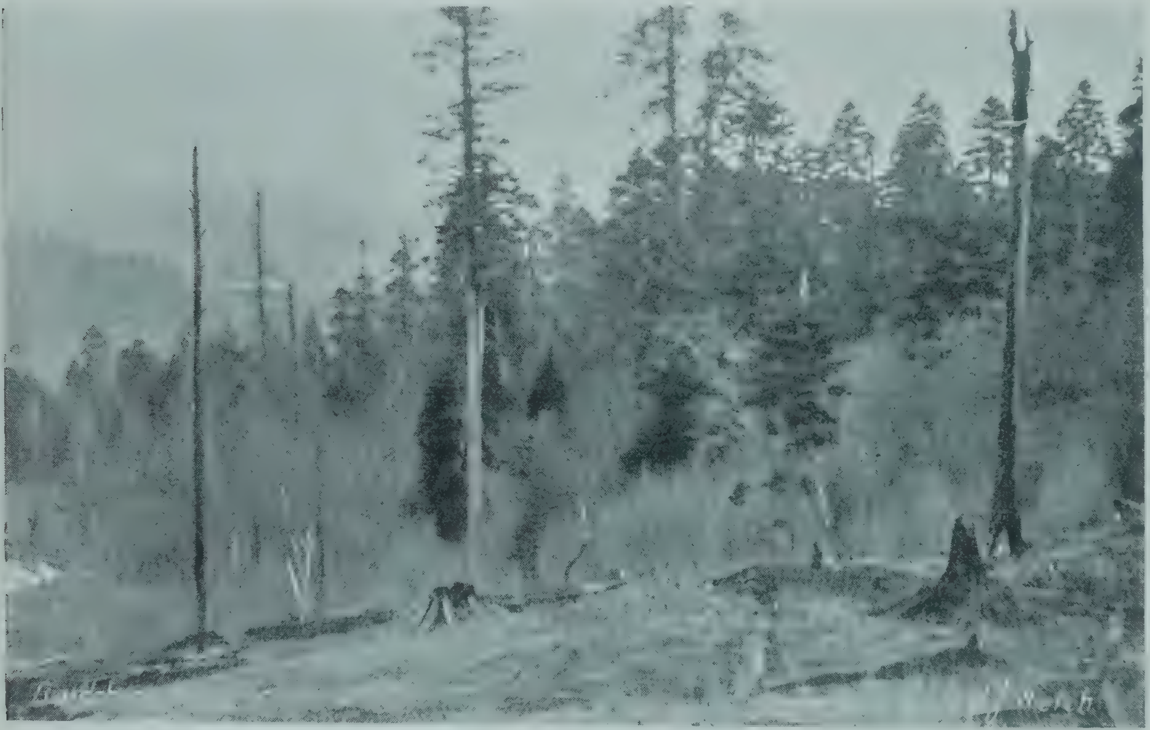

FIG. 143.—THE MEKONG-YANGTZE DIVIDE, ALT. 12,000 FEET.

On the hill tops Abies (destroyed by lichen) and Bamboo brake; in the valleys grassland and bog.

The Selaginella referred to is by far the most dominant plant in the arid regions, its rosettes and globes occurring on the rocks in thousands.

I need only allude briefly to the origin of the arid regions. The great mountain ranges here run north and south, so it will readily be seen that where they are of great altitude the south-west rain-bearing winds will deposit their moisture on the intervening ridges, and, sweeping right across these narrow rifts, leave them dry. This state of desiccation is further aggravated by the up-valley winds, which blow throughout the summer months, being caused by the great heating of the shut-in valleys during the day and the consequent filling up with cold air off the mountains above of the partial vacuum so produced.

The altitude of the Yangtze valley at Batang is about 9,000 feet above sea-level, and is about 150 yards wide.

On our return we made an interesting voyage of 15 or 20 miles down the river in a skin boat or coracle, and then we recrossed in the ferry boat, a big flat-bottomed scow. A few miles below the ferry is one of the biggest rapids I have ever seen.

In the middle of September I journeyed to the Yangtze again, this time to Pangtsila, three days south-east of Atuntsi, the Mekong-Yangtze divide being crossed at an altitude of 15,800 feet. The actual valley bottom is here extremely arid, supporting very little vegetation indeed, but an Ipomœa grows amongst the shrub vegetation, and a little higher up is a second twiner, Codonopsis convolvulacea; the higher slopes, where Pines and Oaks grow (10,000-11,000 feet), might perhaps be called the arid region, while we restrict the term semi-desert to the deep valley bottoms, where the rainfall reaches a minimum of only a few inches a year. Of the plants already cited, perhaps only Sophora, Rosa, Caragana, and Selaginella are true semi-desert plants; to the list from the arid region on the above definition, however, may be added one or two succulents such as Sedum, Anemone japonica, the pink-flowered Amphicome arguta, the twining Dregea sinensis, a Dianthus, Campanula colorata, Ceratostigma Griffithii and many other plants.

In October we visited the Yangtze for the last time, crossing the divide by a pass between 17,000 and 18,000 feet high to the north-east of Atuntsi. The river here flowed in a terrific cañon about 4,000 feet deep, and the road, one of the most perilous I have ever traversed (we did the worst part of it by night, and my heart was in my mouth all the time), kept between 2,000 and 3,000 feet above the river, which could be seen but not heard.

Villages occupy the summits of alluvial cones washed from the mountains, and the crops are irrigated by means of the mountain torrents diverted for the purpose. Buckwheat, Barley, Millet, and Hemp are the chief crops; Pomegranates, Walnuts, Oranges, Beans, and Maize are also grown. *F. Kingdon Ward.*

DESTRUCTIVE INSECTS AND PESTS

SCHEDULED BY THE BOARD OF AGRICULTURE AND FISHERIES.

III.[*]—WART DISEASE OF POTATOS.

DURING the past five or six years serious and widespread damage to Potatos has been caused by a disease to which the common name of "Wart Disease" has been given, or alternately "Black Scab," "Canker," or "Cauliflower Disease." The disease had already been known to exist in Great Britain for many years past, and had been described by different workers, but during the past few years it has come into prominence owing to its exceptional prevalence, and its insidious and increasing distribution by means of diseased seed tubers sent into unaffected districts. This disease was promptly scheduled under the Destructive Insects and Pests Acts, 1877-1907, and, with American Gooseberry-mildew, has had the distinction of absorbing the energies of a number of county inspectors, under the direction of inspectors of the Board of Agriculture and Fisheries.

To say that wart disease has proved troublesome is to understate its gravity. The following quotation will show how it has been regarded officially, for after the remark that none of the pests scheduled under the Order of 1910 has given rise to more controversy, and caused such adminstrative difficulty as wart disease, it is stated that:—"It has been referred to two, if not three, genera, and passes under half-a-dozen local and popular names. It has been asserted to be a new disease spreading with great rapidity through Great Britain, and it has been declared to have been known in parts of England for 40 years. It has been made a peg to hang strange superstitions upon, has roused far more than its proper share of interest abroad, and has been made the subject of more legislative restrictions than any other English plant disease; while much of the controversial literature on the subject has shown a painful lack of appreciation of the disease and the problems attending its control. Fortunately some useful work has been done on the subject during the period dealt with in this Report, and it is now possible to say, with a good deal more certainty than before, what the disease is, in what parts of Great Britain it exists, and what are the problems to be faced in dealing with it by administrative measures."[†]

The useful work referred to is doubtless chiefly that of the Inspectors of the Board, Mr. Malthouse, of the Harper-Adams Agricultural College, and, from the purely scientific side, of Professor Percival at Reading and Professor Johnson in Ireland, whose reports will be found respectively in *Centralblatt für Bakteriologie*, &c., vol. xxv, December, 1909, pp. 440-447, and *Scientific Proc. Roy. Dublin Soc.*, vol. xii, 1909-10, pp. 131-144. Valuable reports have since been made by the Harper-Adams Agricultural College (Newport, Salop), and by Mr. A. S. Horne in the *Journal* of the Royal Horticultural Society (vol. xxxvii, Part II, December, 1911, pp. 362-389), the latter containing references to 82 papers on this disease and the corky disease. Extensive accounts of the distribution of the disease and the administrative measures taken to deal with it will be found in the Reports of the Intelligence Division of the Board of Agriculture and Fisheries.

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[*] The previous articles were published in the issues for September 28, 1912, p. 241, and October 12, 1912, p. 278.

[†] Board of Agriculture and Fisheries, Ann. Rept. Intel. Div., Part II, for the year 1909-10. (Cd. 5,470, 1911.)

The disease (fig. 144) is due to a micro-organism which has been placed by Percival in the genus Synchytrium, with the specific name Synchytrium endobioticum Percival. Briefly it may be said that Percival's researches show that in the warty growth on the diseased Potatos during summer and autumn there are produced (1) brown "resting" sporangia, most of which do not germinate until spring, though similar sporangia are produced all through the summer, and some of them germinate during the same season in which they arise, say, in July and August: these sporangia contain several hundreds of round zoospores; and (2) a second type of sporangia, produced chiefly in May and June: these are "either produced singly or two to five together, forming a sorus of sporangia enclosed within a brown coat," and each sporangium contains hundreds of zoospores similar to those in the "resting" sporangia (see fig. 144, 1 and 2).

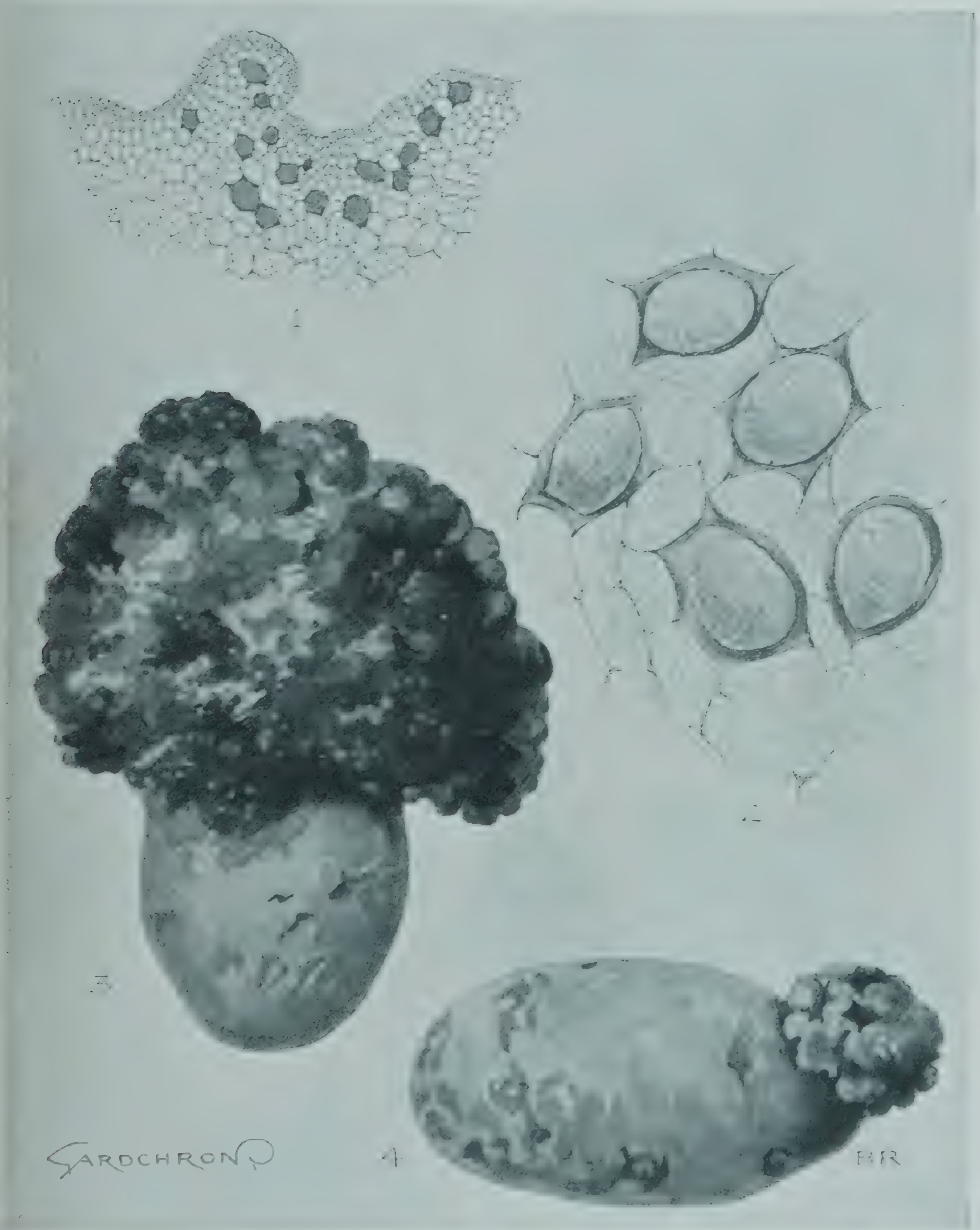

Fig. 144.—WART DISEASE OF POTATOS (SYNCHYTRIUM ENDOBIOTICUM).

1, Section of Potato leaf showing wart disease; 2, resting sporangia, highly magnified.; 3, tuber in an advanced stage of disease; 4, tuber at an early stage of disease.

When the sporangia germinate the zoospores, or swarmers, are actively motile in the soil water, and finally "enter the Potato through the delicate tissue of the buds on the thin rhizomes and in the 'eyes' of the young tubers." According to Johnson the roots of the plants are also attacked. From the time of infection there is very rapid growth of the adjoining tissue, and ugly, irregular warty outgrowths appear, varying in colour from dirty yellow to earthy or brown. The following passage from Percival's paper admirably describes what occurs: "The branch and leaf primordia of the eye grow out irregularly, and the new tissue superficially resembles pieces of the young fasciated inflorescence of a Cauliflower. The new warty growth may be looked upon as a malformed branch system stimulated by the parasite to grow irregularly and before its natural time. When formed on parts near the surface of the soil where light can get at it the growth becomes green, and portions sometimes resemble fleshy leaves. The 'tumours' vary in size; some of them are like small wrinkled Peas, others as large as a hen's egg, and greater than the tubers on which they are found. They may grow out from all the eyes on the tuber, or from only one or two. They also occur upon the thin rhizomes of the plant." The stem and foliage, and even the flower, of the Potato may also be affected, and an excellent photograph of diseased foliage has been published by the Board of Agriculture and Fisheries (fig. 145). Affected tubers are illustrated in fig. 144.

A crop affected by wart disease may be practically ruined, and diseased tubers are unfit for market, and must never be used for seed purposes, nor should any apparently unaffected tubers from a diseased crop be so used. Though serious losses occur on a few farms, the disease has been most troublesome in gardens and allotments where Potatos are grown very frequently. It may be said that the spores remain in the soil for a long period, and that if five crops of Potatos are grown on the same infected soil the land concerned will be ruined for Potato cultivation, whether the crops are grown in successive years or in a rotation of two to four or five years.

Since the presence of wart disease—or its suspected presence—must be at once notified to the proper authorities; and since the measures officially recommended are fully given in Leaflet No. 105, to be obtained free of all charge from the Board of Agriculture and Fisheries, it is not proposed to discuss preventive and remedial treatment here. It may be said, however, that the following procedure should always be adopted: (1) great care should be taken to ensure a supply of clean seed tubers, free from all disease; (2) since some varieties of tubers are resistant to the disease these varieties may be grown in districts where the disease has been prevalent. A list of varieties is given in the leaflet referred to, and some are included in the chart[*], in which the yields of a number of resistant varieties are compared; (3) wherever the disease is suspected the proper authorities (the Board of Agriculture and Fisheries or the County Council) should be immediately notified, badly diseased tubers and haulms should be burnt, and the affected crop generally should be boiled and used for pigs. *H. C. Long.*

NOTICES OF BOOKS.

Heredity and Eugenics.[†]

It was a happy inspiration which led the members of the biological departments of the University of Chicago to institute a course of lectures to the general public on the recent developments of our knowledge of variation, heredity and evolution. The lectures were delivered during the summer of 1911, and their substance, incorporated in a well-illustrated volume of some 300 pages, is now available to a yet wider public.

The title of the volume does not appear to be well chosen, for a rough estimate of its contents shows that about seven-eighths of the pages are devoted to the subject of genetics, and that eugenics is confined to a modest one-eighth or even smaller fraction of the book.

For our part we have no quarrel with this distribution, though we are inclined to think that the eugenist may grumble at the thinness of the fare which is provided specially for his consumption. It may be, of course, that in choosing the title the authors wished to convey a discreet hint that, whereas we possess a substantial and valuable mass of definite knowledge on the subject of genetics, our certain information on eugenics is as yet but a thing of shreds and patches. Whether or no this be the explanation of a title which seems at first sight misleading, it is, in our opinion, a fact that our knowledge of the pure science of genetics is considerable, and our knowledge of the applied science of eugenics is slender, an opinion which is not dispelled by a perusal of Professor Davenport's chapters on the latter subject.

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[*] Prepared from figures obtained at the Harper-Adams Agricultural College.

[†] *Heredity and Eugenics.* Published by the Cambridge University Press (Fetter Lane, London), as agents from the University of Chicago. 10s. net.

We will devote our attention, therefore, to the larger section of the volume, which is concerned with genetics. Notwithstanding the fact that these chapters are the work of four authors, they exhibit a singular uniformity of style. The intricate matters are presented in a clear, straightforward if undistinguished manner, and it is only occasionally that such an expression as "generalise this view-point" mars the somewhat solemn simplicity of the presentation. When we turn to a consideration of the matter as opposed to the style, we confess to a certain sense of difficulty of judgment. We feel that the opinion of a member of the audience before which the lectures were delivered, would be of far greater value than that of one whose professional work lies in the science of genetics. Of this we are quite sure, that an English audience would have found it extraordinarily hard to follow a lecture so difficult as that by Professor Castle on Heredity and Sex, and that it would have been lost altogether in attempting to appreciate the lecture by Professor Tower on the Modification of the Germinal Constitution of Organisms by Experimental Processes. This lecture, or lectures, occupies no fewer than 128 pages of the book, and contains, we imagine, not fewer than 20,000 words. Undoubtedly the Chicago audience was not "gravelled for lack of matter."

If, however, we dismiss from our minds the origin of the book and regard it as a contribution to the literature of genetics, we cannot regret altogether the disproportionate length of Professor Tower's chapter, for it gives us a useful summary of the much discussed Œnotheras of De Vries, as well as of the valuable researches of Tower in inducing by artificial means modifications in beetles. Even with the number of pages at his disposal Professor Tower is only able to devote a paragraph to the classical work of Klebs in inducing modifications in plants.

The opening chapters, which are written by Professor Coulter, give a succinct but excellent account of the biological facts necessary to the layman who is commencing a study of the problems of evolution. They are succeeded by chapters by Professor Castle, who, as it seems to us, does not quite realise the attitude of the majority of mutationists whom he criticises. Professor Castle holds the view that evolution proceeds both by discontinuous and by continuous small variations, and suggests that mutationists insist on the former as the sole method of evolution. We are of opinion, however, that this contention is incorrect. The attitude of the mutationist is, as we conceive it, the logical attitude of asking for experimental proof of an evolution due to accumulation of small variations. He is aware that mutations occur, and he is induced to believe that appropriate analysis will show that cases in which evolution appears to proceed by a series of small steps are in reality examples of mutation.

The contribution by Professor East on Inheritance in Higher Plants and on the Application of Biological Principles to Plant Breeding will prove of most interest to horticulturists. On the latter subject the writer insists on the horticultural importance of first generation hybrids, and cites an example in the production of a more prolific variety of tobacco by inter-crossing Havana and Sumatra types. The former has large leaves and short, stocky habit, the latter is tall and has more but smaller leaves. The first generation of the cross has the large leaves of the one parent together with the larger number of leaves of the other.

As we have suggested already in these pages horticulturists might well make a larger use of the fact of the greater vigour of first generation hybrids. According to Professor East, Tomatos among other crops give good results when this method of breeding is practised with them.

The volume is well printed, and remarkably free from typographic errors, though "protein" for "protean" on p. 308 is unfortunate.

ORCHID NOTES AND GLEANINGS.

THE GLEBE, SEVENOAKS.

Elaborate System of Recording Hybrids.

Although Orchid cultivation with a view to hybridisation was commenced by C. J. Phillips, Esq. (gr. Mr. Bucknell), but a comparatively short time ago, the fact that he has introduced business methods into his operations as a hybridist, though not with a view to profit, renders it possible to say of it that there are features in that collection which might be copied with advantage by others pursuing the same hobby.

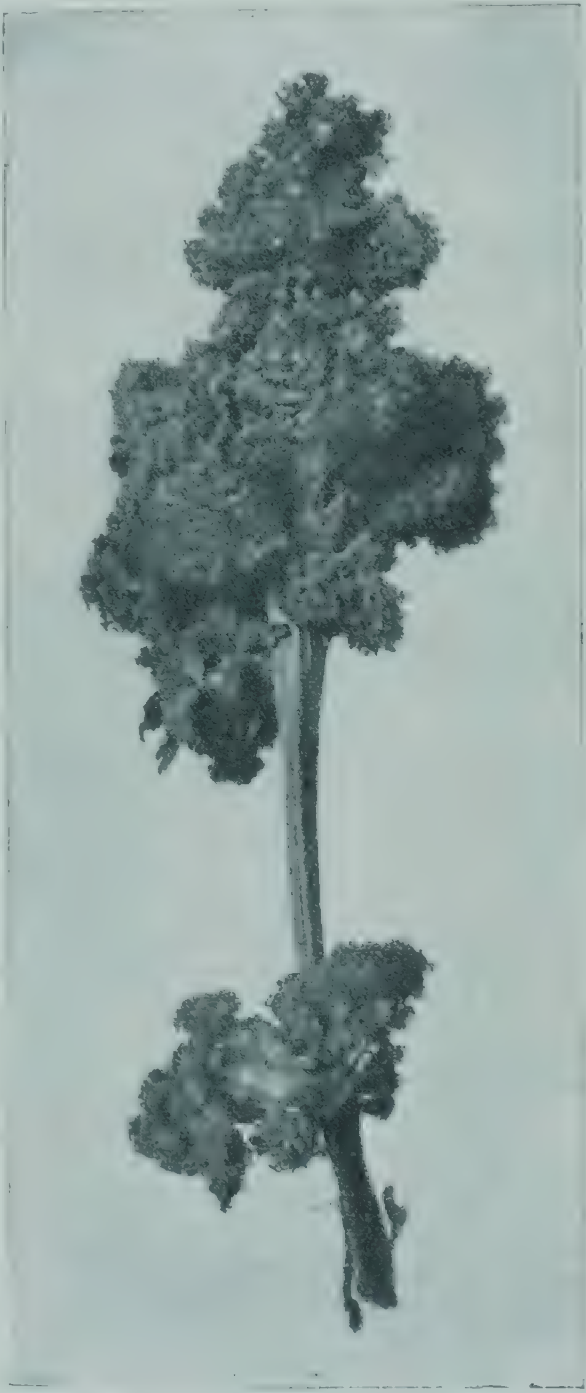

Fig. 145.—wart disease on potato foliage.

(See p. 327.)

By permission of the Controller of H.M. Stationery Office.

First of all, none but the best obtainable varieties and hybrids are acquired for hybridising, and in crossing the probabilities of improvement, both in form and colour, are well considered. In this direction Mr. Phillips is assisted greatly by his method of recording the plants and the work done with them. His records are kept in the library by means of the "Card Register," now largely used in offices. The drawers contain a large number of cards, and a sufficient number is marked with the names of the species and varieties of each genus, which is indicated by the name of the genus on a larger card showing above the collection of species and varieties. On each card the name of the plant, its origin, and other particulars are entered, and a photograph of the flower is attached. Later, when the plant is crossed, the record is placed on the card. If the cross fails, it is also recorded, and if the seeds germinate, the date of the first appearance of the evidence of plant-life is entered, and other particulars as occasions arise. The photographs of the flowers and records of peculiarities in colour are studied, both forms destined for use in crossing being placed side by side, and the probabilities considered. This plan provides a means of definitely estimating the influence of either parent when the seedlings bloom, even though fresh flowers of the parents are not available, and thus many facts equally interesting to science and to floriculture may be determined. Coloured drawings of the choicest varieties are also secured when the plants are in bloom.

In sowing the seeds, Mr. Phillips leaves as little as possible to chance, all being carefully recorded, and each batch isolated as much as possible. The seeding house, which was originally a Melon house, has been carefully adapted, a lower stage of porous red slabs giving the moist surface, and other provision for moisture from the floor by natural evaporation secured. The house is in two divisions. The first is fitted with cases in which the seed-pots are placed, the seeds being sown generally on the convex, muslin-covered wads in the pots now commonly in use, although some Odontoglossums, &c., are sown on the surface of the compost in which other plants are growing. In the cases are tens of thousands of freshly-germinated seedlings varying from the tiny, spherical, green body in the first stage to the leafy forms of various sizes. The seed-pots are so thickly studded with young plants that pricking off into small store pots has to be done continually, or, if left too crowded, the seedlings "damp off," as it is called, and the whole sowing may be lost.

On the stage in the second division are large numbers of young plants of promising crosses, soon to take their places in the houses where they will flower.

The objects are chiefly to raise good, showy hybrids, which shall be advances on those previously flowered; to cross and raise hybrids of sufficiently showy, but widely dissimilar parentage both as regards species and genera; and also occasionally wide crosses of the Orchids of less beauty, but which would give interesting results. Evidences of these objects are numerous in the Orchid houses, many of the plants in which bear fine seed capsules approaching maturity. In the house in which the centre stage is occupied by Cymbidiums are several promising crosses, notably a fine fruit on Cymbidium Tracyanum crossed with a good form of C. Pauwelsii, and C. erythrostylum × Tracyanum. Here, too, Cymbidium Woodhamsianum is sending up a fine spike.

In the large Cattleya house several handsome, white-petalled forms of C. labiata are in bloom, especially good being C. labiata Mrs. E. Ashworth, C. l. glauca, and another fine form near to C. l. Cooksoniæ. Among dark forms of C. labiata the variety King George V is a noble form with richly-coloured flowers, the petals and broad lip being finely fringed. Cattleya Fabia alba and other white-petalled Cattleyas are also in bloom, the most remarkable being C. Rhoda alba (Iris × Hardyana), a very wide departure from any other form. C. Adula "The Glebe variety" is equally remarkable, its petals being very broad and the colouring attractive.

Various unnamed hybrids were in flower, together with fine, dark forms of Lælio-Cattleya Bletchleyensis, L.-C. Geo. Woodhams, which, from its strong growth and richly-coloured flower, should make a good parent; Brasso-Cattleya Ilene, and a very handsome secondary hybrid Brasso-Cattleya were also noted, and several good Cypripediums in bloom, the hybridisation of which, however, it is not intended to follow. Of interesting plants in bloom or set with seed capsules were Lycaste costata, L. hybrida, and a plant of L. Skinneri with three large capsules, the one set with Cymbidium Wigianianum, another with Sophronitis grandiflora, and the third with its own pollen. Whether fertile seeds will result remains to be seen. Anguloa Cliftonii also bears a pod crossed with A. uniflora and Pescatorea Roezlii with Lycaste hybrida, and many other interesting crosses are bearing fruit. Huntleya meleagris is about to bloom, and will again be tried, although its crosses have previously failed, and in one of the houses is a noble plant of Cattleya O'Brieniana alba with nine leading growths.

In the Odontoglossum house is a good selection in bloom, and sturdy plants of most of the best forms of O. crispum, those noted being a superb form of O. c. xanthotes, O. c. Solum, O. c. Luciani, O. c. Carmania, and some grand flowers of the typical white type. Also good forms of O. eximium, O. ardentissimum, and some unnamed hybrids of excellent quality. Odontiodas give their bright-red colours, and have been already used for crossing, and several very wide crosses are rapidly approaching maturity.

The Orchid houses are near the dwelling house on the highest point, and surrounded by four acres of grounds, the sloping sides of which are planted with ornamental trees and herbaceous plants, while an extensive rock-garden has been formed recently.

THE ROSARY.

MY FIRST YEAR AMONG THE ROSES.

Last October I bought 60 Rose trees—climbers, bush and standard—from a well-known rose-grower in East Anglia, and, as I had never had a garden before, my experiences may interest some readers of the *Gardeners' Chronicle*, especially as the trees, except Lady Ashtown, which died owing to having been planted in a dry corner away from rain, have been masses of bloom, in most cases twice.

The soil is sandy and had not been prepared in any way before the arrival of the trees in late October. A day or so before they were delivered I had dug holes, in most cases not larger than would just allow the roots to be pushed in practically anyhow. The standards were staked well at the time of planting, as I found that wind was one of the features of the Hampshire coast, five hundred yards from which my new abode was situated. The oblong plot of ground on which the house is built has a south frontage of 100 feet, and the east end, where most of the trees were planted, is 33 feet. Throughout the winter the bushes and climbers were protected with soil well up above the top of the roots, and the standards with bracken fronds and tow during a short period of frost. In early spring I had two cartloads of horse manure thrown down among the trees and about the same amount of loam on top of the manure, as I considered it possible the rain would wash both the manure and the loam away too soon if they were dug deep into the sandy soil. I pruned the H.P.s and climbers early in March and the rest before April—in all cases hard; and by the middle of May the first blooms appeared on my only Gloire de Dijon. Since then Roses have never been absent, and, as I disbudded the first crop by allowing only one flower on each shoot, the blooms were exceedingly large and well-formed. From the time the first buds began to open liquid manure was used at least once a week, or rather an artificial manure scattered liberally round the trees and well washed in. At first basic slag was the sole artificial employed, while after June other kinds were used. The June crop, after severe disbudding, yielded from 12 to 18 perfectly-formed flowers on the following standards:—Clio, Hugh Dickson, Frau Karl Druschki, Capt. Hayward, Caroline Testout, Mme. Ravary, Gustav Grünerwald, Duke of Teck, White Killarney, Paul Neyron, J. B. Clark, Lyon's Rose, W. A. Richardson, Ben Cant, Baroness Rothschild, Maman Cochet, White Maman Cochet and Mrs. John Laing; while Gruss an Teplitz, Anna Olivier and Mme. Cusin had at least double that number. Of the bush trees Mme. Abel Chatenay, Zéphirine Drouhin, Ulrich Brunner and La Tosca have done well since the middle of June; Mme. Leon Pain, Claudius and Lohengrin have also grown excellent specimens both in summer and autumn. The following standards have over a dozen good buds and blooms—after disbudding—now:—Caroline Testout, Gustav Grünerwald, Mme. Ravary, Gruss an Teplitz (the four trees which have done best); J. B. Clark, Hugh Dickson, Clio, White Killarney (which has quite excelled in flower the ordinary Killarney), W. A. Richardson, White Maman Cochet (better in autumn than spring), Frau Karl Druschki, Anna Olivier and Captain Hayward. General Jacqueminot had a moderate June crop and a poorer autumn one, Prince Arthur was slightly better, and Killarney suffered badly from mildew both in leaf and flower. Others which suffered a little from mildew were General Jacqueminot, Paul Neyron, Lyon and Crimson Rambler. But insects and other pests have done little harm owing to fairly frequent syringings, the cutting off of mildewed growth, and chiefly from careful hand-picking as regards insects. Bessie Brown and Mrs. Theodore Roosevelt have had some large and beautiful flowers, but I would omit them in any future collection. Gloire Lyonnaise, A. Guinoisseau, Elizabeth and Marie Baumann are bushes which have done well, and Mme. A. Carrière has been satisfactory considering the windy position it occupies. Of the climbers Lady Gay has been easily first and Blush Rambler a good second, while the others have satisfied me in the following order:—Lady Waterlow, The Garland, White Dorothy, Crimson Rambler, Pink Rover and Dorothy Perkins (last probably because of a cramped root position). The trees which have so far had the least bloom are Rêve d'Or, Bouquet d'Or and Maréchal Niel, but these have at present some healthy-looking buds. Well-established trees are said to give much better results than first-season trees, but I shall be delighted in any season with anything approaching my first attempt at Rose-growing, in spite of the sandy soil, the careless planting, and the presence of established shrubs growing alternately with the Roses and of a whole host of flowers so crowded that no room exists for others. Of things other than Roses the shrubs (24) are strong and healthy and mostly from 6 to 7 feet; and the Delphiniums, Gladioli, Gaillardias, Lupins, Asters, and hundreds of spring bulbs have done remarkably well. Only the Pæonies failed—at least two out of three, for one was full of flower with the perfume of a Gruss an Teplitz and a Gustav Grünerwald combined. At present the Chrysanthemums are bursting into flower, and promise a bright scene for the late autumn. I am told by some friends that my excellent results with Roses are due to the fact that they enjoyed the wet summer in the sand after the heavy loam of their native East Anglia, and by others that they are due to the doses of artificial manure and the hose. But though these circumstances may have had a great deal to do with the success of the Roses, I cannot but think the chief reason is that I have killed insects by the million and shown no mercy to the finest of weeds. As a beginner in gardening, I have, of course, many things to learn, but one thing I have learnt is that no outdoor occupation—and I was for years the keenest of men at golf, cricket, football and other sports—has afforded me so much pleasure as gardening. So much so, indeed, that my golf sticks have not been touched since the early spring. A neighbouring amateur gardener has stated—and not with very amicable feelings—that I "live" in the garden. Surely no one would wish to live in a more beautiful place. *Weedless, October 10.*

TREES AND SHRUBS.

AUTUMN TINTS OF NORTH AMERICAN TREES.*

It is not the occasional flowers which can be found in the arboretum in the middle of October which chiefly make it interesting at this time, but the autumn condition of the trees and shrubs which flower in the spring or summer. Valuable lessons in decorative gardening can now be learnt here (Arnold Arboretum), for nowhere else are the colours assumed by the fading leaves of hardy trees and shrubs more varied and interesting; no other part of the world can equal the north-eastern United States in the abundance of the fruits produced by these plants, and in New England the most beautiful of all autumn gardens can be made.

The difference between eastern North America and western Europe in the autumn colouring of the native plants of these two regions is now well shown in the arboretum. The leaves of the plants of eastern North America are now for the most part brilliantly coloured or have coloured and fallen, while the leaves of the trees and shrubs of Europe are still green, and in the case of many of these plants the leaves fall and wither with little change of colour. This interesting fact is seen in the American species of the genus Fagus. The American Beech now enlivens the forest with the yellow tints of its leaves, while the leaves of the European Beech are still almost as green as they were at midsummer. The leaves of the American Elm have already fallen, except in the case of vigorous trees which still show the yellow tints of autumn, while the leaves of all forms of European and Asiatic Elms are still fresh and green. The leaves of Viburnum Lantana, the wayfaring tree of Europe, are still dark green or only slightly tinged with red along the margins, while the North American Viburnum Lentago, V. prunifolium, and V. cassinoides are splendid in their autumn dress, which is set off by their dark blue fruits. The contrast between old and new world plants in this respect is even more marked in the Viburnums of the Opulus group. Of these the leaves of the European Viburnum Opulus are still dark green and as fresh as in July; those of V. americanum, the native High-bush Cranberry, so-called, have turned to shades of yellow and red, and are fast falling, while those of V. Sargentii of north-eastern Asia, which were bright orange-red two weeks ago (September), have almost disappeared.

Many of the trees and shrubs of Eastern Asia, however, are as brilliant in colour in autumn as those of related American species. On a few Asiatic plants the autumn foliage is even more beautiful than that of the American plants in the same genus. The collection of Grapes (Vitis) illustrates this fact. This collection, which is now well established on the trellis at the east end of the shrub collection, is one of the most successful groups in the arboretum, and is particularly valuable in showing the decorative value of many of the Grape vines of Eastern America which have not been often cultivated. The autumn leaves of American species turn yellow or remain green until touched by frost, to which they are very sensitive, but on the principal Japanese species, Vitis Coignetiæ, a large and vigorous vine with immense semi-coriaceous leaves, the leaves in the autumn turn brilliant scarlet. They are not always so brilliant here, however, as they are this season, for Vitis Coignetiæ is a plant from the far north, and it is possible that the climate of Eastern Massachusetts is not severe enough to bring out every year all its autumnal beauty. It is, however, one of the handsomest of the Grape vines in the arboretum collection, and for Canada and other cold regions it may be expected to become the most valuable of hardy vines.

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* *Bulletin of Popular Information.* (October.) Published by the Harvard University, U.S.A.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Alpine Plants and Manure (see p. 318).——Dr. Farmer calls attention to a much neglected detail in the cultivation of Alpines, for the general belief is that these plants do not require manure. At The Six Hills Nursery during the last few years we have used artificial manures for many Alpines as a matter of course, and every year we experiment on a few fresh subjects. Down to the present we have not found any plants that are not benefited by this treatment. Plants of Campanula pulla, C. pulloides, C. pusilla varieties, and other dwarf species growing in pans 14 inches in diameter received applications of concentrated manure (Clay's) at the rate of a teaspoonful to a pan every three weeks from the middle of March until the flower-buds were showing. In each case much larger flowers and stouter stems were obtained, but C. pulla gave the most marked result, the flowers being three times the size of those on plants not manured. Varieties of Saxifraga aizoon develop a much larger and stronger inflorescence when fed at the time the flower-spike is first seen in the centre of the rosettes of leaves. Saxifragas of the Kabschia and oppositifolia sections are greatly benefited by an application of manure during their season of most active growth. At the present time we have a frame containing about 8,000 plants of these Saxifragas raised from cuttings inserted in April, and potted early in June in 2½ inch and 1¾ inch pots. In early August, when the roots had grown round the insides of the pots, a 2½ inch pot of fertiliser, mixed with five times its bulk of sand, was given to each 300 plants. The result has been a surprise to everyone who has seen them, the plants being twice the size they would have been without the manure. Other Alpines which show good results from feeding are Gentiana acaulis, G. verna, Onosma echioides, Oxalis enneaphylla, Lithospermum graminifolium, and mossy Saxifragas. Considerable care is necessary in using artificial manure for Alpines, a much smaller quantity being required than for ordinary garden plants. It is best to mix it with dry soil or sand to ensure even distribution. Manure should never be applied to plants that are dry, and care should be taken that no manure is allowed to remain on the foliage; choose a dull day for applying the manure. *C. Davies, Stevenage.*

————The notes by Dr. Farmer on this subject are both interesting and valuable. As he states, "there is obviously room for much more experiment," and much might be done were Alpine gardeners less timorous and conservative. It is quite true that the application of nitrogenous manures to not a few Alpines might result disastrously, as, for instance, with Omphalodes Luciliæ and Onosmas, though even with these it may be, after all, but a question of degree, or the perfect decomposition of the manure, and the nature of the soil in which the subjects were planted. Naturally, too, the method of application would play an important part, and a plant that would benefit by manure as a mulch might suffer from it if intermingled with the soil in which the plant is growing. For mixing with the soil I know of nothing so valuable as two-year-old cow manure, first heated and dried to destroy insect life, and subsequently finely pulverised or sifted. In this way I have used it with considerable success at the rate of one part to eight of Banstead or other loams, securing an increased vitality without that excess of vigour or sappiness so likely to lead to disaster. Farmyard manure of any sort or in any condition is not recommended, nor is it desirable as a mulch to plants growing in the rock-garden. It is too great a temptation to birds, and the plants suffer accordingly. In the soil, however, many Alpine Primulas delight in well-decomposed stable manure. For example, **P.** marginata, all the P. "intermedia" set, **P.** pubescens alba, P. villosa, P. latifolia, and others. Nearly 25 years ago some plants of P. nivalis (P. pubescens alba) from Mr. Smith, Newry, passed through my hands. Their roots bore such evidences of manure that I wrote enquiring if it was usual to employ manure in their cultivation at Newry, and got the characteristic reply that they were found to be "just as happy on the manure heap as anywhere else." Primula Sieboldii is quite a glutton for manure, and exhibits greatly-increased colour beauty and vigour without any disadvantage. It is 30 or more years since I began experiments with artificial manures for Alpine plants, always, however, incorporated with the soil. In this way I have employed certain proprietary manures, also bone-meal, and superphosphate of lime. The patent manures were chiefly used for Primulas, and at the rate of a levelled 48 potful to a barrowful of soil. Ourisia coccinea and many other plants delighted in it. I was less satisfied with this mixture for the rarer Saxifrages, and so adopted the bone-meal and superphosphate, the first-named applied at a similar strength proving the best. My most disastrous experiment, however, was the result of using the burnt ashes from a large fire of weeds and wood rubbish with the soil for these same plants. The mixture appeared ideal, but proved a complete poison. In less than a week some of the plants were black in the face, and an examination of the root-fibres revealed that they also were black. Quickly realising what had happened, I washed the plants in water to free them from the soil. One 8-inch potful to 1½ bushel of soil was about the rate at which it was used. To-day I record it against myself as an error of judgment, wrong in practice, unsound in principle, since I had no means of determining its strength. Brought into immediate contact with the roots, the salts in solution constituted a fatal dose. Had the material been applied as a mulch, with not less than eight times its bulk of soil, it might have proved beneficial. Obviously, potash in a certain form and of known strength is good for Alpines, as witness Dr. Farmer's experience, whilst potash and ammonia combined in wood ash, and of unknown strength, are dangerous. Surface applications are the only means of manuring rock-gardens, and, that being so, there is no longer need for starving them on the old, orthodox lines. *E. H. Jenkins.*

Flowers and Insects.—In a short paragraph in the *Gardeners' Chronicle* for October 26, p. 317, it is said that it might be inferred from Mr. Plateau's observations "that insects require other signals than those provided by colour before they will deign to visit flowers." But many flowers without any scent, at least to our sense of smell, are visited, such as Campanulas, Epilobiums, as well as the white Convolvulus; but the following incident proves that the white butterfly, at least, is attracted by colour where scent was out of the question. Walking down High Holborn, I saw a white butterfly hovering in front of a shop window. I crossed the road to watch it, and found it trying to settle on the pane immediately in front of some large china jars covered with painted flowers. Finding it impossible to get at them, it flew away. *George Henslow.*

Blue Tits and Sweet Peas (see p. 318).—May I protest against the act of *W. A. M.* in shooting a seagull for the purpose of using its corpse to scare tits from his Sweet Peas? Apart from the fact that gulls are most useful and indispensable birds for keeping our sea coasts free from decaying refuse, and also for destroying numbers of destructive insects and other small fry on the fields, *W. A. M.* is not justified in killing them for *any* purpose, let alone such an unworthy one. Neither is he justified in killing the tits, which are also of great use in destroying insects. His Sweet Peas can be protected in a variety of other and less drastic ways. If he has a large stretch of plants, why does he not wire or net the whole patch in with 7-foot posts at the corners, and here and there between for strengthening purposes, the net or wire netting being stretched on wires strung from post to post? Raspberries and other fruits are protected in this eminently sensible manner, but if it does not appeal to *W. A. M.* and other readers in difficulties, let me recommend them to send a shilling to the Royal Society for the Protection of Birds, 23, Queen Anne's Gate, London, S.W., for one of their booklets on *How to Protect Grain, Fruit, &c., without Destruction of Bird-life,"* which will give a wealth of practical hints on the matter. *C. Nicholson, Hale End, Chingford.*

On Japanese Gardens (see p. 312).—May I a little embroider upon Canon Ellacombe's theme? Not that in any word I should venture to disagree with what he, in Japanese phrase, augustly says. But just as there was at one time, I think, a rather silly craze among the ignorant for everything Japanese, in the garden or out of it, so now there seems to me a danger of swinging back too far into the other extreme, to a crude contempt for all the really valuable lessons that the Japanese gardeners have to teach us. I claim that our debt to Japan is far more than that of a few "avadavats and Indian crackers" in the form of Magnolias and Pæonies; that, in fact, if our hearts be humble and our eyes rightly open, Japan can be a perfect Uncle Oliver to us in the precious gifts of learning. We have been too long blinded by this nonsense about imitation. So long as we try to "imitate" Japanese gardens so long shall we be utterly alien from the good lessons of Japanese gardening. The way of imitation is death: by wise adaptation goes the road of learning. The horrors that one has seen at home by way of "Japanese gardens"! The ridiculous mudpies at the White City that the Japanese must have chuckled over grimly to themselves as they erected them for the confiding admiration of us poor innocents: the devious compilations of stepping-stones and Bamboos; the "Japanese" gardens that consist of a rustic "summer-house," a Hydrangea, and a bronze stork! No wonder there was a reaction against such rubbish. Of course, there cannot be a *Japanese* garden without a Japanese house for it to fit. (But, oh! Canon Ellacombe, I hanker still! If you had been with me in my house in Tokyo, where the winter is far worse than mine up here, and quite Polar to Bitton, you would not be so sure as to the foolishness of having some such delicious and delicate structure, with its garden, tucked away in some sheltered corner of this country, well out of sight of churches, and houses, and railways, and gasworks. That would be my dream if I were rich; but, there, it is only a dream, and beside the present point.) Well, granting the generic absurdity of Japanese houses and gardens in our country, I still think two great injustices are done to the Japanese principle nowadays. For one thing—and this is merely a matter of taste—as people may once have overvalued (I cannot think it possible) the beauty of a Japanese garden, so now, it seems to me, they tend far more grotesquely to undervalue it. There are a hundred thousand different forms of beauty: education means the gradual widening of the spiritual eye to embrace them all. We grow from Dahlias to Delphiniums: from "bedding" to Bitton. The beauty of a Japanese garden is a step to take, and it is a real step, quite as far apart from the vulgar and uneducated Japanolatry of some years since as from the cold contempt into which more recent taste seems to be reacting. Can it really be possible, though, that Lord Redesdale has nowhere any warmer word? Alas, for me, then! I cannot be cold to any form of beauty: "nihil decorum a me alienum puto"; and I can no other, like Luther at Augsburg, than declare that some of the great Japanese gardens have seemed to me of a beauty so exquisite and overpowering and perfect that they took my breath away, and still hold my spirit captive, hardened as I am by now to even such splendours as Bitton, and Levens, and Belvoir, and Myddleton House. Of course, they are harmonies compiled from Nature: that is, the most rigidly artificial of compositions, not servile imitations, but embroideries on a theme (like this note of mine on the Canon's). But they *are* beautiful—overwhelmingly. I declare it again, with the more confidence that I remember how all, surely, who have seen the *real* thing—as distinct from stupid or impudent European mistranslations—are on my side with all their hearts. Nor is their appeal made to the educated eye alone: I am as the beasts that perish with regard to the iron rules, the profound symbolism, the countless restrictions and prescriptions that make the grammar of Japanese art: yet on me, as on every other uninstructed globe-trotter, the beauty of a good Japanese garden imposes itself irresistibly at a glance, while, as for the Koraku-En, it will haunt me on my death-bed, and I shall think I am in Heaven. So, let those who have not seen Japanese gardens trust me who have. They *are* beautiful, and with a beauty that excludes no other form of beauty from one's affections. And my second point is this: without imitating, or doing anything so silly, we can, by studying the spirit of the Japanese garden, glean a hundred invaluable lessons. The Canon rightly speaks of our rock-gardens and moraines. It is precisely there that a wise love of Japanese gardens and an understanding of their harmonies can most conspicuously help us with our own. Never may one dream, indeed, of copying a real Japanese garden, or of possessing a sham one made of storks and botrytic Lilies; but look at the true thing, and see how perfect the scale, how precise the proportion, how every rock holds exactly the right position, how every tree and bush is placed at the one inevitable point in a faultless composition, until at the end, so final and absolute is the effect of the whole, that the rash beholder is led into overlooking the art, the skill, the perception and forethought that have gone to make up what looks so simple a picture because it is so flawless, and thus, in the ignorance of his heart, begins to talk about "imitations" of Nature. Poor, dear Nature, if only she could do as well as her copyists! This sort of thing is not done at once: it takes some thousands of years to acquire that expert and unerring artistic sense and certainty of touch which enables a Chinese or a Japanese easily, and as if by instinct, to get every line or curve into the exact place and relation to each other that the preconceived composition requires. We have been building rock-gardens for some fifty to a hundred years. When I think of the shapeless jumbles that even now prevail, the amorphous stone-pies, potato-ridges of rock, dogs' graves, raw wildernesses of chaos and cement monoliths that we nowadays employ to dignify our Alpines, my whole grateful soul revolts against the scorn with which the uninstructed turn upon the Japanese rock-garden, so dignified, harmonious, concentrated, simple, and serene. Our Alpines would not suffer from being grown in such a composition: is it not possible for us to steer a middle course between fulsome Japanolatory and our native notion that "anything will do": and without trying (goodness knows it would be in vain) to repeat Oriental work in the West, to understand that in the East they have a sense of scale, proportion, composition, and harmony in their gardens (as in everything else) such as it would not hurt us to study also in our gardens and in our lives; but, above all and most especially, for the benefit of those unguided stone heaps or quarries which at present are considered good enough for the treasures of the hills? Let us have moraines and everything; but why is not our rockwork to be a beautiful picture no less than its plants—a careful composition? And this it can never be until we learn to have more respect for the profound wisdom underlying the elaborate gardening ritual of China and Japan. *Reginald Farrer.*

The Narcissus Fly (Merodon equestris) (see pp. 278, 318).—The article by Mr. Bliss is calculated to help those who are anxious to stamp out this pest, and I recommend, especially, raisers of new varieties to carefully read his letter. The retardation in the egg state causing delay in the development of the larvæ is a very important matter that no one hitherto has published any observations on. I now wish to point out my theory in connection with the two sizes of the grubs referred to by Mr. Bliss. I have in my possession a larval grub found in a bulb turned up on its showing defective foliage at the end of May, before the fly had deposited eggs that could possibly have developed so far. This larva I took out of the bulb, which was small, full of refuse, and evidently not capable of maintaining the larva until it metamorphosed. I therefore split another bulb, and fixed the grub therein. I have just examined this grub; it is very much alive, has burrowed into the dry bulb, and is still in the larval state. This fact is in agreement with Mr. Bliss's letter where he refers to the small and larger grubs found by him in his search. I think, therefore, I am right in assuming the two-years (approximately) larval life of the grub. Mr. Long in his letter on p. 318 recommends three processes for destruction: 1, Lifting early and drying to kill; 2. spraying to prevent the female laying eggs on foliage; and 3, steeping the bulbs in water for 24 hours; but neither method is approved by experience. The grub is capable of living in the dried bulb; the female does not eat the leaves (even if the spraying could get to the neck of the bulb, which I doubt), therefore the eggs are not affected, and previous writers who have tried the dipping say *Don't!* I would recommend: 1, The use of a proper net to catch the fly; 2, the close examination of all lifted bulbs; 3, careful search round all foliage showing injury in March and April; 4, a watch early on cold mornings for the fly in a semi-torpid state on hedges, Box borders, and along the Daffodil beds. I caught with my net in 1911 184 flies, of which number 47 were females and 127 males; in 1912, 66 females and 38 males. *Geo. Stocks, Doncaster.*

Origin of Perpetual-flowering Carnations. – Surely Mr. Cook (see p. 296) knows that almost every writer on Carnations, including that greatest American authority, Mr. Chas. Willis-Ward, admits that the American Perpetual Carnation came from the French Remontant Carnation in the first place. M. Dalmais, of Lyons, is generally credited with raising the first of these about the year 1840. However, it is certain that the French Remontant Carnation is the parent of all the Anglo-Saxon varieties of Perpetual-flowering Carnations, and the Americans themselves readily admit this. Regarding the raiser of the Perpetual Malmaison Princess Juliana, if Mr. Cook only took the trouble to look at Messrs. Low & Co.'s breeding book, he would see that I crossed Malmaison Yaller Gal on to Mrs. Lawson in 1905, and Princess Juliana was a progeny entered as H.M. 22. Mr. Hopper left the service of Messrs. Low & Co. in 1904, *Montagu C. Allwood.*

Winter-flowering Begonias at Hale.—On the occasion of a recent visit to Messrs. Clibran's, at Hale, Cheshire, I saw thousands of winter-flowering Begonias in bloom. Some of the more conspicuous varieties comprised Clibran's Pink, Clibran's Triumph (salmon-red), Beauty of Hale (salmon-rose), Altrincham Pink (an excellent variety of erect habit), Perfection (rosy-red, very free), and Progress and Apricot, these last two varieties exhibiting quite new shades of orange. Among the novelties of the present season were flowers of beautiful shades in single, semi-double and double forms. The condition of the plants was excellent, and they well illustrated the value of this new type of Begonia for winter-flowering. *R. C. B.*

Moraine Gardens.—I read with interest Mr. Arnott's note on the moraine garden (see p. 296). For many years I have maintained that the culture of Alpines in Sphagnum-moss is only suitable for dry climates, and is not to be recommended for English gardens. Concerning the moraine itself, if it is not watered from below it is not a moraine garden; neither should the name be used in the case of a sand or gravel garden. *H. Correvon.*

Germination of Seeds.—So many letters have appeared in the *Gardeners' Chronicle* lately relating to the difficulty of germinating certain seeds that I feel impelled to propound my own very simple remedy, which I term "the miniature bush fire method." Where all hard-shelled seeds are concerned, whether Leguminous or Junipers or Macrozamia, I have always found it answer. Take the pot or pan in which it is intended to sow the seed and fill it with earth having a medium amount of moisture. Sow the seed and sift a little more earth on top; then take the pot out-of-doors and get a handful of Hay or Ferns sufficient to cover the pot as if it were buried in a little haycock. Set fire to it and let the Hay burn out. When the pot is sufficiently cool take it into the hot-house and give it a shower of rain from an ordinary watering pot with a fine rose. Wait 10 days, and if there are no signs of germination, repeat the operation; but it is a hundred to one that it will not have to be repeated. *Caution.*—Take care not to burn the labels; the pot may crack if the soil is too wet. I first thought of this method after seeing seedlings come up in millions (Acacias chiefly) after a bush fire in Australia which had been shortly followed by a shower of rain. *A. A. Dorrien Smith, Capt., Kingshill, Berkhamsted.*

A Gloucestershire Wild Garden.—The interesting account of a Gloucestershire wild garden (see p. 309) should serve a good purpose by encouraging the cultivation of more of our native plants in gardens. As indicated in the article, these plants frequently grow more vigorously and form more attractive subjects under cultivation than when struggling for existence in a wild state. The native flora includes some really beautiful flowers that are worthy of a place in any rock-garden, and were they expensive and more difficult to procure, patrons of gardening would be eager to add them to their collections. Others are more suitable for the wild garden, or the stream side, and, when suitably placed, they form delightful features. *J. Gardner, Batsford.*

Apple Bramley's Seedling. — *Southern Grower* complains (see p. 278) of the inferior quality of his Bramley's Seedling Apples this season. I am forwarding half-a-dozen fruits of this variety. They represent an average sample gathered from a tree 14 years old. You will notice that their colour is very good. Our Apples are grafted on the free stock, and growth is vigorous, but they produce fruits of a good uniform marketable size. The soil is shallow, and rests on a silt of the old river bed; it is naturally very warm. The trees receive a liberal dressing of artificial and bone manure each season, and in the winter we dress the ground freely with soot, which is a very cheap winter dressing. Trees on the Paradise stock produce larger and flatter fruits, and bear in a younger stage than those in the free stock. *Stephen Castle, Walpole St. Andrews, Wisbech.* [The fruits received from our correspondent were of satisfactory size and extremely good colour for the variety.—Eds.]

FOREIGN CORRESPONDENCE.

COLORATION OF FOLIAGE.

Many interesting ideas and some facts have come to light on the coloration of foliage and fruit in the recent correspondence in the pages of the *Gardeners' Chronicle.* Last year was phenomenal in Holland; the foliage coloured exquisitely, for there were no very early and severe frosts to mar the effects.

This year coloration had hardly begun when several sharp frosts occurred; the leaves of the Horse Chestnut were frozen in one night and fell immediately. The leaves of Juglans (Walnut) fell before showing any signs of colouring or ripening.

The Tulip tree (Liriodendron) had no time to assume that hue of golden glory which makes them such a picture in the light of the setting sun. The first frost caused the leaves to curl, and the last to turn brown, and now, with wind and rain, all the trees are bare.

The Oaks and Beeches, despite a bareness in exposed parts, are now a wealth of old gold colour. Previous to the frosts of October 3 and 4 the foliage was green, or hardening into a dull brown, and it seems incredible with the cold and damp atmosphere that has prevailed such colouring could be possible.

Of the American Oaks, Quercus rubra makes the finest blaze on young trees, and when of low growth the colour of the enormous leaves seems to be even more intense. The large trees of Q. rubra rarely develop autumn tints, the leaves turning at once a dull brown and falling, whereas the old specimens of Q. palustris and Q. coccinea colour gloriously. Perhaps the deepest hue of all is to be found in the leaves of Q. sessiliflora rubicunda, the uprightness and the short branches giving the tree a pillar-like character amongst other trees.

Last year Q. macranthera was a mass of golden-brown; this year every leaf has fallen prematurely. Sheltered specimens of Liquidambar are slowly assuming hues in which a purplish-metallic shade is predominant.

Perhaps the richest colouring of all just now is to be found in the masses of hardy Azaleas, but the glory is only for a briefness we dare not utter—a gale or a frost and autumn's fleeting, fiery charms will be no more. *H. Rabjohn, Twickel Gardens, Holland.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to Lady NUNBURNHOLME, Warter Priory, Yorkshire.

ROOT-PRUNING AND PLANTING.—Seldom has the weather of autumn been more favourable for carrying out these operations, for even the heaviest soils have been sufficiently dry to permit of the work being done. Every effort should be made to complete these ground operations. Trees that are root-pruned and planted early under favourable conditions should give little or no trouble next season; whereas those planted later in unfavourable weather cannot be exexpected to be so satisfactory. Although the trees are not yet defoliated, the wood is fairly well matured, and they are in the best possible condition for lifting and planting. In selecting a new site for an orchard choose a fairly exposed position on a deep and well-drained soil, a partly-shaded position will also give good results. It is most important that the soil be well drained and the holes made large enough to accommodate the roots.

WALL TREES.—The planting of wall trees should receive early attention, as the sooner the work is completed the better will be the results next season. Reserve trees should always be at command to replace useless or worn-out specimens. Borders at the foot of south walls are generally well drained, and it is equally important that those in other aspects, including north borders, are also perfect in this respect. Many varieties of Cherries, Plums and Pears will succeed on north walls, and the fruits maturing later extend the season. The old soil should always be removed when replanting wall trees and replaced with fresh compost. A little bonemeal may be used with advantage where Peaches and Nectarines are planted, but manure of any other kind should be avoided. Dessert Cherries are amongst the first of the stone fruits to require attention. Young trees that are making too much growth should be lifted or partly lifted and replanted, adding lime rubble and wood ashes to the soil, but not rich loam. In planting Cherries of all kinds mix a liberal quantity of lime rubble with the soil and make the ground thoroughly firm, but be careful that the planting is done in dry weather. Apricots delight in a well-drained, calcareous soil, and should only be planted against south or west walls. The trees require plenty of water when in active growth. Young, healthy specimens do best when not disturbed, although the roots may be pruned moderately in their early stages. Old trees of Apricot resent severe root pruning or any other check after they attain a certain age, the effects of which are seen in gumming.

THE ORCHID HOUSES.

By J. COLLIER, Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey.

DISA.—Plants of D. grandiflora, D. racemosa, D. langleyensis, D. kewensis, D. Veitchii, and others are developing shoots from the bases of the previous year's growths, and should be given attention at the roots. Specimens that have become pot-bound and formed crowded masses may be turned out of their receptacles and divided. All the old soil should be shaken from the roots and the portions made up into specimens again. In doing this arrange growths of a uniform size, the object being to have the portions in flower at the same time. If desired the stronger shoots may be potted singly in 4-inch pots. When these growths have rooted freely they may be shifted into pots 7 inches in diameter. Fill each pot one-third its depth with clean crocks for drainage, place a layer of Sphagnum-moss over the crocks, and fill nearly level to the rim with the compost, which should consist of two-thirds fibrous peat and Sphagnum-moss, one-third fibrous loam from which all the small particles of soil have been removed, and a liberal quantity of silver sand and crushed crocks. The roots are very brittle and easily broken, therefore extra care should be taken not to injure them. The plants should be grown in the cooler part of the Odontoglossum house or in a moist, shady position in a cool greenhouse; they should receive plenty of air at all times. The surface of the soil should be kept just damp until the roots are growing actively, when the supply of moisture should be increased gradually. At that stage the plants will be benefited by living heads of Sphagnum-moss placed on the surface of the compost. They should be sprayed overhead during each fine morning, and the surroundings kept moist at all times. Fumigate the house occasionally to prevent thrips infesting the plants.

DENDROBIUM.—The majority of plants of D. Phalænopsis Schröderianum and its varieties are in full bloom, and the flowers may be kept in a good condition for several weeks if a dry atmosphere and intermediate temperature are maintained. The flowering must not be allowed to exhaust the energies of the plants, therefore as soon as the pseudo-bulbs show the least signs of shrivelling the spikes should be removed. After the plants have passed out of flower, they should be placed near to the roof-glass in a house where the temperature does not fall below 60°. During the long season of rest the roots should be afforded only sufficient water to keep the pseudo-bulbs plump. Plants of Dendrobium formosum and its variety giganteum should, after passing out of flower, receive similar treatment to that recommended for D. Phalænopsis. Evergreen Dendrobiums, such as D. densiflorum, D. thrysiflorum, D. sauvissimum, and D. chrysotoxum, should as the season's growth is completed, be grown in an intermediate temperature and afforded only sufficient water at the roots to keep the leaves fresh and the pseudo-bulbs plump. If these plants are over-watered or subjected to a low temperature during the resting season the foliage becomes spotted and unsightly.

PLEIONE.—Plants of P. Wallichiana, P. præcox, P. maculata, P. lagenaria, with pseudobulbs matured and bare of leaves, should be placed in a moderately dry position in an intermediate temperature to flower. When watering the roots avoid wetting the buds or flowers, as it may cause them to damp off. P. Hookeriana and P. humilis bloom at a later period, and should be still kept in a cool house, affording them just sufficient water to keep the pseudobulbs from shrivelling.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

FREESIA AND LACHENALIA.—The earliest batches of these plants are pushing up their growths, and the pots should be placed quite close to the roof-glass in a frame, or on a shelf in a cold greenhouse. If Freesias are required in bloom by Christmas, they should be placed in a slightly-heated frame or house, but no attempt should be made to force them into growth, or the shoots will be weak and the flowers poor.

ROSES.—If it is proposed to supplement the stock of Roses in pots, the present is a good time for potting suitable varieties from the beds. The plants should be potted as quickly as possible after they are lifted, using a good rich compost and plunging them as advised for those already established. The stronger roots may be pruned a little, and the tops of the stronger-growing varieties shortened a trifle. Général Jacqueminot, Captain Hayward, Frau Karl Druschki, Mrs. J. Laing, and Mrs. R. G. S. Crawford are all good H.P.s that may be relied upon to bloom well. Others that are suitable include Mrs. W. J. Grant, Kaiserin Augusta Victoria, Lady Hillingdon, Joseph Lowe, Mme. Maurice de Luze, Mme. Abel Chatenay, Sunburst, Liberty and Richmond. The following climbers may also be lifted and flowered successfully in pots, if the latter are plunged till the plants get well rooted:—Dorothy Perkins, Hiawatha, Excelsa, Electra, Goldfinch, Tausendschön, Paradise, and Blush Rambler.

SHRUBS FOR FORCING.—The present is a suitable time to pot the various shrubs intended for forcing during the early spring. Such plants as Azalea sinensis, Lilacs in variety, Viburnum, Staphylea, Prunus of sorts, Philadelphus, Wistaria, and Laburnum may all be employed for the purpose. The flowers will provide a valuable supply of cut blooms, whilst the plants will furnish excellent specimens for decorating the greenhouse and conservatory. Many of the plants may be forced from year to year, provided they are given suitable treatment after they have flowered. They need proper attention all through the summer, and this applies especially to Wistaria and Laburnum. It will be found that these pot plants, with their short, slender growths, furnish a larger quantity of blossom than the ordinary shrubs in the open. Lilacs are much more satisfactory when they have been grown in pots for a season before forcing; specimens lifted from the ground, potted and forced the same season will often fail to produce satisfactory blooms. Plants of Azalea sinensis may be allowed to remain in pots after they have bloomed, but the best plan is to plant them out before lifting them again for forcing the following autumn. But this plant can be purchased very cheaply, and a fresh stock every season is a great advantage. Plants of Cerasus, Deutzia, Staphylea colchica, Prunus, Philadelphus, shrubby Spiræas, and Viburnums may all be lifted from the open ground, potted and forced into bloom during the coming winter and spring. The potting should be done as early as possible, and the plants plunged in a bed of ashes until they are required. Both Cytisus Andréanus and C. præcox are useful for flowering late in the spring. The plants, however, should be established in pots before they are forced, as specimens lifted from the open receive too great a check through the greater portion of the soil becoming detached from the roots. Hamamelis arborea (The Witch Hazel) makes a very pretty object when in bloom, and may also be forced in pots. Specimens 3 or 4 feet in height arranged with other forced shrubs are very effective. Most of the plants I have enumerated may be grown as standards, in which form they are very useful for standing in large vases in the dwelling-house, or for serving as foils amongst the other shrubs in the conservatory or winter garden. Several of the deciduous Magnolias may be grown as pot plants. They form striking objects when in bloom, and show to advantage arranged with Bamboos, especially the elegant Bambusa gracilis. Dielytra spectabilis is a very decorative plant when in flower, and may be included in the list of forcing plants. Its cultivation is extremely easy. The herbaceous Spiræas may also be potted now, and, although these are perhaps not so decorative as some of the other kinds I have enumerated, they are hardy and extremely useful where large numbers of pot plants are required. For very early flowering, it is best to purchase retarded crowns, as these bloom sooner than plants lifted from the ground.

ACHIMENES.—These plants have also completed their growth, and the corms may either remain in the pots or the soil be shaken from the roots, and the corms stored in pans or dry sand. The pots should be placed on their sides in a cool house to prevent water reaching the soil.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Hertfordshire.

SEAKALE.—The plants grown for providing crowns for forcing have completed their growth, and the first opportunity that presents itself should be taken of lifting the whole of the crop and storing the crowns in a convenient place for drawing upon as occasion requires. If no better position can be found for them, they may be neatly laid in under a wall and well covered with sand or ashes. The rootlets should first be trimmed off and put into baskets, and, during inclement weather, made into sets or thongs for planting next spring. These rootlets should be cut into lengths 5 or 6 inches long; the upper cut, which will eventually form the crown, must be cut straight across, and the lower one a little on the slant. Tie up the prepared root-cuttings in bundles of 25 and store them in a cool place. Towards next February they may be introduced to a gentle heat and moisture to start into growth, thoroughly well hardening them off afterwards before planting out-of-doors.

CAULIFLOWERS.—Examine the Cauliflower break frequently and protect the curd of any plants coming into use by tying up the leaves and bending over a few of the longer ones. Before the month gets too far advanced, the mature out-of-doors, should be lifted and laid in cold frames, where they may receive adequate protection from frost. After transplantation, give the plants a good watering in and keep the frame closed for a day or two. Following this period, air must be admitted on every favourable opportunity and the yellow leaves removed as often as they are observed. Plants of Cauliflower that were left for seed should now be lifted from the open ground and suspended in a cool, dry, and airy structure to complete their ripening.

Chinese Artichokes.—These are not commonly seen in gardens; nevertheless, they are delicious eating, and their use provides extra variety during winter. The crop may now be lifted and stored for use as required. Every tuber that can be found should be lifted; otherwise they will form a source of continual trouble next season, as every particle is capable of producing growth. These little Artichokes make a very attractive dish in a miscellaneous collection at the exhibitions, and, when wanted for that purpose, are best left in the ground, as lifting and storing, though carefully done, tend to destroy that fresh appearance so essential for exhibition.

Horseradish. — This crop is frequently neglected in private gardens, yet good, straight roots are certainly preferable to small, stunted specimens. The ground should be suitably enriched, and a system of transplanting each year followed, after well digging or trenching, in order to get a deep-rooting medium. Not only does lifting and replanting improve the quality of the roots, but if the largest are placed in soil for use as required this is preferable to hunting about with a fork trying to find the best. The plantation should be divided into two lots, and the older half lifted each year. Replanting should be carried out by using the straightest of the roots not needed for consumption, planting them at a foot apart and burying the crowns some 5 or 6 inches below the surface. Planting is best done by means of a long dibber.

Salsify and Scorzonera. — These two vegetables require much the same treatment for their successful culture. The crops may be lifted now and stored in sand for use as required during the winter. Some growers leave a portion of the Salsify crop in the ground for the production of chards in the spring, which are the young flower-stems used in quite a young state and cooked similarly to Asparagus.

Onions.—Examine the bulbs in the store at frequent intervals, and throw out any that are likely to decay. If left too thickly, these are more than likely to go wrong, and an occasional turning will not do any harm. The large bulbs obtained from spring sowing will prove extremely useful for boiling. Handle them as little as possible, and place them closely together, but not touching each other.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Strawberries in Pots.—The plants at this date must be protected from frost, and there are several methods which may be adopted. Probably the best plan is to plunge the pots in leaves in a cold frame. The plants may be protected by lights from heavy rains and snow, but during times of mild, dry weather the lights should be removed. Where lights are not available there is no better method than to plunge the pots up to their rims in coal-ashes. This involves a considerable amount of labour, but if it is done thoroughly few pots will be broken by the frost. Bracken is often recommended for protecting Strawberries, and this is an excellent material for the purpose where the plants can have the protection of glass to ward off rains. But the use of bracken out-of-doors is not to be recommended because it decays quickly when exposed to the weather. Bracken is very useful for strewing over the plants during very severe frost, but it must be kept dry. The plants intended for very early forcing may be left out-of-doors till severe frost sets in. This year the crowns are not so well ripened as usual, and the longer the plants are left in their summer quarters the better they will respond to forcing. All weeds and surplus crowns should be removed

detected on the leaves, the plants should be laid on their sides and syringed thoroughly with a strong mixture of soft soap and sulphur.

Forcing Strawberries.—Unless a garden is equipped with ample convenience the forcing of Strawberries should be delayed till the New Year, for unless suitable houses are available the chances of success will be very small. Neither is it desirable to attempt to obtain ripe Strawberries at a very early date unless they are specially needed. To obtain ripe berries early in March a batch of plants should be placed indoors about the end of November or early in December. The most forward and best ripened plants should be selected for the earliest batches, and those having single crowns are most likely to throw up strong flower-spikes. All the plants should be syringed well with an insecticide before they are placed indoors as a precaution against red spider and aphis. Examine the drainage of each pot, and make sure that it is in perfect order. A shallow, heated pit is an excellent structure for starting the plants into growth. A hot-bed which will furnish just sufficient heat to excite the roots into growth should be made. This should be placed quite close to the glass, so that the plants may receive as much light as possible. For the first two or three weeks a temperature of about 45° will be ample; it will be wise to use artificial heat very carefully till the flower-spikes are developing. Spray the plants on fine mornings when forcing has commenced, and keep the atmosphere moist by damping the walls and paths as often as is deemed necessary. Water the roots with extreme care till the plants are in active growth.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Naturalising Bulbs.—The planting of bulbs in the semi-wild garden, along woodland walks, in grass land, orchards and other unconventional places is now largely practised, for in such situations they produce charming effects. No time should be lost in getting the bulbs planted, as after this time of the year they deteriorate out of the ground. The character of the surroundings should determine the style of planting, but the plants should never be arranged in straight lines, formal clumps, or at regular intervals. If space permits, the bulbs should be thrown carelessly along the ground in drifts or waves, and good effects are obtained when masses or drifts of certain kinds, if not of one variety, are kept distinct. Many of the most suitable varieties of Daffodils for this purpose may be purchased very cheaply, and by using these liberally, a striking effect may be produced the first season. Princeps, Golden Spur, Sir Watkin, Grandis, Emperor, Empress, Horsefieldii, Mrs. Langtry, Barri Conspicuus, and varieties of the Poeticus section are amongst the most suitable for this system of planting. Hyacinths and Tulips do not lend themselves for informal planting so well as Daffodils, but Snowdrops, Winter Aconites, Scillas, Muscari, Alliums, Wood Hyacinths, Crocuses and the lovely Chionodoxas are all especially adapted for naturalising, and should be planted freely.

Bulbs in Beds and Borders.—The flower-beds and borders having been dug deeply when the summer bedding plants were removed, all kinds of bulbs should be planted without delay. Hyacinths and Tulips are usually preferred in the flower garden, as these give brighter effects than Daffodils, which look best when growing in grass. New or special varieties of Daffodils may be grown in small beds or borders in the reserve garden, where they can receive extra attention. It is advisable to keep the different species in separate beds, but beautiful combinations of colour may be obtained by planting varieties of Hyacinths and Tulips in distinct colours. White Hyacinths may be set thinly over a ground of Myosotis or Aubrietia, and the brighter-coloured Hyacinths amongst white Arabis or Alyssum. Beds of massed Tulips make a very gay effect; of late years the Darwin and May-flowering Tulips have become very popular, and these should be included. Late-flowering Tulips are useful as cut blooms, and should be planted in the reserve garden for the purpose.

Gladioli.—As the foliage ripens and before severe frosts occur the corms should be lifted, labelled, tied in and hung up to dry, preparatory to storing them for the winter. When thoroughly dry, the foliage should be cut off, and the corms cleaned and stored in a dry place.

Herbaceous Lobelias. — Lobelias of the cardinalis type should be lifted from the borders and the roots either laid in ashes or soil in a cold frame or placed in boxes for the winter. Beyond ventilating the frames freely in mild weather and affording the roots moisture when necessary, the plants will require very little attention until the spring.

Canna. — Cannas also should be lifted and housed; space can usually be found for them under the stages in cool houses. These plants should not be neglected during their resting period. Although they do not require much moisture in winter, they must not be subjected to extreme dryness at the roots.

Turfing.—Any turfing operations or the mending of bad patches on lawns should be done forthwith, as frost may soon make it difficult to carry out the work. By laying turf early in the autumn and keeping it well rolled, the sods soon unite and the work is much more satisfactory than if done in the spring, when drying winds prevail.

THE APIARY.

By Chloris.

Seasonable Work. — The quilts should be made tight-fitting in the corners, and, to add to the effectiveness, provide good cushions of loose leaves or cork-dust. To make the hives watertight give the outsides two or three coats of good oil paint. The best method is for the bee-keeper to mix his own paint. The following will be found sufficient for a ten-framed hive:—1 lb. of white lead mixed with equal parts of unboiled linseed oil (boiled linseed oil causes the paint to blister in sunny weather) and turpentine. To make the paint set quickly add a tablespoonful of gold size. If the hives are to be painted for the first time, the paint may be made much thinner for the first coat, and in this instance not less than three coats should be applied. It is a wise plan to paint the hives of different colours, so that virgin queens may experience no difficulty in distinguishing their own hives. Many valuable queens have been lost owing to this difficulty when they are returning from their mating flight. To obtain a slate colour use vegetable or lamp black; for stone colour add yellow ochre, or a richer tint of stone may be secured by adding a little sienna. When all is thoroughly mixed, strain the paint through a piece of old stocking, working it through with a brush. Before applying the paint, which should never be used thick, but thin enough to work easily, rub the hives thoroughly with glasspaper. Too often paint is put on thickly, without working it in the wood. After the first coat has dried, all cracks and crevices should be filled in with putty. The entrances should be nearly closed, so that only one bee may pass at a time. All bee-keepers should make quite certain that the colonies are strong, for weaklings are certain to die during the winter or early in the spring, whereas if two or three weak stocks are united to make one strong lot there is every possibility of them coming out well next spring and yielding a surplus in the summer. Weak colonies, even though they may survive the winter, require another year to attain sufficient strength to yield a return.

Selling Honey. — The total yield for the current season is not heavy, yet many bee-keepers are content to realise between 4d. and 6d. per lb. wholesale so that they may convert the honey into cash. Better prices will be available later, when the present slight glut is over, and, even if all the honey cannot be sold this winter, if it has been harvested in good condition it will keep for a long time without appreciable deterioration—I refer to extracted honey. In the case of sections, the matter is different, because they will not keep unless the correct temperature is maintained, and this is difficult unless a good store-room is available, because the honey must not be allowed to granulate in these. Should it be found that bees have an insufficiency of food, good, thick syrup may still be given, so long as the weather remains favourable. Give the syrup warmth, and wrap up the whole so as to prevent the heat from escaping.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Illustrations.—*The Editors will be glad to receive and to select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c., but they cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR NOVEMBER.

SATURDAY, NOVEMBER 2—
Soc. Française d'Hort. de Londres **meet.**

TUESDAY, NOVEMBER 5—
Royal Hort. Soc. Coms. meet; special **Exh. of Orchids** (2 days). (Lecture at 3 p.m. by Miss Edith R. Saunders on "Double Flowers.") Hort. Club House Dinner. Bournemouth Fl. Sh. (2 days). Chelmsford Chrys. Sh. (2 days). Southampton Chrys. & Fruit Sh. (2 days). Scottish Hort. Assoc. meet. Birmingham Chrys. Sh. (3 days). Brighton Chrys. Sh. (2 days).

WEDNESDAY, NOVEMBER 6—
Bath Gard. Debating Soc. Chrys. Sh. (2 days). Dulwich Chrys. Sh. (2 days). Northants Chrys. Sh. (2 days). Dover Hort. Soc. Sh. Tooting Hort. Soc. Sh. (2 days). Eastbourne Hort. Soc. Chrys. Sh. (2 days). Highgate Chrys. Sh. (2 days).

THURSDAY, NOVEMBER 7—
Exeter Chrys. Sh. (2 days). Newport Chrys. Sh. Linnean Soc. meet. Bury Hort. Soc. Sh. (2 days). Weston-super-Mare & Dist. Chrys. Sh. Frome Chrys. Sh. Stirling Chrys. Sh. (2 days). Maidenhead Chrys.

FRIDAY, NOVEMBER 8—
Altrincham & Dist. Chrys. Sh. (2 days).

SATURDAY, NOVEMBER 9—Burton Chrys. **Sh.**

MONDAY, NOVEMBER 11—
Nat. Chrys. Soc. Floral Com. meet.

TUESDAY, NOVEMBER 12—
Plymouth Chrys. Sh. (2 days). Belfast Chrys. Sh. (2 days). Chester Paxton Soc. Sh. (2 days). Royal Bot. & Hort. Soc. of Manchester Chrys. Sh. (3 days).

WEDNESDAY, NOVEMBER 13—
Dorchester Chrys. Sh. (2 days). Buxton Chrys. Sh. Colchester Rose & Hort. Soc. Sh. Bristol Chrys. Sh. (2 days). Barry Chrys. Sh. (2 days). Clevedon Chrys. Sh. (2 days). Ancient Soc. of York Florists (2 days). Finchley Chrys. Soc. Sh. (2 days).

THURSDAY, NOVEMBER 14—
Edinburgh Chrys. Sh. (3 days). Bridgwater Chrys. Sh. Aberdare Chrys. Sh. Cardiff Chrys. Sh. Newport Chrys Sh. Sheffield Chrys. Sh. (3 days).

FRIDAY, NOVEMBER 15—
Leeds Paxton Chrys. Sh. (2 days). Bradford Chrys. Sh. (2 days). Blackburn Chrys. Sh. (2 days). Bolton Chrys. Sh. (2 days).

MONDAY, NOVEMBER 18—
Nat. Chrys. Soc. Executive Com. meet.

TUESDAY, NOVEMBER 19—
Royal Hort. Soc. Norwich Chrys. Sh. (3 days).

WEDNESDAY, NOVEMBER 20—
Nat. Chrys. Soc. Exh. and Conference at Essex Hall. Newcastle Chrys. Sh. (2 days). Royal Met. Soc. meet. N. of Eng. Hort. Soc. meet at Hull (2 days). Bristol Chrys. Sh. (2 days).

THURSDAY, NOVEMBER 21—Linnean Soc. meet.

FRIDAY, NOVEMBER 22—
Aberdeen Chrys. Sh. (2 days). Dunfermline Chrys. Sh. (2 days).

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—44·9.

Actual Temperatures:—

London.—*Wednesday, October 30* (6 p.m.) Max. 55°; Min. 50°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, October 31* (10 a.m.): Bar. 29·3°; Temp. 51°; *Weather*—Moderate Sunshine.

Provinces.—*Wednesday, October 30:* Max. 51° Spalding; Min. 48° Aberdeen.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs at 67 & 68, Cheapside, E.C., by Protheroe and Morris, at 10.30.

MONDAY, WEDNESDAY AND THURSDAY—
Dutch Bulbs, Rose Trees, Flowering and Decorative Shrubs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, London, at 12.30.

WEDNESDAY—
Fruit Trees, Begonias, Gloxinias, &c., at Stevens's Auction Rooms, at 12.30.

Palms and Plants, at 5; Miscellaneous Bulbs and Plants, at 11; 1934 cases Japanese Liliums, at 2.30; at Protheroe & Morris's rooms.

Fourteenth Annual Sale of Nursery Stock at Shortlands Nursery, Shortlands, Kent, by Protheroe & Morris, at 11.

FRIDAY—
Special Sale of Roses, at Protheroe & Morris's rooms.

Rare Cypripediums from the "West Point" collection of Orchids at the Coal Exchange, Manchester, by Protheroe & Morris, at 1.30.

Cider Sickness.

The expression "cider sickness," used by Messrs. Barker and Hillier as the title of their article in the October issue of the *Journal of Agricultural Science*, has reference not to any possible effects induced in those who drink this excellent beverage, but to a malady of cider itself. This malady is only too well known to cider manufacturers. It is apt to appear in new cider, and entails losses estimated at several thousand pounds per annum. The symptoms of the malady are a frothing and sudden evolution of gas. These signs are to be met with in May after the normal fermentation has run its course, and at a time when all good cider is "still." Following on this outburst, which, in the case of bottled cider, may suffice to explode the bottle, the liquid loses its fruity flavour and its characteristic aroma, and its sweetness disappears altogether. Anyone who has tasted the normal brew of cider served out in the villages of the less-frequented parts of Brittany may console himself for the nausea he has experienced by reflecting that the cider was very sick. With cider suffering from this disease, which, needless to say, is due to a bacterium, the case is very bad indeed. It becomes turbid, and thickens to a milky state; but if it be left alone—and no one would touch it in this state—the malady works itself out. The cider gradually becomes clear, the "sick" flavour and aroma disappear, and the liquid, though never again its old, sweet, fruity self, becomes drinkable once more. Messrs. Barker and Hillier describe all these symptoms of the sick cider. They have investigated the chemical changes which the intruding bacteria induce. They show that, as with human diseases, some kinds of individual ciders are more susceptible to attack than are others. The sharp varieties are, on the whole, immune—the bacterium preferring, as we do ourselves, the sweet and bitter-sweet kinds. The disease is infectious, and a drop of sick cider may infect a cask of sound liquor. After much labour, the authors succeeded, by growing cider organisms on beer-wort gelatine plates, in isolating a bacterium, which proved to be the culprit. This objectionable organism is able to grow in air or in the absence of air, and its normal course of existence is such as to cause all the unpleasant symptoms which we have described.

As to preventive measures, not much may be said. The bacterium appears to be introduced with the fruit. Washing the latter with cold water is not much good; whether hot water would be of more service the authors are not yet able to say. Sterilising the fruit with formaldehyde is practicable, but might lead to other difficulties. Perhaps a way round the difficulty may be discovered by "breeding," or rather brewing a cider which is resistent to the disease. Or, though the authors do not make the suggestion, it may be possible to confer immunity on cider by inoculating it with an attenuated virus in the form of a culture of the bacterium, so grown as to have lost some of its original sinfulness of habit. It is in any case interesting to have in these researches yet another instance of the fact that maladies are incidental, not only to flesh but also to fluids, and we feel sure that, when these investigations have been carried a step further, the term "doctoring cider" will have a newer and more auspicious meaning than it has at present.

The Simple Carbohydrates and the Glucosides.*

It is a tribute to the excellence of Dr. Armstrong's monograph on the simple carbohydrates and glucosides that a second edition has been called for. The author has taken advantage of the opportunity to make considerable additions to the text. In particular, the chapter on the glucosides has been enlarged and a new chapter has been added on the significance of the carbohydrates in plant physiology. Among the most interesting of the newer facts contained in the present edition are those appertaining to the synthesis of the tannins. These substances, which are so widely distributed in the vegetable kingdom, and whose precise function in the economy of the plant is so obscure, have been the subject of recent investigation by Fischer, who, in conjunction with Freudenberg, has synthesised from glucose derivatives substances which possess all the properties of the natural tannins.

In his discussion on the function of glucosides in plants, Dr. Armstrong adopts the view which is supported by the investigations conducted by Professor Armstrong and himself that these widely-spread substances serve to keep quiet and out of action bodies which in proper time and place are destined to render active service to the development of the plant. Combined with glucose, these active constituents of glucosides are rendered inert—put out of action, in fact. But when the glucoside which contains them is hydrolysed they are liberated and are free to produce effects such, for example, as those connected with the chemical operations involved in the ripening of fruits.

Dr. Armstrong's monograph is indispensable to all students of physiological botany, and may be recommended also to the general reader who has a fair working knowledge of chemistry.

Industrial Fellowships.

One of the most interesting examples of co-operation between science and commerce is provided by the Industrial fellowships which have been established in the New York State College of Agriculture at Cornell University. The foundation of these fellowships is a tribute both to the energy of Professor Whetzel, who is in charge of the Department of Plant Physiology in the University, and to the wise liberality of the firms and individuals to whose financial aid the fellowships are due.

The origin of this kind of co-operation is briefly as follows. Men engaged in the industry of horticulture are not infrequently confronted with difficulties which they themselves are unable to surmount. For example, nursery stock in a given locality is attacked by a certain disease which ordinary methods are powerless to check. On the other hand, in such a University as Cornell, there are always a number of young men who, having finished their degree course, are anxious to gain wider experience and to pursue a definite line of investigation in their pursuit of a doctor's degree. Therefore, if the grower is willing to establish a temporary fellowship, the college is able to find a man who will devote himself to a particular investigation named by the founders of the fellowship. The firms which establish the Industrial fellowships pay the piper; they also call the tune. If the investigations are productive of good the founders of the fellowship enjoy, in common with the rest of the community, the commercial advantages accruing from the investigations. This at first sight may appear to be unfair, and the founder might perhaps expect to enjoy the exclusive advantage of discoveries made by the holder of his fellowship. A little consideration will show, however, that a university must never be a party to the patenting of knowledge; that it is its business to discover and disseminate knowledge and not to monopolise it.

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* *The Simple Carbohydrates and the Glucosides*, by E. Frankland Armstrong, D.Sc. (2nd Ed.). Monographs of Biochemistry. (Longmans, Green

It is an encouraging indication of the enterprising and patriotic spirit of American horticultural firms that in the year 1910 this scheme had advanced so far that four Industrial fellowships were actually in existence and that four others were about to be founded.

It should be mentioned that the research fellow who holds one of these posts does not shut himself within his laboratory; but, whenever the nature of the problem requires it, he takes his apparatus with him and pitches his field laboratory on the spot in which the pest or other object of his investigations is to be found.

Coloured Plate.—The subject of the coloured plate to be published with the next issue is Miltonia "Memoria Baron Schröder."

Dr. M. C. Cooke.—We are authorised to state that the report which has appeared in the daily Press and elsewhere of the death of Dr. M. C. Cooke is erroneous. The friends of the veteran mycologist will be glad to learn that, in spite of his 87 years, Dr. Cooke is enjoying good health, and has read the "obituary notices" with a considerable measure of interest and appreciation. Were plagiarism not altogether foreign to his habits, Dr. Cooke would be disposed to say, with another distinguished man who suffered a like fate—the reports of his death have been greatly exaggerated.

Royal Horticultural Society.—The next meeting of the Committees of the Royal Horticultural Society will take place on Tuesday, the 5th inst., and the Orchid Exhibition, already announced, will open on Tuesday and continue the following day. At 3 o'clock on Tuesday Miss E. R. Saunders will deliver a lecture on "Double Flowers," whilst a conference on Orchids will be held in the Lecture Room on the second day, November 6, from 11 to 1 and 2 to 4. Four papers are to be given as follow:—Morning session: (1) "The Physiology of Fertilisation," by Professor Keeble; (2) "The Application of Genetics to Orchid Breeding," by Major C. C. Hurst; (3) "Some

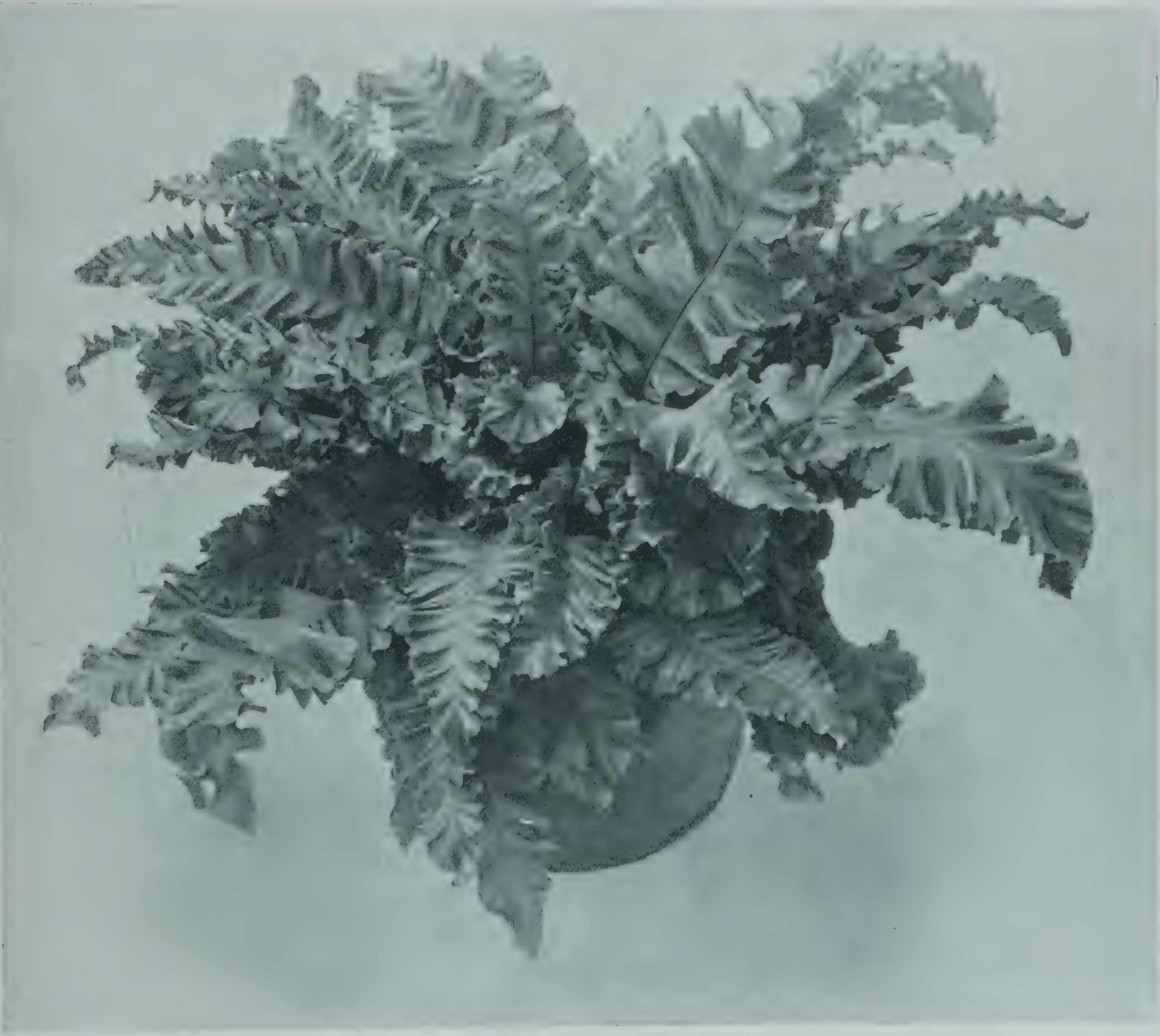

Fig. 146.—Scolopendrium vulgare crispum nobile.

(See p. 337.)

Epiphytical Orchids," by Mr. H. G. ALEXANDER; (4) "Albinism in Orchids," by Mr. R. G. THWAITES.

HORTICULTURAL CLUB. — The next house dinner of the club will take place on Tuesday, November 5, at 6 p.m., at the Hotel Windsor, Victoria Street, Westminster, when Mr. F. KINGDON WARD, B.A., will deliver a lecture on "A Naturalist in Western China and Tibet." The subject will be illustrated with lantern slides.

THE FRUITERERS' COMPANY.—At the Mansion House on Monday, October 28, the Master, Wardens, and Court of the Fruiterers' Company presented to the Lord Mayor a basket of home-grown British fruit. Major W. H. THOMAS (the Master), who made the presentation, explained that the custom originated in the fact that at one time the Lord Mayor had the privilege of demanding tithe of all the fruit brought into the City for sale. The levying of the impost gave rise to contention, and the right was commuted for an annual presentation of fruit to be made by the Fruiterers' Company to the Lord Mayor. Replying to the toast of "The Fruiterers' Company" at the dinner which followed, Major THOMAS said that the company offered prizes and certificates, as well as gold and silver medals, for the growing of the best and most marketable fruits, the renewing of worn-out orchards, and for the selecting and packing of fruit for the market. During the past few years the company had printed and circulated fruit-culture charts for the use of fruit-growers. In addition, they had instituted a scholarship of £50 a year at the John Innes Horticultural Institution.

RADIUM AND PLANTS. — The effects produced by the exposure of seeds and plants to radium emanations have been investigated by Prof. MOLISCH, who finds that, generally speaking, they are disastrous. Plants subjected to these emanations are in many cases permanently damaged, the germination of seeds is delayed, and in many cases, for example in various leguminous seed plants, such as Robinia Pseudacacia, the leaves are thrown off, even though the experiment be carried out in spring or summer. If extremely small amounts of radium are used a speeding up instead of a retardation of germination may be obtained, e.g., with Stocks, Cucurbita Pepo, and Helianthus annuus. The permanent nature of the injury appears to be due to the action of the emanations on the cells of the growing point, both of shoot and root. A remarkable modification made its appearance as a result of subjecting plants of Sedum Sieboldii to this agent. Normally the shoots of this plant bear three leaves in whorls, but those exposed to the emanations for three days developed leaves arranged in opposite pairs. The mode by which radium produces its effects on the cells of plants is unknown, though many of its effects recall those produced by poisons. It is interesting to note that the above-mentioned symptoms are produced by the exposure of plants to .0000063 millegram of radium.

A TRIBUTE TO ALPINE PLANTS.*—"If you wish to grow Alpines with joy and glory you cannot be too simple and inexpensive in your preparations. . . . For Alpines, being really noble, are the most democratic of plants, and know no distinction of rank or wealth; all that they know and care for are their friends, whether from pithead or palace. Their instincts are unerring, and they have no respect of persons."

FRUIT GROWING IN ONTARIO.—According to a writer in *The Empire Magazine*, land suitable for fruit-farming can be had at the rate of from £12 to £20 per acre. The developed lands are much more expensive, and the man of small capital should not deal with such. The initial cost of planting is small, trees being obtainable for an average of 7½d. each. Generally about 40 Apple trees or 170 Peach trees are sufficient for each acre. Intercrops can be grown for a few years until the trees commence to bear. The smaller fruits and vegetables have an excellent market, and give very good returns. Strawberries and Raspberries give a return of £20 to £60 net per acre. Early vegetables are especially remunerative, but the district where they can be grown is limited; however, there is still plenty of land in that section. Early Tomatos give £100 per acre regularly, and as much as £250 has been obtained. Celery, Onions, and other crops give very high yields. In the southerly sections Tobacco is a staple crop. Small farms of 10, 20, and 30 acres can be secured in every fruit-growing district.

ONTARIO'S TOBACCO CROP.—This year's crop of Tobacco in the province of Ontario will be smaller than it was last year, which was the largest on record, and more than double the yield of any previous year. It is estimated to have amounted to 15,000 lb. Tobacco culture in Canada is confined almost wholly to the province of Ontario. In the fiscal year ended 31st March, 1912, the Dominion exported 58,809 lbs. of Canadian-grown leaf tobacco valued at $25,944. These shipments were divided: 8,762 lbs. to Great Britain, 40,856 lbs. to the United States, and 9,192 lbs. to other countries, with respective values of $1,320, $22,521, and $2,103.

CEREAL AND FLAX CROFS IN ARGENTINA.—The October number of the *Bulletin* of Agricultural Statistics, published by the International Institute of Agriculture, gives figures for the areas sown with cereals and Flax in Argentina. which are as follow:—Wheat, 16,964,000 acres against 17,036,000 acres in 1911; Oats, 2,939,000 acres against 2,547,000 acres in 1911; Flax, 4,310,000 acres against 4,026,000 acres in 1911.

GREEN TOMATO CHUTNEY.—Green Tomatos are unusually plentiful this season, especially on the outdoor plants. These unripe Tomatos make a delicious chutney, which is prepared as follows:—Take of green Tomatos 4 lbs., Apples and Onions 1½ lb. each, sultanas ½ lb., sugar ¾ lb., salt 1 ounce, and peppers and Chilies to taste. Slice the Tomatos, Apples and Onions, and boil these with the other ingredients for four hours in 1½ pint of vinegar. The preserve will keep in a good condition for an unlimited period.

THE BOTANICAL RESULTS OF THE DUKE OF MECKLENBURG'S TRAVELS IN CENTRAL AFRICA.*—German enterprise and perseverance in tropical Africa are not limited to commercial and big game or sporting expeditions. The expedition under the direction of the Duke of MECKLENBURG was composed of men representing almost every branch of knowledge, and scientific investigation was combined with sport of the most exciting character. The narrative of the expedition, edited by the Duke himself, is a most fascinating and interesting story, issued in editions costing from fifteen shillings to five pounds. Apart from this and the botany, a number of volumes have appeared, or are in preparation, on the topography, geology, meteorology, zoology, ethnography, and anthropology of the country visited, forming together the most encyclopædic account of tropical Africa yet extant. The country systematically explored was the north-west corner of the German East African Protectorate, the Lake Region, and the north-east part of the Congo State, and the travels terminated in a journey across the dark continent from ocean to ocean. The botany is the work of specialists in all its branches, and the titles given below sufficiently explain what has appeared. So far it is limited to the systematic side, and no really startling novelties are described; indeed, the number of novelties in flowering plants is unexpectedly small, perhaps a proof of the care exercised in working out the collections. Terrestrial Orchids furnish a considerable contingent, belonging largely to the genera Lissochilus and Eulophia, and Polystachya is prominent among the epiphytes. The Cryptogams are, perhaps, the most interesting section. Lamproderma echinatulum, a curious little Myxomycete, was collected on Ruwenzori at an elevation above 10,000 feet, and was previously recorded only from Tasmania and New Zealand in the south, and from Scotland in the north. The collections of Liverworts and Mosses exceeded expectations, and BROTHERUS, who elaborated the latter, states that there are 57 new species out of a total of 137, and one interesting new genus—Leptodontiopsis. Tropical Africa is particularly rich in species of Ficus, Loranthus and Vernonia, to which many new species are here added. Compositæ, Rubiaceæ and Leguminosæ predominate. Of the second a species of Leptactinia and another of Oxyanthus are remarkable in having large clusters of very slender, tubular flowers about 6 inches in length. Helichrysum alismatifolium is singular in a heteromorphous genus. Noteworthy among the very few new genera of flowering plants is Milbrædiodendron, an arboreous member of the Leguminosæ allied to Swartzia.

NORTH OF ENGLAND HORTICULTURAL SHOW.—Messrs. W. WELLS, LTD., inform us that they were awarded a large Silver-gilt Medal at the Leeds exhibition of this Society, and that a similar award was made to Messrs. W. & J. BROWN, Peterborough. Our report credited these firms with large Silver Medals.

PUBLICATIONS RECEIVED.—***British Violets,*** by Mrs. E. S. Gregory, with an introduction by G. Claridge Druce, M.A. (Cambridge: W. Heffer & Sons, Ltd.) Price 6s. net.

SCOTLAND.

LATE AUTUMN FLOWERS.

THE flowers of late autumn have been marvellous this year. For example, the great Lobelia cardinalis (so greatly eulogised by the late Sir Archibald Alison in his famous History, in an incidental but most memorable passage on the scenery of America) has never been more impressive in such gardens as those of Lochinch Castle, Logan, and Dunraggit, than it has been this year. As already recorded in the *Gardeners' Chronicle* (September 14, p. 209), I have seen near the residence of the Earl of Stair a glorious representative of the gigantic Lily of the Central Himalayas, 12 feet high, and I have just been informed by Mr. J. Dalrymple Hay Stewart, of Dalry, in Kirkcudbrightshire, of another giganteum, grown by Mrs. Jasper Young, who resides near New Galloway, which appears to have reached an almost equally commanding height.

In my own well-sheltered garden the finest floral effects for some time past have been created by a long vista of L. longiflorum.

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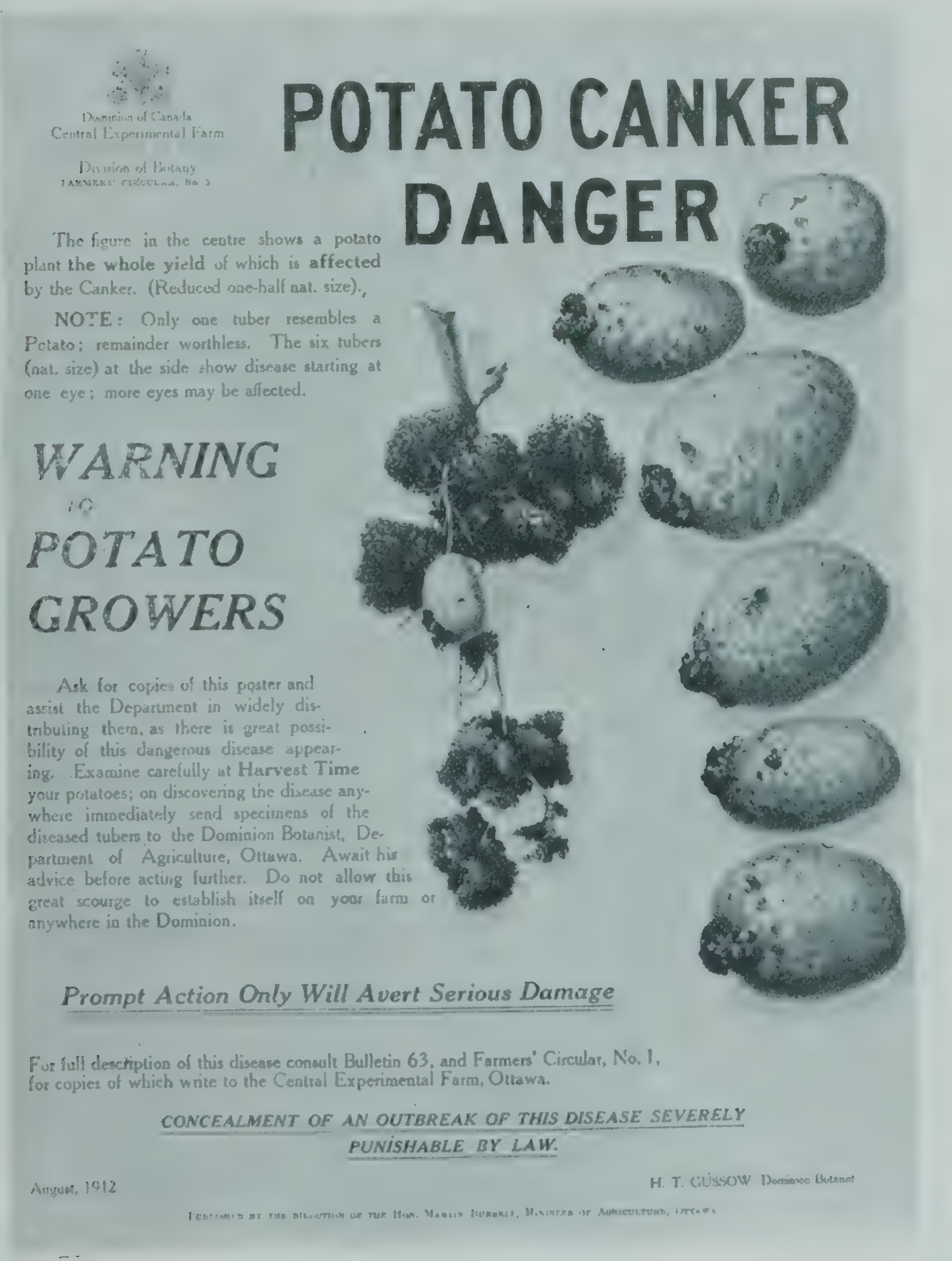
* Mr. Reginald Farrer in *The Rock Garden* (PRESENT-DAY GARDENING SERIES).

* *Wissenschaftliche Ergebnisse der Deutschen Zentral-Afrika-Expedition*, 1907-1908, unter der Führung Adolf Friedrichs, Herzogs zu Mecklenburg. Band ii. Botanik. Herausgegeben von Dr. J. Milbraed, Berlin. Lieferung i.: Pteridophyta, Coniferae, Monocotyledoneae. Lieferung ii.: Cryptogamae Thalloideae, Bryophyta. Lieferung iii.: Dicotyledoneae-Choripetalae I. Lieferung iv.: Dicotyledoneae-Sympetalae I. Large 8vo. pp. 1-420; plates 46, and many figures in the text, especially of the Mosses. Leipzig: Klinkhardt & Biermann, 1910-1911. Price 16·25 mark, or the parts separately at a somewhat higher price.

Wilsonii and Lobelia cardinalis. The contrast afforded by the bronzy foliage and luminous scarlet blooms of the North American plant, and the snowy-white, trumpet flowers of the Japanese Lily, was exceedingly striking. Very beautiful for the last six weeks at least have been the Collerette Dahlias, of which Messrs. Dobbie showed me a magnificent display at their Edinburgh Nurseries on October 18.

Among the latest of my Sweet Peas this season have been Dorothy Eckford, one of the very finest of the "grandiflora" varieties, which have gradually given way before the Spencer hybrids; Mrs. Routzahn and Marie Corelli; Mrs. Cuthbertson, still greatly adorning the branches of my only Walnut tree; Florence Nightingale, the queen of all the lavender varieties; Earl Spencer and Melba, in colour and in form very closely allied; the exquisite Etta Dyke, and Queen Alexandra.



Dominion of Canada
Central Experimental Farm

Division of Botany
FARMERS' CIRCULAR, No. 3

POTATO CANKER DANGER

The figure in the centre shows a potato plant **the whole yield** of which is **affected** by the Canker. (Reduced one-half nat. size).

NOTE: Only one tuber resembles a Potato; remainder worthless. The six tubers (nat. size) at the side show disease starting at one eye; more eyes may be affected.

WARNING
TO
POTATO
GROWERS

Ask for copies of this poster and assist the Department in widely distributing them, as there is great possibility of this dangerous disease appearing. Examine carefully at **Harvest Time** your potatoes; on discovering the disease anywhere immediately send specimens of the diseased tubers to the Dominion Botanist, Department of Agriculture, Ottawa. Await his advice before acting further. Do not allow this great scourge to establish itself on your farm or anywhere in the Dominion.

Prompt Action Only Will Avert Serious Damage

For full description of this disease consult Bulletin 63, and Farmers' Circular, No. 1, for copies of which write to the Central Experimental Farm, Ottawa.

CONCEALMENT OF AN OUTBREAK OF THIS DISEASE SEVERELY PUNISHABLE BY LAW.

August, 1912

H. T. GÜSSOW Dominion Botanist

PUBLISHED BY THE DIRECTION OF THE HON. MARTIN BURRELL, MINISTER OF AGRICULTURE, OTTAWA

FIG. 147.—FACSIMILE OF POSTER DISTRIBUTED BY THE CANADIAN MINISTRY OF AGRICULTURE.

The posters are printed on thick cardboard.

I have read with much interest the admirable article on October Roses by Mr. Taylor (see p. 293). The special varieties that still at this date (October 22) continue to flower with marvellous facility are: Viscountess Folkestone, to which among very late-flowering Roses in my garden I should be disposed to assign the premier place; Clio, still blooming very prominently above a high Fuchsia, at a height of 15 feet; Frau Karl Druschki, one of the most *remontanté*—as the French expressively call it— loftiest aspiring Rose in my extensive collection; Antoine Rivoire, an exceedingly graceful and profusely-flowering Hybrid Tea; Georges Nabonnand, one of the most floriferous and artistic in its aspect at this late period of the year; Viscount Carlow and Countess of Shrewsbury, recent acquisitions from the "Emerald Isle." Equally worthy of honourable mention for their splendid floral achievements towards the end of October are the incomparable Hugh Dickson and the uniquely-coloured J. B. Clark. *David R. Williamson, Wigtownshire.*

NEW PUBLIC PARK FOR RENFREW.

The new public park of Renfrew was formally opened on October 19. The park is the gift of Mr. William Robertson, shipowner, who performed the opening ceremony, and, with Mrs. Robertson, planted the first two trees. The park, which is 30 acres in extent, is to be known as the Robertson Park.

NEW RECREATION PARK FOR GALASHIELS.

At a meeting of the electors of one of the wards of Galashiels recently, the Provost announced that Councillor Hugh Roberts had offered lands for additional recreation grounds. These form part of the estate of Ladhope, and extend to about 45½ acres. It is proposed to grant these for 999 years at a nominal rent of

PRESENTATION.

Mr. Alexander Morton, gardener to the late Countess of Seafield, at Cullen House, Cullen, has received a presentation from some of his friends on his leaving Cullen House to take up a southern appointment.

GIFTS OF PARKS TO SCOTTISH PARISH COUNCILS.

A novel point in connection with the power of administration of public parks in Scotland by Parish councils has recently been submitted to the Local Government Board for Scotland.

The bequest of about 20 acres of land was made by the late Mr. J. G. Starke, Troqueer Holm, Dumfries, to trustees to be handed over to the parish council of Troqueer for a public park. The parish is partly burghal and partly landward, and no power is conferred on any but landward parishes or landward committees by the Act of Parliament under which the parish councils were constituted to acquire land for parks or to rate for their maintenance. Acting under legal advice, the council, of which Mr. S. Arnott is chairman, submitted the question regarding its power to administer to the Local Government Board, and that authority has given its opinion that the council has this power under a clause providing that holders of parish trusts can hand them over to parish councils. This, however, gives no power to rate, and, in dealing with the land, which is at present let on lease (this expiring at Martinmas, 1913), the council will have to rely upon the revenue from the grazing of the park, which will be but small. The bequest made no provision for its upkeep, but a small sum was left as the beginning of a fund for laying out the land. *Correspondent.*

THE CRESTED HART'S TONGUE.

Amongst the varietal forms of the common Hart's Tongue Fern (Scolopendrium vulgare), both the wild sports and those obtained by selective propagation, it is generally recognised that the "crispum" or frilled section is the most beautiful. In this section the normally flat, strap-shaped frond is transformed into a beautiful, double frill, and although the pure types of this are perfectly barren, it is a curious fact that many varieties have been found wild, each one of which must obviously be an independent sport. For without spores plants cannot arise under wild conditions, and the plants must result from scattered spores of some unrecognized fertile form of probably normal appearance. The crispum varieties in cultivation vary markedly in the width of frond, length of stalk, depth of frilling, and so on, but all the finds hitherto have been surpassed in robustness, vigorous growth, and width of foliage by a plant Scolopendrium vulgare crispum nobile (see fig. 146), exhibited by Mr. W. B. Cranfield, of Enfield, at the R.H.S. meeting of 22nd ult., when it was awarded a First-class Certificate (see p. 320).

The illustration of this magnificent specimen precludes the need for further description. The plant was found on the limestone ridge known as Warton Crag, near Carnforth, and was obtained from Mr. H. Bolton in the village of Warton, situated at its foot. The crispum section of the Hart's Tongue represents really the true "plumose" type, in which the reproductive vigour is diverted from spore production into that of extra leafage, the spores being entirely suppressed. We see the counterpart of this phenomenon in the various forms of the "Welsh Polypody" (P. vulgare cambricum), which are always quite barren for the same reason. *C. T. D.*

IRISES FOR THE ROCK GARDEN.

English rock gardens usually contain few representatives of the genus Iris, although there are many species admirably adapted for cultivation in positions that, besides affording some shelter, also bring them up to a level with the eye. It may be that the reason for this neglect of Irises in our rock gardens may be traced to the fact that the mountains from which the majority of the commonest rock plants come, namely, the Alps and the Pyrenees, contain practically no Alpine representatives of the genus. It is true that I. xiphioides, misnamed the English Iris, grows in the Alpine meadows of the Pyrenees, but it is scarcely what we understand by a rock plant.

Further afield, however, many dwarf species of Iris are to be found—in the Balkans, in the Caucasus, in the mountainous regions of Asia Minor of the Altai district and of Turkestan, and even up to 17,000 or 18,000 feet in Thibet. The Iris which has the distinction of growing at this elevation, the highest known level, is the floriferous little species, I. Potaninii, which unfortunately has never apparently been in cultivation. It has small tufts of narrow and curiously blunted leaves only an inch or two in height, clothed against the rigours of the climate in dense wrappings of curling fibrous remains of the leaves of former seasons. From each small tuft of leaves springs a flower much resembling those of I. pumila, either of a yellow or a purple colour. No stem develops, so that the ovary remains in the protection of the leaves, while the flower is raised on a long perianth tube.

But even if I. Potaninii is still an unattainable ideal of a rock garden Iris, we need not despise its European cousin the true I. pumila, which in some of its forms is almost as diminutive. It is true that the real plant is hard to obtain, but anyone who has seen a number of collected plants in flower will not wish to be without it. Each plant produces flowers that are different from those of its neighbour, and all colours, from pale sky blue to deep red black, are found, together with others in which the prevailing colour is yellow, either with mahogany or green markings. To do well I. pumila needs a sunny position in soil rich in lime.

I. pumila has another cousin in the Balkans, namely I. mellita, which differs chiefly in that its spathes are rigid and sharply keeled, while those of I. pumila are membranous and hardly at all keeled. This keeled character of the Balkan Iris is a curious fact. Besides being the chief distinction between I. pumila and I. mellita, it also distinguishes I. Reichenbachii from I. chamaeiris, and, what is still more curious, I. Sintenesii from I. spuria. To my mind, the flowers of I. mellita are still more pleasing than those of I. pumila, for there is a clearness of colour and a sharpness and delicacy in the veining not found in the Austrian plant. The colour of I. mellita is either a curious chocolate-purple set off by a beard of thick-set silky hairs tipped with electric blue, or apparently it may be a clear yellow, though of this form I have only so far seen herbarium specimens. A form of this Iris, in which the young leaves are edged with red, as are those of some of the forms of I. germanica, e.g., Amas and especially Kharput, has been described under the name of I. rubromarginata, though it seems at most to be a sub-species or local form.

I. Reichenbachii is a Balkan species as variable in size as I. chamaeiris in the South of France, and some of the forms from the higher levels are delightful dwarf plants with clear yellow or purple flowers, differing chiefly from I. mellita by the shorter, broader spathes and by the fact that the stem is always developed.

In Europe, the so-called I. arenaria is not an Alpine plant, but it is probable that it is identical with I. flavissima, which is common in the Altai mountains. Short-lived though the display is, it is hard to find anything in a rock garden that will surpass the brilliance of a close mass of a number of flowers of this bright yellow Iris with its orange beard. A light, rich, sandy soil is necessary, and the plants are perhaps best raised from seed. The rhizomes run in all directions, and in a year or two from the time the seedlings appear numbers of flowers may be expected.

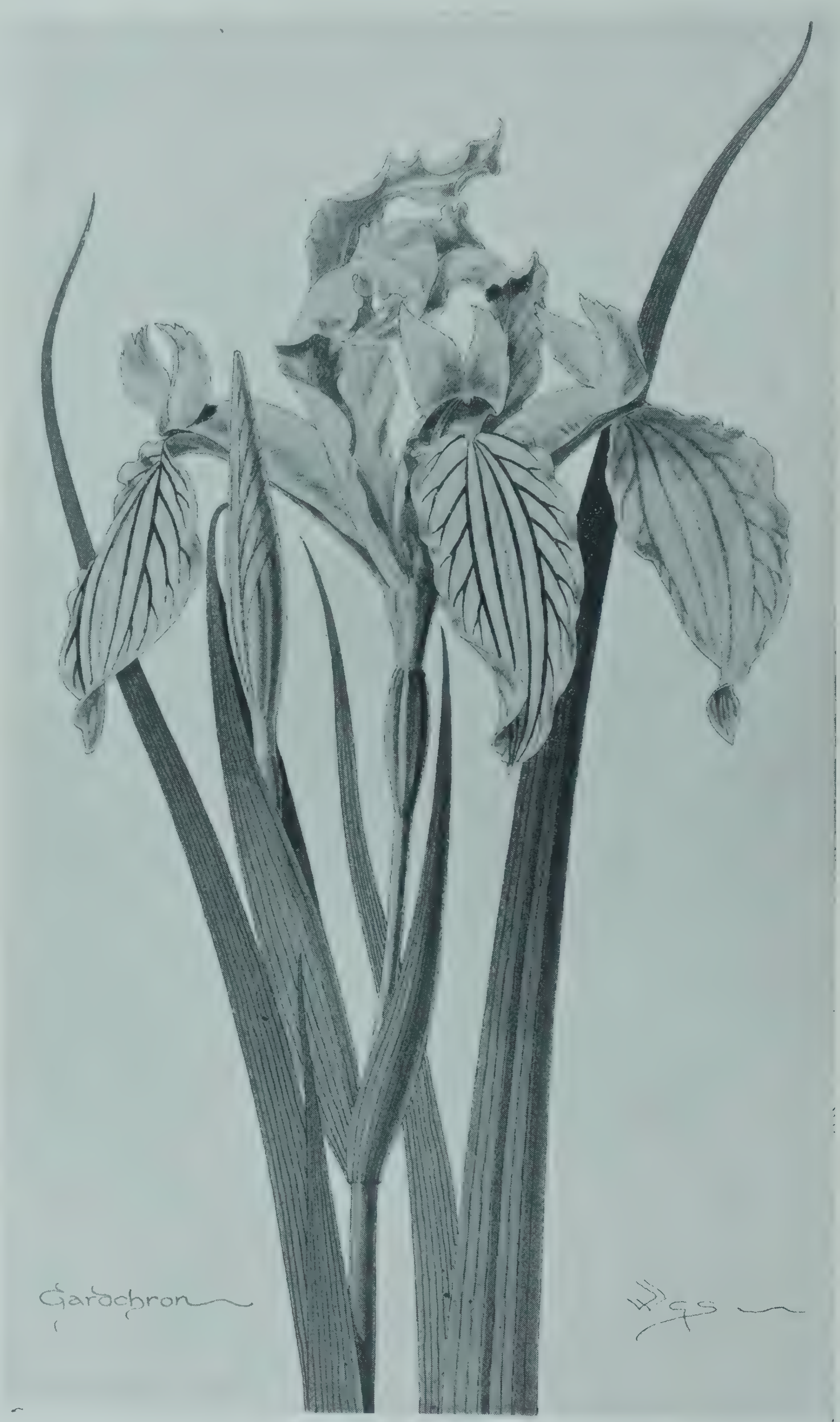


Fig. 148.—Iris bracteata: flowers yellow, with lilac-coloured veins.

It might be thought improbable that a plant should be found in Transylvania and then not again until we reach the Altai, but, curiously enough, there appear to be at least two other species of Iris which have the same curious distribution, namely, I. ruthenica and I. humilis. The rare examples of the latter species from the Altai have, it is true, been named I. Ludwigii, but an examination of the type specimens in the St. Petersburg herbarium has left little doubt in my mind that these are identical with the European I. humilis. The plant is practically a stemless I. graminea, but it is scarcely attractive, and, as it does not always flower freely, it is perhaps hardly worth a place in the rock garden. I. ruthenica, however, with which apparently it is found growing both in Transylvania and in the Altai, is a very valuable plant. In its best forms it grows into close masses of grassy foliage which are literally covered in May with the white-blotched blue flowers proceeding from the pink-flushed spathes. With regard to this Iris a caution is necessary. Never attempt to move it except while growth is active in summer, and obtain new colonies of it from seed rather than by transplantation.

For large rock gardens, nothing can surpass some of the Californian Irises, which are so little manage if a limestone soil is avoided and if attention is paid to the caution just given with regard to the cultivation of I. ruthenica. I. Douglasiana is almost too vigorous for all but the largest pockets, but I. Purdyi, I bracteata (see fig. 148), I. macrosiphon and I. tenax are all worthy of places. The diverse and delicate colourings to be found among these Irises are endless, and the general rule that multiplication must be by seeds rather than by division has its compensation in the surprises to which it gives rise. I. bracteata, which in its typical state has yellow flowers veined with brownish purple, has already given me several forms, some of which are approaches to crimson, while one is a delightful colour that may best be described as old rose. A descendant of the second or third generation of what was originally a cross between I. Douglasiana and I. macrosiphon has flowers of a pure white, conspicuously veined with violet purple, and there seems to be no end to the colour forms to which this valuable group may give rise. What is still more extraordinary is that the colours all seem to harmonise together and to avoid those crude clashes which from time to time offend the eye among the commoner Alpine plants.

The Oncocyclus Irises of the Caucasus and Cilicia, I. iberica, I. paradoxa, I. Sari, and others are probably real Alpine plants, but, alas, our summers are not hot enough or dry enough to ripen the rhizomes, and it is open to doubt whether they will ever become permanent inhabitants of our rock gardens.

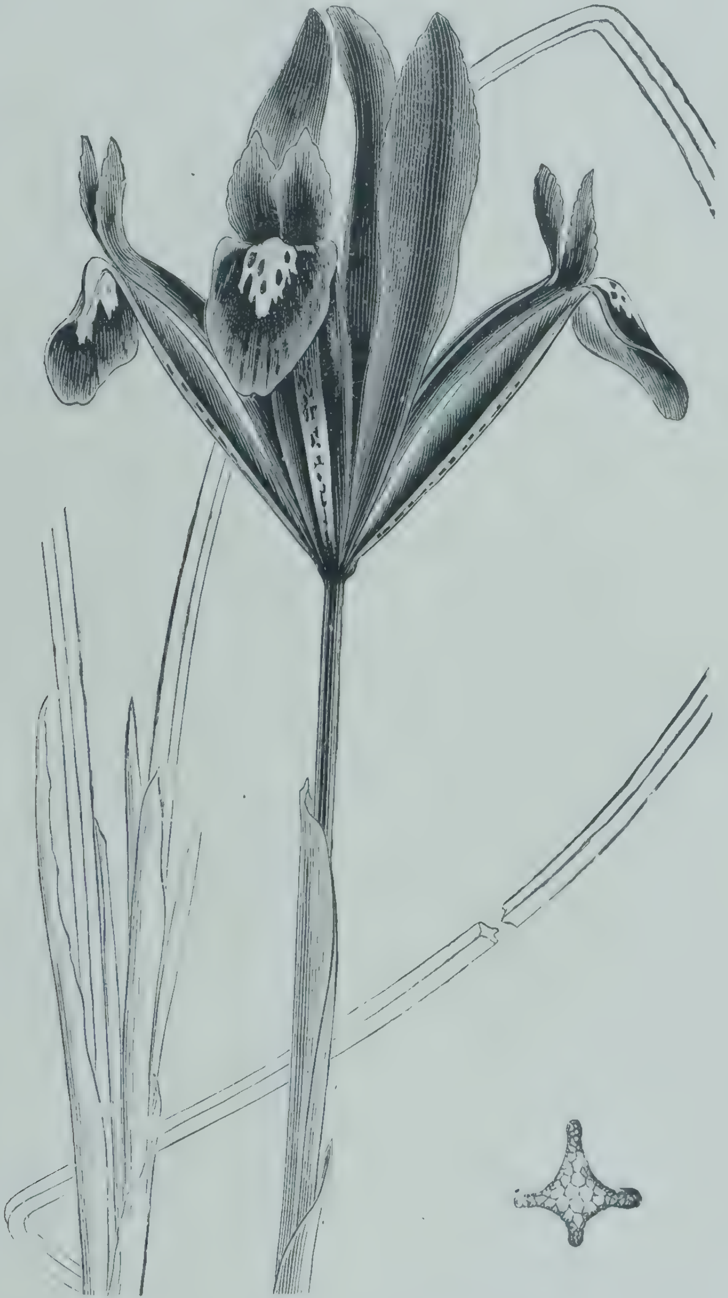


Fig. 149.—Iris reticulata: flowers purple and gold.

It is different with the bulbous species of the reticulata and Juno groups, for these will live on year after year and increase, if a few simple rules are not ignored. The members of the Reticulata group should be lifted every year or two and treated for the disease which otherwise is liable to carry them off in a veritable outbreak of the Black Death. No bulbous plant, which at some period of the year loses all its roots as does I. reticulata (see fig. 149), can resent an annual shifting, provided that the growth has been allowed to ripen off naturally and provided that the bulbs are not kept too long out of the ground nor allowed to weaken themselves by starting into growth before they are returned to the soil.

Juno Irises, on the other hand, are undoubtedly weakened by any attempt to lift or move them. It is impossible to do this without breaking some of the fragile roots, and from these breakages some delicate species, such as the typical I. persica, rarely seem to recover. These must therefore be planted in the sunniest and best-drained position available and given good rich soil, without new manure. If the surface slopes sharply to the south and so throws off the rain and at the same time allows the sun's rays to penetrate to the bulbs, these should go on increasing in vigour, provided that they are judiciously fed by top dressings of leaf mould and suitable artificial manures. Provided that the drainage is perfect, the plants seem to do better in a rather heavy loam than in too sandy a soil. *W. R. Dykes, Charterhouse, Godalming.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

October 22.—*Present:* Mr. E. A. Bowles, M.A. (in the Chair); Messrs. J. Arkwright, W. Cuthbertson, H. J. Elwes, A. Worsley, A. W. Hill, J. Fraser, J. Odell, A. R. Rolfe, J. O'Brien, R. Hooper Pearson, and F. J. Chittenden (hon. sec.).

Bordeaux injury.—Mr. A. W. Hill showed, on behalf of Mr. Massee, some Apples to illustrate the russetting due to the action of Bordeaux mixture upon their skins.

Antirrhinum sporting.—Mr. Chittenden showed from a garden near London stems of an Antirrhinum bearing short, leafy growths in the axils of the bracts instead of flowers. The leaves were very small. A similar specimen was subsequently sent by Messrs. R. Veitch, of Exeter.

Rhododendron sporting.—Sir George Holford exhibited a Rhododendron raised from the cross R. javanicum "Ruby" × R. j. "Ne Plus Ultra." It bore two inflorescences, one having bright red flowers, the other not quite so deep in colour and with yellow corolla tubes. The two parents had both crimson-scarlet flowers of slightly different shades. The flowers on the two trusses were of the same age. Ten plants of the cross had flowered, each bearing flowers of a richer colour than either of the parents, but none of the others had shown similar sporting proclivities.

Grey Oak.—Dr. Voelcker sent a piece of Oak wood of a peculiar greyish-blue colour from a tree struck by lightning. The Committee thought the coloration was probably the result of exposure to sun and air, especially as the tint approached that of weathered Oak palings.

Albino Geranium Robertianum.—Mr. Eric M. Luckin, of Feltham, wrote: "With reference to your enquiry as to wild albino forms of Geranium Robertianum, some four years ago I discovered a plant growing in a meadow bearing albino flowers, stems green. The two years following I revisited the spot and found the plant, but this year I failed to locate it, and fear it has been destroyed. The meadow is near Haywards Heath, Sussex."

WOMEN'S AGRICULTURAL AND HORTICULTURAL INTERNATIONAL UNION.

October 23.—Since the Women's Union was started in 1899 its growth has been satisfactory, and it now numbers some 350 members in this country and abroad. The sixth annual show was held at the Royal Horticultural Hall on the above date, the venue being a new one, as the former shows have been at the Botanical Gardens. The Hall was well filled, and had it not been for the bad weather of the two days previous to the show it would have been difficult for the executive to have found room for all the exhibits. Much credit is due to the committee and the secretary, Mrs. Chamberlain, for the excellence of the arrangements.

The exhibits were all first-class, and showed what women can do in the lighter branches of horticulture. The international character of the society's work was instanced by exhibits from Germany. In the horticultural and dairy sections there were well-filled classes of cut flowers, pot plants, fruit, vegetables, dairy produce, dressed poultry, honey, preserved fruit, bread, hams, landscape gardening, and decorative designs. The Swanley College successes were numerous. Splendid exhibits of fruit and dairy produce won prizes for Miss Courtauld, Earls Colne, Essex; while the Carnations, Chrysanthemums, and table decorations of the Misses Price & Fyfe, Grove Park Nurseries, Lee, S.E., would have done credit to any florist. Mention must also be made of the exquisite Violas and Violets effectively exhibited by the Misses Dixon & Eve, Elmscroft Nurseries, Edenbridge, Kent. The preserved fruits section showed what could be done in an industry, which we think has not as yet received its due meed of attention.

There were 223 entries of live poultry, all the best laying, table, and general purpose breeds being well represented. *J. W. T.*

Kent Commercial Fruit Show.

OCTOBER 28, 29.—The second Kent Commercial Fruit Show was held at Maidstone on Tuesday and Wednesday last. The number of entries was 363—a large increase over those of the first show, which was held at Ashford last year. Although most of the classes were open to competitors from the whole of Great Britain and Ireland, only 49 exhibits were sent from nurserymen resident in other counties than Kent.

When it is remembered that in the largest classes one entry comprised six boxes of Apples, some idea of the size of the exhibition may be formed. To its excellence, however, only those present can testify; and on this point we have no hesitation in declaring that it was by far the best competitive show of Apples ever seen in this country. That being the case (and our judgment was confirmed by several specialists who have been in the habit of attending fruit shows), it would probably be safe to add that it was the best competitive show of Apples ever held in Europe. Apart from the magnificent collections of the principal nurserymen, no exhibits of Apples, even those shown annually under the auspices of the Royal Horticultural Society, have surpassed those sent to this Kent show in number and general excellence, and certainly none of the Colonial shows has equalled this one in all-round merit.

The testimony thus given to Kent as an Apple-growing county is very striking, since only one award—a second prize—fell to an outside exhibitor.

The first class—an open one—was for Bramley's Seedling Apples, six boxes to an entry, and comprised 36 exhibits. This was a magnificent class, a large proportion of the entries being of considerable size, fine symmetry, and splendid colour. The 1st prize was gained by Mr. G. E. CHAMPION, of Linton, Maidstone, for fruit of fine size and colour, admirably packed.

We must here make a digression to point out that the awards did not always fall to the finest fruit, as other points had to be taken into consideration by the judges. Their marks were awarded as follow:—

	Marks.
Size	25
Colour	15
Condition	20
Uniformity of grading	10
Quality of packing	20
General appearance	10
	100

The 1st prize collection in Class 1 must have scored well on all points, though there were certainly larger Apples in the class. The other prizes went to exhibits of a very high order of merit. The 2nd prize was won by Messrs. W. SKINNER & SONS, of Boughton, Winchelsea, Maidstone; the 3rd prize by Mr. R. FERGUSON, Maidstone; and the 4th by Mr. W. W. HUBBLE, Hunton, Maidstone; while Mr. C. MURDOCH, Linton, Maidstone, was highly commended.

Newton Wonder Apples in the next class were marvellously good in size, form and colour, and there were 27 entries of six boxes each. The prizes were awarded, in the order given, to Messrs. GASKAIN & WHITING, Dargate, Faversham, who were the largest and most successful of the exhibitors; Mr. C. MURDOCH, Linton; Mr. F. SMITH, Toddington; and Major W. A. NICHOLSON, West Malling; Mr. S. SKELTON, West Farleigh, being highly commended. In this class was found an illustration of the fact that the best fruit did not always take the 1st prize, as Mr. SMITH'S Apples were the best for size, colour and form combined, but were set down to the third place in consequence of giving less satisfaction to the judges in respect of packing. Apart from formality as to placing, they appeared to the ordinary visitor to be well packed, but strict attention had not been paid to the rule in this respect.

The variety Lane's Prince Albert in the next class, also an open one for six boxes to an entry, consisted of 26 exhibits. Many of these were excellent, but the class was not on the whole equal in merit to either of the preceding ones. This fact goes to confirm the general opinion that this season is not a favourable one for this particular variety. The prizes fell in the order given to the Executors of the late R. NEVE, Tenterden; Mr. E. H. CHAMBERS, Boughton, Winchelsea; Mr. F. NEAME, Faversham; and Major W. A. NICHOLSON, all of whom showed very fine Apples.

The open class for six boxes of Blenheim Pippin was an admirable one, although it contained only 15 exhibits. Messrs. GASKAIN & WHITING were placed 1st for a splendid collection, followed by Mr. W. W. HUBBLE and Mr. A. MISKIN for most creditable exhibits.

The class for six boxes of Lord Derby, also an open one, comprised 26 exhibits, most of which were composed of remarkably fine Apples. Messrs. GASKAIN & WHITING were again placed 1st, and were followed by Mr. W. W. HUBBLE and Mr. F. SMITH.

Worcester Pearmain is somewhat out of season, and the entries were confined to 11, showing six boxes each. Some of the fruits were of fine size and excellent colour, but the class as a whole had less general merit than any of those previously noticed. Mr. S. SMITH, Barming, Maidstone, won the 1st prize with a magnificent exhibit, followed by Mr. F. SMITH, Mr. A. MISKIN and Mr. W. W. BERRY.

It seem a pity that there was no separate class for Cox's Orange Pippin, as there were many remarkably fine exhibits of this best of all dessert Apples in the mixed exhibits. This was especially noticeable in a large class, comprising 32 entries, for three boxes of any dessert Apple, excluding Blenheim Pippin and Worcester Pearmain. Messrs. GASKAIN & WHITING won the 1st place for some wonderfully good Cox's Orange, and the 2nd prize fell to some fine King of the Pippins, shown by Mr. R. STEPHENSON, of Burwell, Cambs., the only winner of a prize outside the ranks of Kentish growers. Mr. S. SMITH, Barming, won the 3rd prize.

Competition in the open class for three prizes offered for the best-packed box of Apples brought a response from 32 entrants. Mr. A. MISKIN, Chart Sutton, won the 1st prize, and the 2nd and 3rd went to Mr. F. SMITH and Major W. A. NICHOLSON respectively.

Class 9, for Bramley's Seedling or Newton Wonder, was open only to commercial growers in Kent with orchards of less than 20 acres in all. The 1st prize was won by Mr. P. P. SCOTT, Leeds, Maidstone, and Mr. F. I. NEAME, Faversham, and Mr. G. STUDD, Tong, Sittingbourne, took the 2nd and 3rd prizes. There were only seven entries.

A still smaller class—comprising only four entries—was for Lane's Prince Albert or Lord Derby; the prizes fell to Mr. H. E. HUTCHINSON, Mr. F. I. NEAME, and the SOUTH-EASTERN AGRICULTURAL COLLEGE. Another Kent class, of 12 entries, was for one box of any dessert Apple. Mr. H. E. HUTCHINSON, of Staplehurst, gained the 1st prize for some admirable Cox's Orange Pippins, while Messrs. TATE BROS., of Longfield, won the 2nd prize with Allington Pippins of fine size and colour. Mr. J. WEEKS, Egerton, Ashford, came 3rd, with Charles Ross.

Class 12 was for Pears, and comprised 21 exhibits, some of which were remarkable for size and quality. Messrs. GASKAIN & WHITING were placed 1st for an unnamed variety, and were followed by Mr. A. MISKIN, for Doyenné du Comice. Considering that this has been an exceptionally good season for Pears, the display of this fruit was a little disappointing.

The class for bottled fruit, confined to Kentish residents, contained 16 entries. It was a creditable display. The exhibits consisted of three bottles each of four varieties of fruit. The prizes, in the order given, were won by Mrs. WELLINGTON, of Wye; the HORTICULTURAL COLLEGE, Swanley; and Mr. W. USMAR, of Maidstone.

Class 14 was an open one for any cooking Apple in season, one box to an entry, and it attracted no fewer than 52 entrants, many of whose exhibits were most remarkable. Messrs. GASKAIN & WHITING again scored one of their numerous successes, winning the 1st prize with some very fine fruits of Annie Elizabeth. There was only one other prize, which fell to the lot of the Executors of the late R. NEVE for a splendid collection of Northern Greening.

Another large open class, consisting of 34 entries, was for one box each of any dessert Apple in season. Here were more Cox's Orange Pippins in fine form, and it was with this variety that Mr. J. SUTT, of Rainham, carried off the principal honours, followed by Messrs. GASKAIN & WHITING, who won the only other prize awarded.

The cup offered for the best dessert Apple introduced since 1900 produced only eight competitors, and only two varieties were shown, Rival and Jonathan. Mr. F. DUNCANSON won the cup with Rival.

The best class—again an open one—was for a collection of maiden fruit trees. A Champion Cup was offered in this competition by Mr. F. S. W. Cornwallis, the President of the Kent Commercial Fruit Show Association. Only four competitors entered, and the cup was won by Mr. J. W. TODMAN, Borough Green, Kent.

Messrs. Coupe & Sons, of Covent Garden, offered a challenge cup for the best exhibit in Classes 1, 2, 3, 4, and 6, including Bramley's Seedling, Newton Wonder, Lane's Prince Albert, Blenheim Orange, and Worcester Pearmain, to be grown in Kent, Surrey, or Sussex. The cup was awarded to the winner of the 1st prize in the class for Bramley's Seedling, namely, Mr. G. E. CHAMPION, of Linton, Maidstone.

A champion cup for the best exhibit of any of the varieties above named, including, in addition, Lord Derby, in the open classes for six boxes each, was offered by Messrs. Garcia, Jacobs & Co., of Covent Garden. The winners were Messrs. GASKAIN & WHITING, for their 1st prize entry of Lord Derby. The same exhibitors were also awarded a cup presented by Mr. Mercer Smith for their 1st prize collection of Annie Elizabeth in the class for cooking Apples.

SALE OF APPLES BY AUCTION.

Some of the prize collections of Apples realized very high prices at the auction held on Tuesday. The top price was 40s. per box for Mr. G. E. Champion's 1st prize Bramley's Seedlings; while Messrs. Gaskain & Whiting's 1st prize Cox's Orange Pippin were sold for 30s. per box, and their 1st prize Blenheim Pippin for 15s. From 3s. 9d. to 5s. per box were more usual prices for the remainder of the exhibits.

NATIONAL SWEET PEA.

SWEET PEA TRIALS FOR 1913.

WE are asked to state, in relation to the trials of Sweet Peas for 1913, which will take place at the Burbage Experiment Station, Leicestershire, conducted by Major C. C. Hurst, that only novelties sent for trial will be eligible for certificates or awards granted by the Society.

For the novelty trials a charge of 2s. 6d. per variety will be made, and novelties will be accepted only from the raiser or introducer. Thirty seeds of each novelty must reach the hon. secretary, Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex, before January 4, 1913. The seeds must be placed in plain packets, but each packet must bear a number or letter for purposes of identification. With the seeds there must be a letter bearing the sender's name at the top, the number or letter of each variety sent, and, opposite such letter or number, the name of the variety (if any), the colour section to which it belongs, and (if orange or salmon) whether it should be shaded.

Sweet Peas will also be tested for purity at a charge of 10s. per stock or variety sent. Not fewer than two dozen seeds should be sent. In every case the amount due for trials charges must accompany the seeds. Every sender will receive the report of the Floral Committee in the autumn of 1913.

National Chrysanthemum Society.

October 29, 30, 31.

CHRYSANTHEMUMS appear not to have suffered from the wet, sunless summer, for in several respects this was the finest show of the series held at the Crystal Palace under the auspices of the N.C.S. The dates were earlier than usual, but this fact had no injurious effect upon the show. Chrysanthemum exhibitions have changed in many respects since the old Aquarium days. Trained specimen plants have entirely disappeared from the show, and groups of plants are no longer an important feature. We missed this year even Messrs. Butler Bros.' dwarf pot plants, which were so much admired in recent years. The Incurved varieties are waning in popularity as exhibition flowers, and the important class for 36 distinct varieties no longer finds a place in the schedule. But Japanese varieties are more popular than ever, whilst the market and decorative sorts have assumed great importance at these exhibitions. There also appears to be a revival of interest in the beautiful Pompon varieties, for the classes allotted to these flowers were much better contested than for many years past. The singles, too, meet with increased appreciation, especially those of the Mensa type, which are so suitable for decorative purposes.

The greatest advance is seen in the displays made by traders, and on this occasion the finest group of Chrysanthemums, and probably the largest ever staged, was exhibited by Mr. Norman Davis. Almost equally good were the groups shown by Messrs. W. Wells & Co., and Messrs. H. J. Jones, Ltd. The methods of arranging these large collections deserve the greatest praise. There appeared to be a greater brightness about the show than usual, and no doubt this was in part due to the beautiful weather, for the sun shone brilliantly on the opening day. Several criticisms were directed against the spreading of the exhibits over too great a space, but this was a minor fault. No fewer than 73 novelties were submitted for award, and the Floral Committee conferred nine First-class Certificates and two Awards for colour.

At one time exhibits of fruits and vegetables were important features of these shows, but this year only one collection of vegetables was staged, whilst there were few displays of fruit.

As usual, the arrangements were perfect, and the thanks of the Press and others are due to Mr. Richard Witty and his courteous assistant Mr. Bridges.

Groups.

Two classes were provided for groups of Chrysanthemums, but only one exhibit was forthcoming. It was shown in the class for a floral display of Chrysanthemums from which traders were excluded. The exhibitor was Lady Tate, Park Hill, Streatham (gr. Mr. W. Howe), and the 1st prize was awarded. This excellent group was arranged as a pyramid, crowned with a fine Kentia. Three excellent plants of Dracæna Victoria and well-coloured Codiæums were arranged at suitable places and served as fine foils to the Chrysanthemums which were unnamed.

Open Classes.

Blooms Shown on Boards.

Incurved Varieties.—The principal class in this section was for 12 blooms, distinct, and it attracted four competitors. The finest exhibit was shown by Pantia Ralli, Esq., Ashtead Park, Epsom (gr. Mr. G. J. Hunt), who had much the larger blooms. The varieties were Buttercup, Mrs. G. Denyer, Romance, Mrs. F. Judson, W. J. Higgs, Boccace, Lady Isobel, Clara Wells, Duchess of Fife, G. F. Evans, Marjorie Shield, and a large magenta-coloured seedling; 2nd, Miss Weyburn, Hadley Manor, Barnet (gr. Mr. A. Jones), whose finest blooms were Emblème Poitevine, Mrs. G. Denyer and Clara Wells; 3rd, Miss Langworthy, Holyport (gr. Mr. T. G. Broom).

For six blooms of one variety seven competed, and all the exhibits were excellent. The 1st prize was awarded to Mr. Mappin (gr. Mr. T. Beeson), for very large flowers of the rich yellow Buttercup; 2nd, Mrs. Slattery, with the same variety; 3rd, Miss Weyburn, with Romance.

Japanese Varieties.—The Society offered the Holmes Memorial Challenge Cup and the sum of £7 as the 1st prize in the important class for 48 blooms, distinct. Three other prizes of the total value of £13 were also offered. Five competed, the quality of the exhibits being above the average. The best display was made by H. Mocatta, Esq., Addlestone, Surrey (gr. Mr. Thos. Stevenson). There was not a weak bloom in the exhibit, and many of the specimens were of unusual merit. A flower of the yellow F. S. Vallis was of extraordinary size. Other choice flowers were Mrs. Gilbert Drabble (white), Mrs. L. Thorn (pale yellow), Thomas Lunt (crimson), Miss Roope (deep yellow), Hon. Mrs. Lopes (yellow), William Turner (white), H. E. Converse (crimson, with golden reverse), Gladys Herbert (pale mauve-pink), Lady Talbot (yellow), Frances Jolliffe (golden, suffused with rose), Fred. Chandler (a fine bloom), W. Gee (pink), Harry Wood (crimson), His Majesty (deep crimson), Algernon Davis, Superbe, Queen Mary and Miss A. Finch. The 2nd prize was awarded to Pantia Ralli, Esq., who also showed splendidly. A few of the choicer blooms were W. Turner, H. E. Converse, Frances Jolliffe, Miss A. E. Roope, Pockett's Crimson, F. S. Vallis, Mary Inglis, D. B. Crane, Rose Pockett and Mrs. R. Luxford; 3rd, Sir Carl Meyer, Bart., Shortgrove, Newport, Essex (gr. Mr. E. Guile); 4th, E. J. Thal, Esq., Frensham Place, Farnham (gr. Mr. C. Moore).

Twenty-four Japanese blooms, distinct.—This proved one of the best classes in the show. The competitors numbered 13, and all showed splendidly. Mr. Mocatta again excelled, his blooms being so large as to appear crowded, whilst the colours were bright and varied. Outstanding varieties were Frances Jolliffe, H. E. Converse, William Turner, Miss Roope, Mrs. Gilbert Drabble, Lady Talbot, Thos. Lunt, Hon. Mrs. Lopes, Queenie Chandler (pale yellow), John Peed (pink), and F. S. Vallis; 2nd, L. G. Wigg, Esq., Rockshaw, Merston (gr. Mr. Sargent), who showed large, well-finished blooms of President Viger, Eclipse, Lady Crisp, Pockett's Crimson, Frances Jolliffe, William Rawlings, Mrs. G. C. Kelly and others; 3rd, Pantia Ralli, Esq.

Blooms Shown in Vases.

The "Great Vase" class was much better contested than last year, there being six exhibits on this occasion compared with two. The schedule required 12 vases of Japanese varieties, distinct, with not less than 6 inches of the stems showing above the receptacle. The vases were 14 inches in height and arranged on a low table.

The 1st prize was won by Mr. Mocatta, whose blooms were magnificent, and showed to better advantage on stout stems with foliage than those displayed on boards. The varieties Frances Jolliffe and Hon. Mrs. Lopes were of immense size and splendid in every respect; Miss Alice Finch, Mme. G. Rivol, Master James, Lady Talbot, Mrs. R. A. Witty, Queenie Chandler, Mrs. R. Luxford, William Turner, Fred Chandler and F. S. Vallis were the other varieties. The 2nd prize was awarded to J. Newton-Mappin, Esq., Headley Park, Epsom (gr. Mr. T. Beeson). This exhibitor showed large, well-finished blooms of O. H. Broomhead, Mrs. A. T. Miller, Lady Letchworth, Mrs. C. H. Totty, Reginald Vallis, Lady Talbot, Mrs. Kelly and others. 3rd, Rev. A. C. Cooper-Marsdin, Borstaldene, Bickley (gr. Mr. W. Rigby).

There was only one exhibit in the class for 12 vases of Incurved varieties, for which the Holmes Memorial Challenge Cup and the sum of five guineas were offered as the 1st prize. The exhibitor was Mr. Pantia Ralli, and the varieties were Boccace, Mr. F. Judson, Clara Wells, W. J. Higgs, Buttercup, Frank Trestian, Mrs. G. Denyer, C. H. Curtis, Calypso, Romance and Wiseman.

Single-vase Classes.—In these classes, for one vase of three Japanese blooms each, the prizes were awarded as follow:—*White:* 1st, Mrs. A. T. Miller, shown by J. Newton Mappin, Esq., Epsom (gr. Mr. T. Beeson); 2nd, White Queen, shown by A. T. Miller, Esq. *Yellow:* 1st, Lady Talbot, shown by Mrs. Slattery, The Orchard, Marlow (gr. Mr. R. Evans); 2nd, the same variety, shown by Sir Carl Meyer, Bart. (gr. Mr. E. Guile). *Any other colour:* 1st, Francis Rowe, reddish-bronze, shown by R. H. B. Marston, Esq., Canterbury (gr. Mr. Fairservice); 2nd, Reginald Davis, shown by Sir Carl Meyer. The variety Frances Jolliffe, shown by Rev. A. C. Cooper Marsdin, Bickley (gr. Mr. W. Rigby), was awarded the 3rd prize. These magnificent blooms remained beautifully fresh when others had drooped.

Anemone-flowered Varieties.

Much the best exhibit of six vases of these flowers, shown by seven competitors, were staged by Miss Langworthy, Holyport (gr. Mr. T. J. Broom). The blooms were large, fresh, and splendid in colour. The varieties were Mrs. H. Eland, Miss A. Lowe, La Marguerite, Mons. C. Lebocqz, Mrs. N. Brun, and John Bunyan, all well-known sorts. 2nd, C. D. Clark, Esq., Shortlands (gr. Mr. W. Passey), who showed greater variety. 3rd, Lady Yule, Bricket Wood (gr. Mr. J. Foster).

Pompons.—These pretty flowers were shown much more numerously than usual. There were no fewer than eight exhibits in the class for six vases, and the 1st prize was awarded to a magnificent exhibit shown by J. W. Hussey, Esq., Bouverie House, Exeter. Mme. Elise Dordan, W. Westlake, Black Douglas (exceptionally good), Prince of Orange, and Compte de Morny were all of superlative quality. 2nd, C. Urban, Esq., Teddington (gr. Mr. F. Fitzwater), with fine vases of Osiris, Cendrillion, William Sabey; and Prince of Orange.

Anemone Pompons.—The 1st prize in the class for six vases of these Chrysanthemums was won by Mr. Urban, whose flowers were the largest. The varieties were Antonius, Rose Marguerite, Emily Rowbottom, Marie Stuart, Mr. Astie, and Perle. 2nd, Lady Yule.

Single Chrysanthemums.—There were five tables of single Chrysanthemums in the competition for a silver rose-bowl offered by C. E. Shea, Esq. A daintily-arranged table was placed 1st; the exhibitor was F. J. Jarrow, Esq., Abbey Road, St. John's Wood (gr. Mr. A. Robertson); 2nd, Mr. F. G. Bealing, Bassett, Southampton, whose display was rather too massive for these elegant flowers.

There was a class for eight vases of single Chrysanthemums, and here Mr. Mocatta (gr. Mr. Stevenson) won handsomely, having much the largest and finest blooms. The varieties were White Pagram, Edith Pagram, Snowflake, Charles Kingsley, Bronze Pagram, Yellow Purity, Miss Mabel Booth, and Ceddie Mason. Four exhibits were staged in this class.

A Decorative Class.

Mr. Norman Davis offered prizes in a class for 12 Japanese blooms, distinct, arranged with foliage on a space of 5 feet by 3 feet. A large table was filled with nine exhibits, the best of which was shown by Mr. Mocatta, who arranged large blooms of the best exhibition quality in a setting of Ferns, Codiæums, and Abutilon Thompsonii, with sprays of Phyllanthus nivosus at the back. The choicer blooms were those of the variety Frances Jolliffe, William Turner, Queen Mary, His Majesty, Lady Talbot, Fred. Chandler, and Francis Rowe. 2nd, Mr. A. Smith, Roehampton; 3rd, A. T. Miller, Esq., Leatherhead (gr. Mr. G. Mileham).

Amateurs' Classes.

These were well contested and the flowers generally were excellent specimens. In the class for 12 Japanese blooms, distinct, four competed, and J. Barber, Esq., Bromley (gr. Mr. J. Bedson), was placed 1st for excellent blooms of Master David, Mary Farnworth, Walter Jinks, Lady Talbot, Mrs. A. T. Miller, and Alice Lemon. 2nd, Mr. C. Pullen, Raynes Park.

For 12 Japanese blooms, distinct, in Section B, Mr. C. Fox, Tunbridge Wells, was placed 1st of seven competitors, whilst for six Japanese blooms, distinct, Mr. G. Richardson, Tulse Hill, excelled with excellent blooms. The best six blooms of a Japanese variety were shown by Mr. C. Pullen, Raynes Park, who had splendid blooms of Lady Talbot.

The finest of three exhibits in the class for six blooms of an Incurved variety was shown by E. Wood, Esq., Upper Norwood (gr. Mr. A. Dyer), who showed the variety Clara Wells.

Mr. Campkin, Southend, was successful in the classes for six Japanese blooms, distinct, and three Japanese varieties, two blooms of each sort.

Mr. L. Thomson, Thormby, Liverpool, was the only exhibitor in the class for six vases of Single Chrysanthemums, and he was awarded the 1st prize.

Decorative Classes.

Two classes were provided for tables decorated with Chrysanthemums, the one for yellow and bronze varieties, the other for colours other than these. There were nine tables in the yellow and bronze class, and the arrangements generally were very good. The 1st prize was awarded to Mr. A. W. Trossell, gardener to H. Attenborough, Esq., Beckenham. Twelve competed in the other class, and the 1st prize was awarded to Mrs. A. R. Bide, Farnham, who employed pale pink Chrysanthemums, with Adiantum Fern and Berberis Darwinii.

The best two vases of Pompon or Anemone-Pompon varieties, arranged for effect, were shown by Mr. Urban. Mr. D. B. Crane, Highgate, excelled in the class for one vase of single Chrysanthemums, arranged with foliage; Mrs. Brewster, Canterbury, exhibited the best basket of Chrysanthemums and the best basket of autumn foliage and berries.

Affiliated Societies.

The special competition for societies affiliated with the N.C.S. was represented by three associations, and the Dulwich Society exhibited the best flowers. The other competitors were the Finchley Chrysanthemum Society, and the Reigate and District Society, the 2nd and 3rd prizes being awarded in this order. The Dulwich flowers were exceptionally good, especially the Incurved varieties H. W. Thorp, Mrs. G. Denyer, Romance, Buttercup, and Clara Wells. Choice Japanese blooms were seen in Mrs. A. T. Miller and Mary Boulton, whilst of the numerous singles, a vase of the variety Sir Frank Crisp was unusually good.

Fruit and Vegetables.

Grapes.—Three of the four exhibits of three bunches of white Grapes were of the variety Muscat of Alexandria, which was awarded the 1st and 2nd prizes. The 1st prize bunches, shown by J. Balfour, Esq., Moor Hall, Harlow, Essex (gr. Mr. A. Jeffries), were very large, nicely balanced, and composed of rich-looking amber berries. The 2nd prize was won by C. Bayer, Esq., Tewkesbury Lodge Forest Hill (gr. Mr. E. C. Wickers); 3rd, Dr. Lacroze, Roehampton Lane, S.W. (gr. Mr. F. Cresswell), who showed three good bunches of the variety Mrs. Pearson. Black Grapes were divided into two classes, and in that which excluded Gros Colman Lady Tate, Park Hill, Streatham Common (gr. Mr. W. Howe), won the 1st prize for three excellent Sloe-black bunches of Alicante; 2nd, J. Balfour, Esq., for the variety Appley Towers; 3rd, Sir Walpole Greenwell, Bart., Marden Park, Woldingham (gr. Mr. W. Lintott). There were only two exhibits of three bunches of Gros Colman, and the 1st and 2nd prizes were awarded to C. Bayer, Esq., and Lady Home respectively.

Apples.—The best six dishes of dessert Apples were shown by Mr. A. Smith, The Convent Gardens, Roehampton, who included good examples of Margil, Ribston Pippin and Cox's Orange Pippin; 2nd, Rev. McMurdie, Woburn Park, Weybridge (gr. Mr. A. Basile); 3rd, Dr. Jackson, Thornton Heath (gr. Mr. W. Paulley).

The 1st prize collection of six dishes of culinary Apples, shown by the Rev. McMurdie, were especially good; 2nd, Mr. A. Smith; 3rd, Dr. Jackson.

Pears.—Of the three exhibits of six dishes of dessert Pears that of the Rev. McMurdie was decidedly the best. The varieties Roosevelt, Beurré Diel and Charles Ernest were excellent; 2nd, Sir Walpole Greenwell; 3rd, Dr. Jackson.

Vegetables.—As usual, Robert Sydenham. Limited offered prizes for a collection of vegetables. The only exhibit was shown by the Rev. McMurdie. The kinds were Standard Bearer Celery, Lyon Leeks, King Edward VII and The Factor Potatos, Hollow Crown Parsnips, Ailsa Craig Onions, St. Valery Carrots, Autumn Giant Cauliflowers and Tomatos.

AWARDS.

First-class Certificates.

Queen Mary (Japanese).—A large, white variety of the finest exhibition type. Shown by Messrs. W. Wells, Ltd.

Ivernia (Japanese).—A bright flower of buff colour suffused with rosy-bronze. Shown by Messrs. J. Stredwick & Son.

Miss Elsie Davis (Japanese).—A large exhibition variety, of amaranth colour, with silvery reverse.

Francis Rowe (Japanese).—A large, bronzy-terra-cotta bloom, showing gold on the reverse.

Miss A. E. Roope (Japanese).—A large, golden-yellow variety, suitable for exhibition purposes. These three shown by Messrs. H. J. Jones, Ltd.

His Majesty (Japanese).—This splendid crimson variety was raised from J. W. Molyneux × Lady Violet Beaumont. One of the finest novelties at the show. Exhibited by Mr. Norman Davis.

Mrs. Gertie Ladds (single).—A bold flower, of chestnut-crimson colour. Shown by Mr. Philip Ladds.

Miss Thelma Hartmann (Incurved).—A well-shaped flower of blush shade. Shown by Mr. Walter Jinks, Thames Ditton..

Sidney Lawrence (single).—The florets of this pretty variety are a bright amber colour. Shown by Mr. L. Lawrence, Sevenoaks.

Awards for Colour.

Miss N. Borrer (single).—This variety has light pink flowers, with a white zone. Shown by Mr. A. Chapman, East Grinstead.

Charles Hall (single).—A medium-sized flower, of a shade of crimson-chestnut. Exhibited by Mr. Philip Ladds.

Non-competitive Exhibits.

Mr. Norman Davis, Framfield, Sussex, put up the largest group in the exhibition, and was awarded a large Gold Medal and the Gold Medal offered by Messrs. Clay and Sons for the best miscellaneous exhibit in the show. The exhibit occupied the whole width of the centre transept opposite the grand organ. It was arranged in the form of five semi-circles, against a deep screen of crimson plush, which threw the bright colours into relief. The largest, central bay was composed entirely of exhibition blooms of Japanese and Incurved varieties, arranged in epergnes of different heights, amidst choice plants of Codiæums, with Ferns as a ground. This portion was very imposing, but the prettiest effect was seen in the wings, one of which was composed of single and the other of decorative Chrysanthemums. One of the smaller bays was wholly of Pompon, quilled, hirsute, thread-petalled, sweet-scented and reflexed varieties. The largest blooms were His Majesty (a new variety of intense crimson colour), Countess of Granard, Mme. P. Radaelli, D. B. Crane, White Queen, Hon. Mrs. Lopes, Lady Talbot, Evangeline, C. H. Totty, Amber Queen (new), Mme. G. Rivol, and J. W. Molyneux.

Messrs. H. J. Jones, Ltd., Ryecroft Nurseries, Hither Green, put up an imposing exhibit of Chrysanthemums. Choice exhibition blooms were arranged in large porcelain vases and fancy baskets on a ground of ornamental-foliaged plants. The back was composed of epergnes, 8 feet high, decorated with specimen blooms set off by the golden foliage of Sweet Chestnut, thrown into relief by tall Palms against a screen of crimson drapery. At either end there were semi-circular bays furnished with a great assortment of single, decorative, border, and other types of the smaller Chrysanthemums. Among the more notable of the larger varieties were Bob Pulling (an immense bloom of clear yellow), Mrs. Roope (a trifle deeper shade than the former), Mrs. H. J. Jones (the largest variety in the collection, a shade of greenish-yellow), J. Surry (a rich-crimson flower showing a golden reverse), Mrs. R. C. Pulling (lemon-yellow), Mrs. Elsie Davis (a large Incurved Japanese variety of deep-rose colour), J. G. Bier (a white bloom with narrow florets), Mrs. Gilbert Drabble (white), Mrs. Edgar Tickle (a pretty rose-pink shade), Francis Rowe (terra-cotta), and Mary Hollert (very faint blush). (Gold Medal.)

Messrs. W. Wells & Co., Merstham, Surrey, staged a remarkably fine group of Chrysanthemums, the Japanese blooms ranking amongst the best in the show; indeed, blooms of the Queen Mary variety were unequalled amongst the white sorts. This magnificent variety was given the place of honour, being staged immediately in the centre towards the front. The rich colours of the red and purple varieties blended with white, pink, bronze, gold, and other shades, were set off by large sprays of autumn foliage and greenery. Of the large varieties, there were excellent blooms of H. E. Converse, Wm. Turner, Mrs. R. A. Witty, Mrs. R. Luxford, Mrs. C. H. Totty, Mrs. G. L. Wiggs, D. B. Crane, Gertrude Peers, and Mrs. Gilbert Drabble. (Gold Medal.)

Messrs. John Peed & Son, Norwood, staged a circular group of Chrysanthemums in the form of a pyramid. Large exhibition blooms of such varieties as Mrs. G. C. Kelly, Rose Pockett, Frances Jolliffe, W. Turner (white), Alice Lemon, Master James and D. B. Crane were prominent, and there were numerous bunches of single and decorative varieties, of which none was more beautiful than the single white Mensa. This firm also exhibited a collection of Apples and Pears. (Small Gold Medal.)

Messrs. Cragg, Harrison & Cragg, Heston, Middlesex, were awarded a small Gold Medal for a group of market varieties of Chrysanthemums.

Messrs. H. Cannell & Sons, Swanley, Kent, showed numerous varieties of Chrysanthemums, a collection of zonal Pelargoniums, and a table of Apples and Pears. (Silver-gilt Medal.)

Messrs. H. B. May & Sons, The Nurseries, Upper Edmonton, showed excellent Ferns, well-grown Begonias of the Gloire de Lorraine type, Primula obconica, and Cyclamens. (Silver-gilt Medal.)

Messrs. Young & Co., Hatherley, Cheltenham, exhibited varieties of Perpetual-flowering Carnations, for which a large Silver Medal was awarded.

Messrs. Hobbies, Ltd., Dereham, Norfolk, filled a large table with Roses.

Messrs. H. Pattison & Co., Streatham, showed the "Pattison" horse boots, implements for eradicating weeds from lawns, patent turf renovator and other garden necessities.

VISIT OF THE FLORAL COMMITTEE TO WOBURN PLACE.

October 26.—On this date, by the kind permission of E. G. Mocatta, Esq., of Woburn Place, Addlestone, the members of the Floral Committee of the N.C.S. paid a visit to the gardens, chiefly to view the collection of Chrysanthemums. The party was met at the station by Mr. Thomas Stevenson, who conducted the members through the greenhouses, Rose gardens, rock and water garden, and fruit and vegetable garden. The several houses containing the Chrysanthemums were the chief attraction. Large numbers of gigantic Japanese blooms, together with a good selection of good singles and decoratives, were much admired. It was felt that Mr. Stevenson would be quite able to hold a leading position wherever he might exhibit this season. The party was entertained to tea in the conservatory adjoining the mansion.

HEREFORD FRUIT AND CHRYSANTHEMUM.

October 23, 24.—The 21st annual show of this society was held in the Shire Hall, Hereford, on these dates. The principal exhibits were of Apples, which were shown remarkably well in upwards of 50 classes. Pears also were good, but these fruits were not so large as we have seen them at previous Hereford shows. There were very creditable exhibits of Grapes, especially of the variety Gros Colman. Only six classes were allotted to Chrysanthemums.

Open Classes.

There were only two exhibits in the class for 50 dishes of Apples, distinct, arranged with floral decorations in a space of 70 square feet. The 1st prize was won by Mr. C. W. Powell, Warham Court, who arranged his fruits in baskets. The other exhibitors, Messrs. Pewtress Bros., of Tillington Nurseries, were awarded the 2nd prize. In the class for 30 dishes of Apples, distinct, Mrs. HILL, Moreton Court (gr. Mr. Stansfield), was the only exhibitor, and received the 1st prize for a very meritorious collection of the leading varieties, the group being pleasingly decorated with foliage. In the class for 12 dishes of culinary Apples, distinct, five exhibits were staged, and competition was very keen amongst three of the competitors. Messrs. GETTING & NEWTON, Glewston Court, Ross (gr. Mr. Kelly), were placed 1st, and Capt. W. R. Cox, Ashleigh, Ross, 2nd.

Four competed in the class for eight dishes of dessert Apples, distinct, and the 1st prize was won by A. G. BURNEY, Esq., The Weir, Hereford (gr. Mr. G. H. Holden), who showed the varieties Egremont Russet, Cox's Orange Pippin, Adams's Pearmain, King of the Pippins, Rival, James Grieve, Wealthy, and Charles Ross. 2nd, J. RILEY, Esq., Putley Court (gr. Mr. Taylor); and 3rd, Mr. KELLY.

Five classes were provided for Apples packed in boxes, and the exhibits proved very interesting. Only one prize was offered in each class. Five exhibitors showed the variety Newton Wonder, and the 1st prize was won by Captain CLIVE WHITFIELD (gr. Mr. K. Stevens). In the class for Lane's Prince Albert, Captain S. R. Cox was awarded the 1st prize, and he also excelled in the class for Cox's Orange Pippin. For the variety Bramley's Seedling, Mr. C. W. POWELL was placed 1st, whilst the finest exhibit of Blenheim Pippin was shown by Messrs. PEWTRESS BROS.

SINGLE-DISH CLASSES.—Many excellent fruits were seen in the single-dish classes for Apples, and in most cases the competition was very keen. The following are the names of the 1st prize winners:—Captain Cox, for Cox's Orange Pippin; Rev. G. H. DEVONPORT, for Ribston Pippin; Messrs. PEWTRESS BROS., for Blenheim Pippin; E. W. CADDICK, Esq., for King of the Pippins; W. S. R. Cox, for Warner's King; Messrs. GETTING & NEWTON, for Bramley's Seedling and Lane's Prince Albert; Messrs. PEWTRESS BROS., for Dumelow's Seedling; E. W. CADDICK, Esq., for Gascoyne's Seedling; A. G BURNEY, Esq., for Peasgood's Nonesuch; J. RILEY, Esq., for Newton Wonder; Mr. C. W. POWELL, for Annie Elizabeth; and Lord DERBY and R. M. WHITING, Esq., for Allington Pippin and Rival.

In the class for 12 varieties of Pears arranged with foliage there were three good exhibits, and A. W. FOSTER, Esq., Brockhampton Court (gr. Mr. Parrott), was awarded the 1st prize. This exhibitor staged excellent fruits of Beurré Bosc, Doyenné du Comice, Pitmaston Duchess, Marie Louise d'Uccle, Emile d'Heyst, Marie Louise, Charles Ernest, Durondeau, and others. 2nd, the Rev. G. H. DEVONPORT.

Sir JOHN COTTERELL, Garnons (gr. Mr. C. Liddle), secured the principal prize in the class for eight dishes.

SINGLE DISHES CLASSES.—The following are the prize-winners in the single-dish classes for Pears:—Mrs. WOODHOUSE, Burghill, for Marie Louise; Sir R. LUCAS TOOTH, for Doyenné du Comice; Rev. G. H. DEVONPORT, for Pitmaston Duchess; Sir J. COTTERELL, for any other dessert variety, with Beurré Superfin; and the Hon. Mrs. WILMOT, for a culinary sort with Catillac.

Three exhibits were staged in the class for six dishes of miscellaneous fruits, and Sir J. COTTERELL excelled with capital Gros Colman and Muscat of Alexandria Grapes, Doyenné du Comice Pears, Cox's Orange Pippin Apples, Coe's Golden Drop Plums, and a Melon. Other 1st prize-winners in the classes for collections of fruit were Mrs. WOODHOUSE and Mr. SYKES.

CHAMPION CLASSES.—The best dessert Apples in the show were of the variety King of the Pippins, shown by E. W. CADDICK, Esq.; the best culinary Apples, fruits of Bismarck, exhibited by Captain W. S. E. COX; and the best Pears Doyenné du Comice, shown by Sir R. LUCAS TOOTH.

FLORAL CLASSES.—The leading exhibitors in the Chrysanthemum classes were Messrs. PARROTT, J. CORNER, A. G. BURNEY, and C. F. HOLFORD.

NON-COMPETITIVE EXHIBITS.

The KING'S ACRE NURSERY CO., Hereford, showed upwards of 70 dishes of Apples and Pears, and floral designs. Mr. WILSON, Commercial Street, Hereford, staged floral devices. Messrs.

MARKETS.

COVENT GARDEN, October 30.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	2 6- 4 0
Azalea, per dozen bunches ...	5 0- 6 0
Bouvardia, per dz. bunches ...	6 0- 7 0
Camellias, white, per dozen ...	2 0- 2 6
Carnations, per dozen blooms, best American varieties ...	1 6- 2 0
— smaller, per doz. blooms ...	12 0-15 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaison, p. doz. blooms:	
— — pink ...	8 0-15 0
Chrysanthemums, per dozen:	
— white	1 6- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze... ...	1 0- 2 6
— white, per doz. bunches ...	5 0- 8 0
— coloured ...	4 0- 8 0
— Singles in variety, per doz. bunches ...	15 0-21 0
Daisies (Michaelmas), various	3 0- 4 0
Eucharis, per doz.	2 0- 2 6
Gardenias, per box of 15 and 18 blms	2 6- 4 0
Gerbera Hybrid, p. doz.	1 0- 1 3
Honesty, per bunch	1 0- 1 6
Hyacinth Romain, per dz. bnchs.	10 0-12 0
Lapagerias, white, per dozen ...	2 0- 2 6
Lilium auratum, per bunch ...	4 0- 5 0
— longiflorum, per doz., long	2 6 —
— — short ...	2 3- 2 6
— lancifolium alba, long ...	1 3- 1 6
— — short ...	1 3- 1 6
— speciosum rubrum, per doz.:	
— long	1 3- 1 6
— short	0 9- 1 0
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	12 0-15 0
— special... ...	9 0-10 0
— ordinary ...	6 0- 8 0

	s.d. s.d.
Marguerite, per doz. bunches:	
— yellow	1 6- 2 0
Mignonette, per doz. bunches...	3 0- 4 0
Mimosa (Acacia), per bunch ...	1 0 —
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	12 0-15 0
— Cattleya Harrisonæ, p. doz.	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum ...	3 0- 4 0
Pelargoniums, p. doz. bunches	4 0- 5 0
— Double Scarlet	4 0- 6 0
Physalis, per doz. bunches ...	5 0- 6 0
Roses, 12 blooms:	
— Mrs. Ward ...	2 0- 2 3
— Bridesmaid,	0 9- 1 6
— C. Mermet ...	0 9- 1 6
— Liberty ...	2 0- 3 0
— Madame A. Chatenay ...	1 6- 3 0
— Niphetos ...	1 0- 1 6
— Richmond ...	1 6- 3 0
— Sunburst ...	3 0- 5 0
— Sunrise ...	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 3
— Franz Deegen	1 0- 1 6
— Kaiserine ...	1 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, per dozen bunches:	
— mauve ..	2 0- 2 6
Stephanotis (72 pips)	3 6- 4 0
Stock, p. d. bnchs:	
— white	5 0- 6 0
Tuberose, p. doz. blooms, long...	0 8- 0 9
— — short ...	0 6- 0 7
Violas, small blue, p. doz. bunches	1 0- 1 6
Violets, per dozen bunches ...	1 6- 4 0
— double, pr. dz. bunches ...	3 0- 5 0
— Parma, large bunches, each	2 6- 3 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches ...	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0-18 0
— Sprengeri ...	10 0 12 0
Carnation foliage, doz. bunches...	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12
Eulalia japonica, per bunch ...	1 0- 1
Moss, gross bnchs.	6 0 —
Myrtle, dz. bchs. (English), small-leaved ...	6 0 —
— French ...	1 0 —
Pernettias, per dz. bunches ...	6 0- 7 0
Smilax, per bunch of 6 trails ...	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, per dozen... ...	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0 30 0
— variegated ...	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen ...	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ...	2 6-10 6
Croton, per dozen	18 0-30 0
Cyclamens, 48's ...	10 0-12 0
Cyperus alternifolius, per dozen	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green,	

	s.d. s.d.
Erica nivalis ...	15 0 18 0
— — 60's ...	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's ...	12 0-15 0
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, per dozen	6 0 —
— choicer sorts per doz. ...	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica,	

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Lilium lancifolium rubrum in pts., per dozen ..	15 0-18 0
— lancifolium alba. in pts., dz.	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen ...	36 0-48 0

	s.d. s.d.
Pelargonium (Geranium), double scarlet, 48's ...	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per dozen	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 5 0
— Cox's Orange, ½ bushel ...	4 0- 8 0
— Cooking, per bushel	3 0- 4 0
— Californian Newtowns, case	9 0-10 0
— Nova Scotian, per barrel ...	14 0-18 6
Bananas, bunch:	
— Doubles ...	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured...	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Blackberries, peck	2 6- 3 0
Dates, per dozen...	7 0 —
Figs (Italian), bxs.	0 6- 1 0
Cranberries, p. case	9 0-12 0
Grape Fruit, case:	
— 96's	16 0-24 0
— 80's	
— 64's	
— 54's	
— per dozen ...	6 0 —
Grapes (English), per lb.:	
— Hamburgh ...	0 3- 1 3
— Canon Hall ..	1 6- 5 0
— Muscats ...	1 3- 4 0
— Gros Colman	0 8- 2 0
— Black Alicante	0 6- 1 6
— Gros Maroc ...	1 0- 1 6
— Almeria, barrel	12 0-18 0
— Lisbon, case...	7 0- 8 6
Lemons, per case:	
— Malaga ...	22 0 —
— ordinary ...	6 0- 7 0
Lemons, per case:	
— Naples ...	28 0 —
Medlars, per crate	4 0 —
Melons (Guernsey)	1 9- 3 0
— (English) ...	1 9- 3 0

	s.d. s.d.
Melons Canteloupe	2 0- 3 6
— (Spanish), per case	7 0-12 0
— Bronzed, per case	10 0-12 0
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt....	50 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 2-0 2½
— Walnuts per dozen lbs.	2 6--6 0
— — French, per bag ...	7 0- 8 0
— English doubles per dozen lbs.	6 0-10 0
Oranges:	
— Cape, per case	18 0-20 0
— Jamaica, case	12 6-16 0
Peaches	
— Canadian, per box	2 6- 3 6
— Californian, p. tray	4 0- 5 0
Pears:	
— French, pr. box	3 0 —
— — per crate ...	6 0- 8 0
— English, ½ bus.	1 0- 3 0
— Doyenné du Comice, dozen	1 0- 3 0
— Dessert, per ½ bushel	3 6- 6 6
— Californian, p. case	7 0-12 6
— Doyénné du Comice, p. case	12 0 —
— Dutch Catalac, ½ bushel ..	3 6 —
Pineapples, St. Michael ...	2 0- 4 0
Plums:	
— (Californian), crate	8 0-12 6
Pomegranates, per case ...	7 0- 8 0
— per box ..	2 6 —
Quinces, ½ bushel	3 6- 4 6

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Aubergines, per dozen... ...	2 0 —
Asparagus, Paris green	4 0- 4 3
Artichokes (Globe), per dozen ...	2 6- 3 0
— English ...	2 0 —
— ground, ⅓ bus.	1 6 —
Beans:	
— French, per lb.	0 9 —
— Madeira, per handle	3 0 —
Beetroot, per bushel ...	1 0- 2 0
Cabbages, p. tally	2 6 —
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun....	2 6 —
— dirty, per bag...	2 6 —
— washed, bag...	3 6 —
Cauliflowers, per — tally	7 0-10 0
Celery, per dozen	12 0-15 0
— dirty	12 0-14 0
Cucumbers, per flat	5 0- 6 0
Endive, per dozen	0 6- 1 0
— French p. doz.	1 6 —
Greens, per bushel	1 0 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles ...	12 0 —
Leeks, per doz. ...	2 0 —
Lettuce (English), Cos, per box ...	1 6- 2 0
Cabbage, per dozen	0 3- 0 6

	s.d. s.d.
Lettuce, French, p. doz.	1 6 —
Marrows, per taliy	3 0 —
Mint, per dozen bunches ...	4 0 —
Mushrooms, cultivated, per lb.	1 0- 1 9
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag ...	3 6 —
— per bushel ...	2 0 —
— Picklers, p. bag	4 0 —
— (Spring), per doz bunches	3 0 —
— (Spanish). case	4 6- 6 6
— Dutch, bags ...	2 9- 3 0
Parsley, per doz. bunches ...	2 0 —
Parsnips, per bag	2 6- 3 0
Radishes (English) per dozen ...	0 10- 1 0
Sage, per dozen ...	1 6 —
Spinach, ½ bushel	2 0 —
Sprouts, ½ bushel...	1 6- 1 9
— bags	2 6- 3 0
Tomatos, per doz. lbs.:	
— (Guernsey), ...	3 6- 3 9
— (English) ...	3 0- 4 0
— seconds ...	1 0- 1 3
— (Canary) per bundle	10 0-12 0
Turnips (English), per dz. bunches	1 3- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Watercress, p. dz. bunches ...	0 4- 0 6

REMARKS.—English and Colonial Apples are in fair demand considering the large quantities arriving in Covent Garden. English Doyenné du Comice Pears are a record crop, whilst heavy shipments of these fruits are arriving from the colonies. Home-grown Gros Colman and Black Alicante Grapes of excellent quality are on sale, and the demand shows a slight improvement. Selected bunches of Canon Hall Muscat are in request. Good samples of Californian Plums are obtainable. Blackberries, Medlars, and Quinces are all fairly plentiful. Tropical fruits now in the market include Avocado Pears, Mangoes, Custard Apples, Monstera deliciosa and Lychees. Nuts include Cobnuts, Walnuts, Spanish and French Chestnuts, Brazils, Almonds, Barcelona Nuts, and Cocoanuts. Supplies of English Tomatos are about equal to the demand. Teneriffe an increased supply and are meeting with a good demand at lower prices than last week. French Dwarf Beans from France and the Channel Islands continue a good supply. Paris Green Asparagus is obtainable in fairly large quantities. The commoner vegetables have been very plentiful during the past week, Cauliflowers and Brussels Sprouts in particular. *E. H. R., Covent Garden, October 30, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per bag. s.d. s.d.
Bedfords	3 9- 4 6	Dutch	3 0- 4 0
Kents	4 0- 5 3	Belgian	3 3- 4 0
Blacklands ...	3 9- 4 3		
Lincolns	4 0- 5 0	German	3 9- 4 3

Remarks.—Trade and prices remain about the same. Still a large quantity of German, Dutch and Belgian Potatos arriving. Very best English Potatos are in demand. *Edward ’. Newoorn, Covent Garden and St. Pancras, October 30, 1912.*

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending October 30.

The wettest week for four weeks.—After four very cold days the day temperatures on the 25th inst. began to rise, and are now about 6° warmer than is seasonable. The last four nights have also been very warm for the time of year. On the other hand, on the first three nights of the week the exposed thermometer registered from 6° to 9° of frost. During the past few days the ground temperatures, which had been very low, have risen rapidly, and are now a degree warmer at 2 feet deep, and 2° warmer at 1 foot deep, than is seasonable. Rain has fallen on the last four days to the total depth of 1½ inches; or to a greater depth than in the previous 25 days of the month. During the week 6½ gallons of rainwater has come through the bare soil gauge, and 5 gallons through that on which short grass is growing. The sun shone on an average for 1½ hours a day, which is more than an hour a day short of the usual duration at the same period in October. On three consecutive days no sunshine at all was recorded. The first three days of the week were very calm, but since then the wind has been often rather high, but in no hour did the mean velocity exceed 15 miles. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by 1 per cent. *E. M., Berkhamsted, October 30, 1912.*

Obituary.

James Leslie.—Mr. James Leslie, retired gardener, Aberlour, died there on October 21 aged 85 years. He was for many years gardener at Aberlour Orphanage.

ANSWERS TO CORRESPONDENTS.

Apple Leaves: *W. F.* The Apple leaf-miner (Lyonetia clerckella) is attacking the tree. Gather the fallen leaves and burn them. Next September spray the foliage with a strong arsenical wash, which will kill the larvæ and pupæ. Constant spraying with paraffin emulsion in the spring will prevent the pest laying her eggs.

Creosote: *A. S. T.* This can be purchased from the Cheap Wood Co., 16, Devonshire Square, London, or Messrs. Carson and Sons, Grove Works, Battersea.

Gooseberry and Currant Roots: *L. E. C.* A fungus is present at the roots. A mixture of two parts quick-lime and one part sulphur should be worked into the soil.

Dendrobium Phalænopsis: *A. K.* Some species of Orchids are not easily induced to flower much earlier than their normal season, and Dendrobium Phalænopsis is such an Orchid. But as you have flowered the species so successfully in October, you might be able to get a proportion of the plants in bloom a month earlier if you make a selection of strong plants and subject them to a more vigorous period of rest, keeping them drier and cooler than you have been in the habit of doing, and return the plants to the warm, moist house earlier than has been your custom.

Insecticide: *G. V. D., Bruges.* The insecticide to which you refer is, no doubt, hydrocyanic acid gas. It may be prepared from either potassium cyanide or sodium cyanide, but it is preferable to use the latter. Hydrocyanic acid is liberated when sulphuric acid is poured on to the cyanide of soda. The operation requires great care, owing to the *extremely poisonous* nature of hydrocyanic acid gas. The chemical is placed in an earthenware vessel, and the acid arranged above it in a bottle or other glass receptacle, with a string attached leading outside the building, say, through the keyhole. This is to enable the operator to liberate the acid from the outside. For delicate subjects and for vines in full leaf, 1½ ounce of the cyanide, 3½ ounces of sulphuric acid, and 10½ fluid ounces of water may be used with safety. The work should be done in the evening, and not in the strong sunlight, whilst the temperature of the house should not exceed 60 degrees, and the plants and surroundings should be dry. The glasshouse should be kept closed during fumigation from three-quarters of an hour to an hour, and then the ventilators and doors should be opened from the outside, and should remain open for some time before anyone is allowed to enter the house. It is best to do the work on a calm day. Close any crevices in the house through which the fumes might escape. The horticultural sundriesmen supply outfits and material.

Manures: *A. S. T.* Your previous question concerning the relative values of horse manure and moss litter manure was answered at the foot of "Early Potato for Medium Soil" on p. 276 of our issue for October 5 last. The present form of your enquiry is not quite clear; if by straw manure you mean farmyard manure, this is certainly the more valuable, even at the increased price per ton. You do not state the price of the horse manure, but for digging into the soil it is more valuable than moss litter manure, which, however, is frequently very good for applying as a mulching, especially on lawns.

Names of Fruits: *W. E.* Gravenstein.—*J. B., Thirsk.* 9, Brockworth Park; 10, Woodcock; 11, Kentish Fillbasket.—*W. G. W.* 1, Maltster; 2, Beurré d'Amanlis; 3, Magnate; 4, Tom Putt; 5, Lord Derby.—*F. M.* 1, Marie Louise; 2, Bergamotte Bufo; 3, Blenheim Pippin; 4, The Queen.—*H. T. Z.* 1, Doyenné du Comice; 2, Bachelor's Glory; 3 and 4, Beurré Superfin; 5, Christmas Pearmain; 6, Grosse Calabasse; 7, Durondeau.—*A. R.* 1, Beurré de Capiaumont; 2, Uvedale's St. Germain; 3, Reinette Franche; 4, Mank's Codlin; 5, specimen too small; 6, Pitmaston Duchess.—*H. Pristney.* 1, Maréchal de Cour; 2, Beurré Clairgeau; Apple, Gascoyne's Scarlet Seedling.—*E. E.* 1, King of the Pippins; 2, Hanwell Souring; 3, Belle Dubois; 4, Withington's Fillbasket.—*R. J. R.* 1, Summer Strawberry; 2, Warner's King; 3, Melon; 4, Orange Goff; 5, Old English Nonesuch; 6, not found; 7, Pitmaston Duchess; 8, Vicar of Winkfield; 9, Beurré Baltet Père; 10, Bergamotte d'Automne; 11, Beurré Clairgeau; 12, Maréchal de Cour; 13, King's Acre Pippin; 14, Dean's Codlin; 15, English Nonesuch; 16, Gravenstein; 17, Waltham Abbey; 18, Stirling Castle.—*M. H. O.* 1, Dutch Mignonne; 2, White Nonpareil; 3, Northern Greening; 4, Cockle Pippin; 5, Flower of Herts.; Pear Autumn Bergamotte.—*F. T. R.* 1 and 5, Annie Elizabeth; 2, Warner's King; 3, Lady Henniker; 4, Bess Pool.—*G. W. P.* 1, Cellini; 2, Alfriston; 3, Reinette du Canada. Pears: 1, Marie Louise d'Uccle; 2, Beurré Superfin; 3, Beurré Diel.—*H. E. S.* 1, Beurré Léon le Clerc; 2, Old Nonpareil; 3, Bramley's Seedling; 4, not recognised; 5, Emperor Alexander; 6, St. Edmund's Pippin.—*E. G. Langford.* Pear Bellissime d'Hiver; Apple Court-pendû-plat.—*T. P.* 1, Beurré de Jonghe; 2, Beurré Diel; 3, Beurré de Caen; 4, Brown Beurré; 5, Rymer; 6, Summer Pearmain.

Names of Plants: *Thomas Bury.* Polygonum sachalinense; not a British plant.—*H. B.* The Aster is not Feltham Blue variety; it more closely resembles A. formosissimus.—*W. F.* 1, Acer rubrum; 2, Magnolia grandiflora; 3, M. tripetala; 4, Cornus macrophylla; 5, Acer rubrum.—*E. A. H.* 1, Juniperus chinensis; 2, Pinus Strobus (Weymouth Pine); 3, Thuya occidentalis globosa; 4, T. plicata var.; 5, Libocedrus decurrens; 6, Thuya plicata (Lobbii); 7, send when in flower; 8, Cupressus plumosa albo-variegata; 9, Thuya orientalis nana.—*S. P.* 1, Cupressus funebris; 2, Ceanothus dentatus.—*Sir A. H.* 1, Veronica speciosa (garden form); 2, Vitis Wilsonii.—*Anxious.* 1, Probably Alyssum incanum; 2, Anthemis arvensis.—*Herbert W. Stevens.* The Michaelmas Daisy resembles the variety Edna Mercia, but there are others of a similar shade: a knowledge of the habit is necessary in determining these flowers.—*W. J. Green.* Hibiscus Manihot, a common tropical plant. It has long been in cultivation in this country. Although usually grown in a stove, the plant thrives in a sunny greenhouse and in the milder parts of this country it is used for summer bedding.—*Torbay.* Ornithogalum lacteum.—*F. T.* 1, Oncidium flexuosum; 2, O. barbatum.

Pears: *L. S.* No disease is present in the fruit. The decay has been caused probably by bruising.

Pears Diseased: *W. H. Cobham.* The disease is Pear scab (Fusicladium pirinum). On the first appearance of this fungus on the foliage, spray the leaves with the Bordeaux Mixture at half the usual strength (6 lbs. of copper sulphate and 3 lbs. of quick-lime to 100 gallons of water); if the spores are once allowed to mature, the case is hopeless, owing to their enormous numbers and rapid dispersion. The spraying should be practised at intervals as found necessary, until the fruits are about the size of Hazel Nuts. It is not advisable to use strong Bordeaux Mixture, or it will scorch the foliage. Where the disease is present, all the Apple and Pear trees should be thoroughly drenched with a solution of sulphate of copper, 1 lb. of sulphate to 25 gallons of water, during the winter, before the buds have commenced to swell, as this winter spray fluid must not be applied afterwards. Any fallen fruits or leaves that are diseased should be gathered and burnt.

Scabious with Proliferous Flowers: *H. W. P.* The abnormality is caused by certain of the buds of the capitulum growing out to form secondary inflorescence stalks instead of forming ordinary florets.

Tennis Courts and Bowling Green: *S. J. M.* The measurements you state for the proposed lawn-tennis courts are quite correct, but, as there is a deal of levelling to be done, you might reduce the allowance of 15 feet between each court. The usual size of a bowling green is 40 yards square, and the ground is surrounded by a shallow trench. The ground is laid out square, so that it may be played upon from all sides in turn, and so frequently change the field of play, and if you make your green in two parts the area for play will be greatly restricted. Some bowls have a great amount of bias, and on such a narrow green as that you suggest, the "jack" would have to be rolled approximately along the middle of the green. If you have had experience in this kind of work your plan of engaging men to work under your supervision is decidedly the most economical, but with only four men the work will progress but slowly. As you evidently are aware, the cost of the work can only be roughly estimated by us. The cutting, rolling, and relaying of the turf will probably cost you 4s. per 100 turves (3 feet by 1 foot), and to this must be added the cost of loading and shifting them to the courts. The usual cost of levelling ordinary soil is 3d. per yard. super, but the nature of the soil and the distance it has to be wheeled must be considered. The wages for such men as you require varies from 5d. to 7d. per hour, and the best labour is nearly always the cheapest. As there is no local labour available, you may probably find that your best plan will be to engage men through some garden contractor. For levelling, builders' labourers are often very satisfactory, but they are generally useless for laying and beating turf.

Tool for Cutting Cardboard: *A. S. T.* We do not know of any tool made especially for cutting cardboard the shape you require, but the work could be done with a large, strong pair of scissors, or with the tool used by plumbers for cutting thin sheet-lead, which is stocked by all ironmongers; any of whom would probably suggest other suitable implements.

Communications Received.—S. and S.—G. W. T.—Hope—F. R. S.—Longman—W. B.—H. B. (Thanks for 1s., has been placed in the R.G.O.F. box.)—Horsley—Tarboy—Rex—G. A. B. & Co.—E. H. J.—W. R. D.—F. M.—J. W. M., Italy—E. P. P.—H. S.—White Rose—Mrs. R. M. K.—W. H. C.—A. S. C.—J. R.—A. C. W.—A. G.—W. A. W.—H. N.—A. K.—E. M.—H. B. M. & Sons—F. J.—H. S. T.—H. M.—H. N.—S. B.—Yorkshire Gardener—A. H. P.—F. B.—J. G.—O. T.—A. D.—W. P.—W. B. H.—A. H.—R. D.—J. W., Glasgow—W. L. M.—M. A. K.—T. B.—C. D.—A. H.—S. H. A.—A. R. A.—J. H.—W. F. C.—A. T.

THE
Gardeners' Chronicle

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NEW ROSES.

THE time for planting has arrived, and many are considering the ordering of new Roses—some for experiment, others for filling up gaps or laying out fresh beds. A few words, therefore, on my experience of some of the newer varieties may be of interest.

The list of Roses introduced in or since 1908, published by the National Rose Society, includes something like 650 varieties, and of these I have tried nearly 100 in my own garden for longer or shorter periods. I have selected those that have appeared to me most pleasing as seen at the shows or in nursery gardens. But even this reduced list is too long to treat of in this article, and I omit altogether such varieties as have either proved unsatisfactory or are merely useful as exhibition varieties with little value for general garden purposes.

But it does not follow that because a Rose has failed with me it would necessarily do so in all gardens. I may instance the variety Lady Alice Stanley, of which I have grown a small batch for three years, and I doubt if I have secured three perfect flowers. The variety is hardy, very vigorous and most free in flowering, but my blooms have all been rough, lumpy and ugly, so that I am digging up the plants to grow them in pots, and if then no better than out-of-doors they will be discarded. More than one of my friends have quite a contrary experience of this Rose, and think highly of it, so that I conclude there is something different in their soil or treatment.

Thus, many good new Roses may not be mentioned below either because I do not happen to have tried them, or because my experience has been unfortunate.

THE HYBRID TEAS.

ANDRÉ GAMON (H.T., Pernet Ducher, 1909) is a delightful garden Rose, and most fragrant. It is said to have resulted from crossing two unnamed varieties. The colour is generally described as deep rose shaded crimson, but I think it is brighter than this, and I prefer to call it rose-pink with a trace of yellow at the base of the petals, which, though scarcely noticeable, adds to the brightness of the flower. Though not very tall, the plant makes sound growth. The flowers are fairly well shaped, and of good substance, but I should think it would be too thin to be of use for exhibition, except occasionally, and it must stand by its merit as a garden Rose.

ARTHUR R. GOODWIN (H.T., Pernet Ducher, 1910) is said to be derived from an unnamed seedling crossed with Soleil d'Or. The variety is fairly well known, and is chiefly remarkable for the beautiful colour and form of its buds, which are long, pointed and coloured rich yellow with a bright brownish tinge. The flowers when expanded are flat centred, of a slightly paler yellowish buff, usually suffused with a faint blush of salmon. Many like the expanded flower, but to me the beauty goes when the bud expands. Like most of the yellow Roses the colour is somewhat washed out in a wet autumn. The brilliant colour of the buds is very striking and often attracts attention in the garden. The plant seems to grow satisfactorily, but is not tall, my plants varying from 1 foot 6 inches to 2 feet high. To those, like myself, who fail to appreciate the expanded flower, the weakness of this Rose is the short period during which the flowers are attractive, but in spite of this it is one of the most distinct of the newer Roses. Special features of the plant are its shiny chocolate-coloured stems, resembling those of Gottfried Keller, and its large thorns, which are red and translucent while young.

BEATRICE (H.T., Wm. Paul and Son, 1909) is a bright deep pink bloom, much resembling the tint of Mme. Maurice de Luze, but the flower is less closely packed with petals, and so opens better in autumn than that variety. I had a liking for this Rose when it was first introduced, and thought it would make a good exhibition flower, which it will do sometimes, though not often, and it must be regarded as a garden Rose. The plant grows well, making a bush about 2 feet 6 inches high, and is fairly free flowering. Altogether it is an attractive Rose of good distinct colour.

CHÂTEAU DE CLOS VOUGEOT (H.T., Pernet Ducher, 1908). Though classed with the Hybrid Teas, this variety has rather close relations with the Chinas, but I am not aware of its parentage. It is chiefly remarkable for its wonderful colour, which is a very deep velvety crimson. One of the darkest of Roses, it retains its colour well without burning or shrivelling in the sun, as do some of the dark H.P.s. The shape of the young flower is good, but it opens to a flat centre, the middle petals being rather short, and the blooms are not large. It would be a fine garden Rose but for its rather ugly habit of growth, for it often sends out its flowering shoots at right angles to the stem, and this detracts a great deal from its value as a bedding variety. It flowers well early and late, but there are considerable periods in the summer when the plants are flowerless. The blooms are delightfully fragrant, and in all gardens of any size a few plants should be grouped with the Chinas.

CYNTHIA FORDE (H.T., Hugh Dickson, 1909). This is a tall, vigorous variety, growing 3 feet or more in height. The large loose flowers are bright rose-pink in colour and produced freely on long shoots. The petals are of good substance and of a slightly waved or crinkled outline, which is pleasing. It promises well as a good garden Rose.

DUCHESS OF WELLINGTON (H.T., A. Dickson and Sons, 1909). This is an excellent bedding Rose, growing about 2 feet 6 inches high, free and fairly continuous in flowering, with excellent foliage. The colour is striking, being a saffron-yellow with the outside of the petals deep coppery-orange. The buds are very long and pointed, but the open flowers are apt to have confused centres. In fine weather a bed of this Rose is very attractive, but its weakness lies in the substance of the petals being too papery; moreover, when wet, the outer petals of the buds cling together and the flower rots without opening. These are serious faults; but, notwithstanding them, it is one of the best budding Roses of its colour.

ENTENTE CORDIALE (Austrian hybrid, Guillot, 1909). This was raised as a cross between Caroline Testout and Soleil d'Or, and must not be confused with Pernet Ducher's Rose of the same name. The flowers are scarcely more than semi-double; the petals are yellow edged with salmon and tipped with rose. The plant is a fairly strong grower, very pretty when in flower, but with me it has not proved a sufficiently continuous bloomer. It seems to be best adapted for growing as a good-sized bush in the semi-wild garden.

EDWARD MAWLEY (H.T., McGredy and Son, 1911). I must refer to this Rose on account of its colour, though my knowledge of it comes chiefly from my friends' gardens. It is a very deep crimson variety, which apparently does not burn in the sun. The flowers are not large enough for exhibition as a rule, but are produced continuously and very freely.

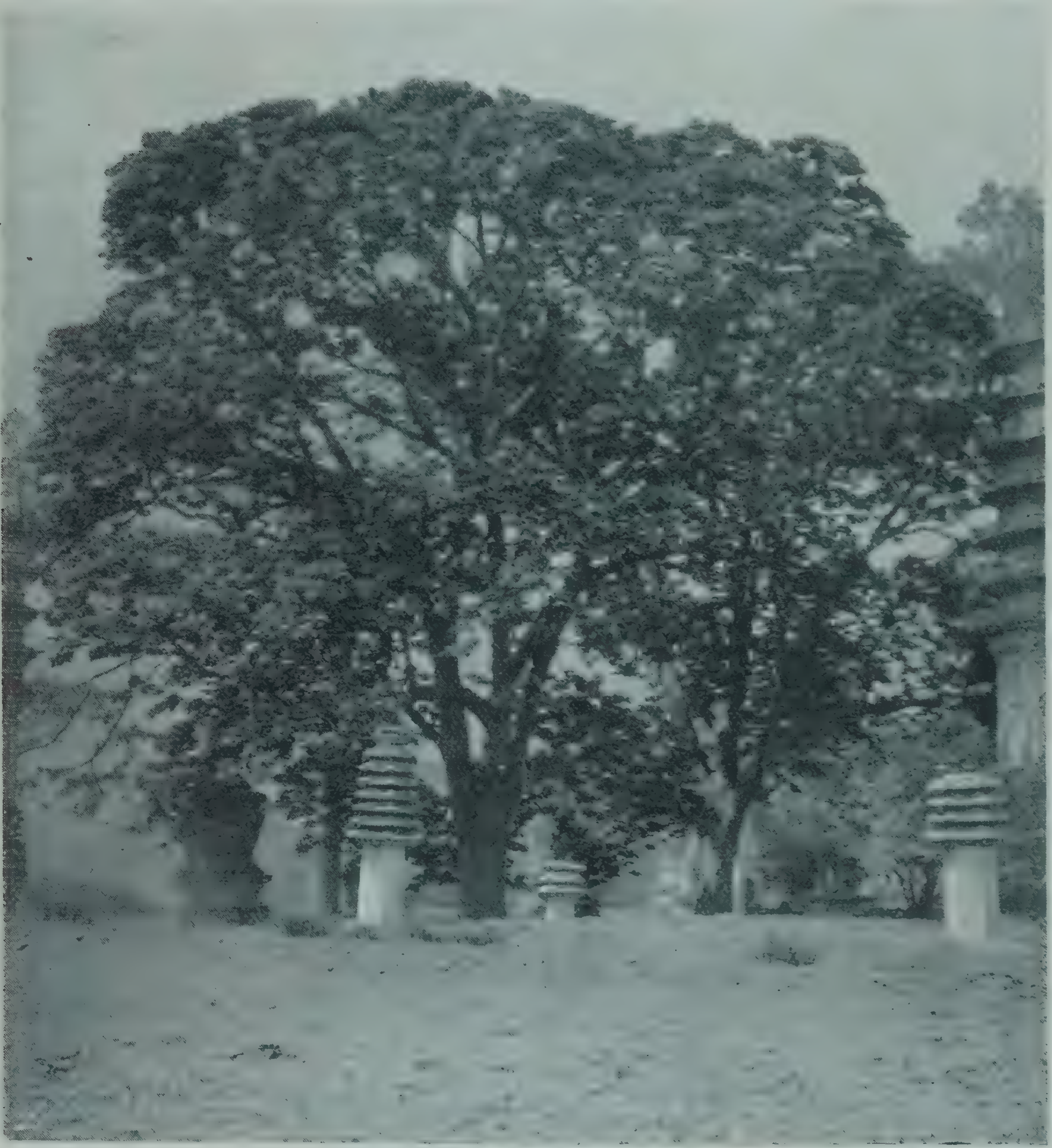
ETHEL MALCOLM (H.T., McGredy and Son, 1910). This is a beautiful variety, and should be useful both for the garden and exhibition. The flowers are creamy-white with a soft peach-coloured centre, and perfect in form. It seems free-flowering and fairly continuous. My experience of this Rose is only of one year's duration, but, such as it is, that experience is all favourable. Unfortunately, the parentage is not stated.

Georg Reimers (H.T., Soupert et Notting, 1910) is a cross between Richmond and Etoile de France. It seems likely to make a useful garden Rose, for it is very free and continuous in flowering, with blooms of a good crimson-red, intermediate between the colours of its parents. It has been described as an improvement on Richmond, but it will have to prove a very good Rose to be this. As in the case of Ethel Malcolm, I have only possessed plants for one year, but have thought it worth increasing, and the only thing I have against it is its habit of folding the petals over the centre point, which is apt to spoil the symmetry of the bloom, but I hope it may get over this bad habit when it becomes established.

Herzogin Marie Antoinette (H.T., Welter Jacobs, 1911). This is a most beautiful little Rose, of perfect shape, and deep orange-yellow in colour, not altogether unlike Lena in appearance. If it would only grow well it would be a charming little plant, the blooms being very suitable for buttonholes, but it seems of delicate constitution, and my specimens have not made much progress. I must, therefore, have more experience of it before I can recommend it, except as an experiment. Its shape and colour are its best points.

Jonkheer J. L. Mock (H.T., Leenders and Co., 1909) has in its pedigree such notable Roses as Caroline Testout, Mme. Abel Chatenay, and Farben Königin. The deep rose flower is well built, well carried, large and handsome. The plant is a strong and vigorous grower, and seems promising.

Lady Pirrie (H.T., Hugh Dickson, 1910). This is one of the most beautiful decorative Roses yet introduced. The prevailing colour is a deep salmon-pink, and the petals have a slightly waved or crinkled edge. The flowers are so thin that in hot weather they open too rapidly, and hence are perhaps best in cool weather, or in autumn. The plants are apparently of good constitution and carry fine leathery foliage. I am planting a bed of it this autumn in half shade, which I hope may prove the best way to grow it.



[Photograph by W. Purdom.

Fig. 150.—Æsculus chinensis growing in the precincts of a Chinese temple.

Mme. Ségond Weber (H.T., Soupert et Notting, 1908), was raised from Antoine Rivoire and Souvenir de Victor Hugo (the latter a rose-coloured H.P. brought out by Pernet père, not to be confounded with the well-known Victor Hugo, of Schwartz, which is red. It is a lovely Rose in fine weather, the colour being light salmon-rose mixed with old rose or fawn. It is a good grower and flowers fairly freely and continuously. The bloom is moderately large and well shaped, but seldom good enough for exhibition purposes. Unfortunately the petals are spoilt by the first shower of rain, but in spite of this the variety is worthy of a place among good garden Roses.

Margaret (H.T., Wm. Paul and Son, 1909) is a very well-shaped flower of good substance and pale salmon-rose in colour. The plant is a good grower, and the flower is often perfect enough for exhibition. This Rose has few faults, but is not very distinct in colour, and did not give me quite so many flowers as I could wish during this wet summer, but then I have only had it for one year, and it has been very good during the autumn.

Mrs. Alfred Tate (H.T., McGredy and Son, 1907) is another beautiful garden Rose. For this purpose it is perhaps among the best half-dozen new Roses. The buds are long, pointed and reddish-orange in colour. The tint of the flowers is difficult to describe, the reddish-pink has a lot of yellow in it that lights up well either by candle light or in a tent, and often for the want of a better term it is described as salmon. It is a colour that matches well with Irish Elegance, but is more salmon and less pink. The flowers are carried straight and erect, well above the foliage, but they are scarcely more than semi-double. The blooms are produced freely, but not quite continuously, that is, there are noticeable intervals between the flowering periods. The plants grow fairly tall, 2½ to 3 feet, but are not spreading, and they may be planted as closely as 18 inches apart in the bed. The foliage is dark green and good, whilst the growth is excellent. I think I may say this is already a popular variety, and will become more so as it gets better known. *White Rose.*

(To be continued.)

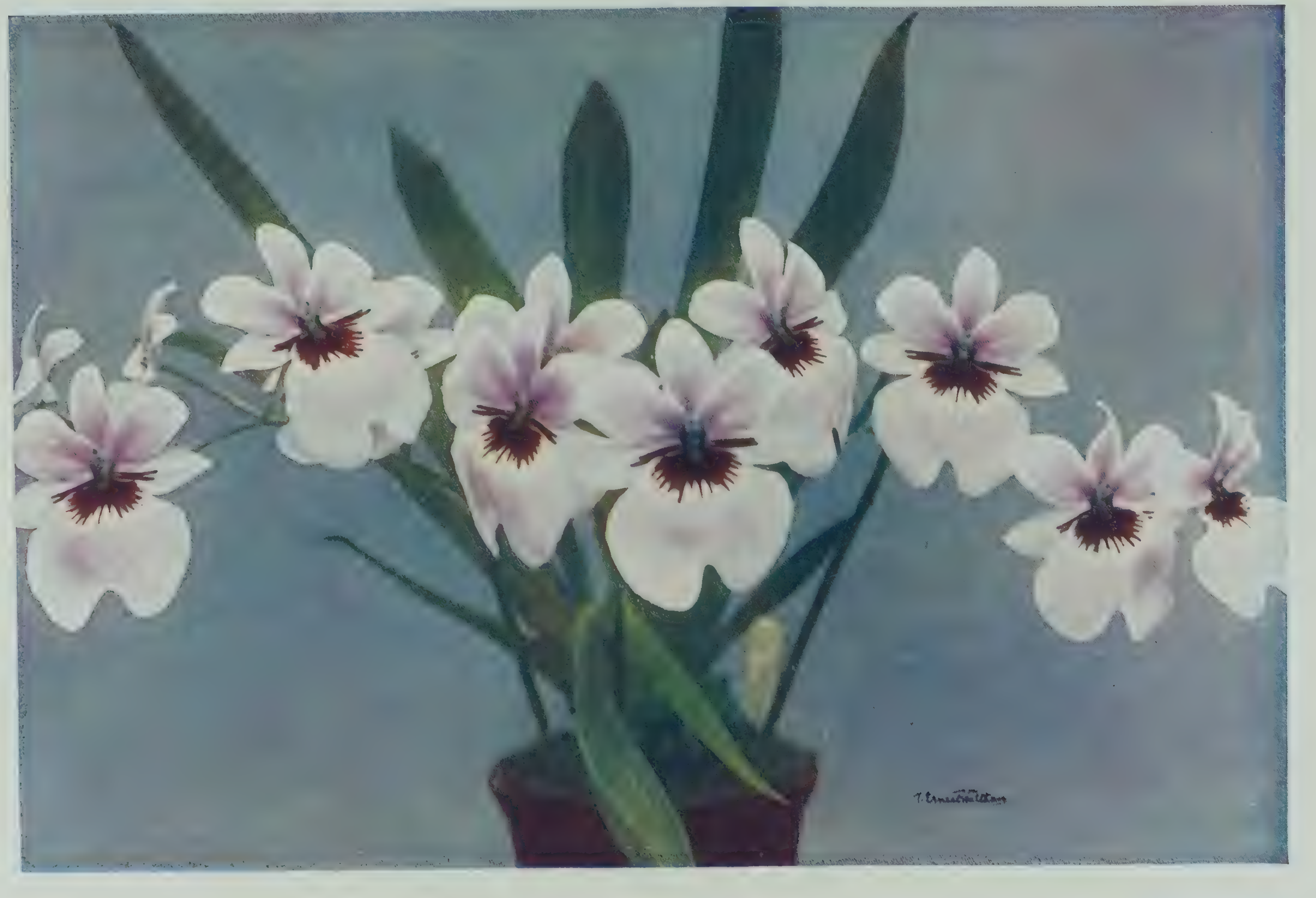
ÆSCULUS CHINENSIS IN CHINA.

The illustrations in figs. 150 and 151 show Æsculus chinensis growing in the precincts of a temple in the hills 30 miles west of Peking. This species is by no means common in the district; only nine specimens were seen, all growing in temple grounds. The Western Hills across the Peking Plain, with the exception of the temple preserves, have been cleared of vegetation, and there is no sign of Æsculus growing outside these places. It is much prized by the priests, who regard it as a sacred tree. It grows into very fine specimens, the stem of the one photographed being 17 feet girth, 1 foot from the ground, and several are over 50 feet in height, with large-spreading leaf surfaces.

At the time of my visit (May 1, 1912) the flower-spikes were just showing, but the flowers were not open. The Chinese call it the "So Lo Shu." Sir Alexander Hosie's translation of the word is as follows:—

"'So,' to frisk or dance or even to saunter; 'Lo,' a net or to expand; 'Shu,' a tree. But it may be that 'So Lo' is a Chinese rendering of the Sanskrit 'Sâla.' Professor Giles, in his Chinese dictionary, says that the 'So Lo' tree is the Shorea robusta, Gaertn, an immense timber tree, under which Buddha was born and died." The latter fact may possibly explain the priests' attitude towards it, and also the use to which they put the seeds, namely, as a medicine for stomach trouble. The nuts are pounded and taken in hot water. As this Chestnut has long been sought by botanists and horticulturists, it is interesting to state that the living specimens, brought to England viâ Siberia, arrived home in good condition. The photographs are reproduced by permission of Sir Harry J. Veitch. *W. Purdom.*

Supplement to the "Gardeners' Chronicle."



MILTONIA "MEMORIA BARON SCHRÖDER"

FORESTRY.

THE LARCH SAWFLY.

Judging from the enquiries received, this comparatively new pest of British woodlands would appear to be increasing to an alarming extent in this country. This is the more unfortunate in that its depredations are not confined to the European Larch, for in several plantations the Japanese form has been attacked in a most virulent manner. Trees growing in a south or west aspect, and particularly where the soil is poor, would appear to fare worst, and the insect has been found at all altitudes up to fully 900 feet. Preventive or remedial measures may be carried out successfully in the case of single trees or small groups; but when a whole plantation is affected, the cost of combating the insect is so great as to be almost out of the question. As in the case of the Oak Leaf-roller moth (Tortrix viridana), the Larch sawfly is being kept somewhat in bounds by the attacks of other insects, for example, spiders of various species destroy the larvæ in large numbers. Dusting with hellebore, though an expensive undertaking, has been recommended, and causing smoke to pass over and amongst the affected trees from fires on the outskirts of the woodlands is found to be beneficial. Handpicking, too, has been carried out with good results.

HIGH PRICES FOR OAK TIMBER.

Exceptionally high prices were paid for Oak timber at a sale held recently at Wilton, near Rugby. For single trees of Oak and Ash the highest prices were £31 and £15 10s. respectively, whilst the average for ten trees of Oak worked out at £23, and for five of Ash fully £12 each. The trees, which were large, and the timber of which was excellent, were competed for keenly by buyers from many parts of England and Scotland. But all through the past season the best quality of Oak timber has sold well, whilst young, supple Ash, suitable for tool handles and the manufacture of agricultural implements, has found a ready market at remunerative prices.

REPRODUCTION OF THE WEYMOUTH PINE.

The Weymouth Pine reproduces itself in several parts of this country, but probably nowhere more freely than in Aspley Wood, on the Woburn estate. Advantage has been taken of this natural reproduction to get up a crop of this Pine by carefully thinning and otherwise attending to these self-sown seedling trees. On the Holwood estate, in Kent, too, many fine young trees are the result of chance seedlings. Though attaining large dimensions, it is hardly likely that the Weymouth Pine will be valuable for afforesting purposes, particularly where the economic value of the timber is a point of consideration.

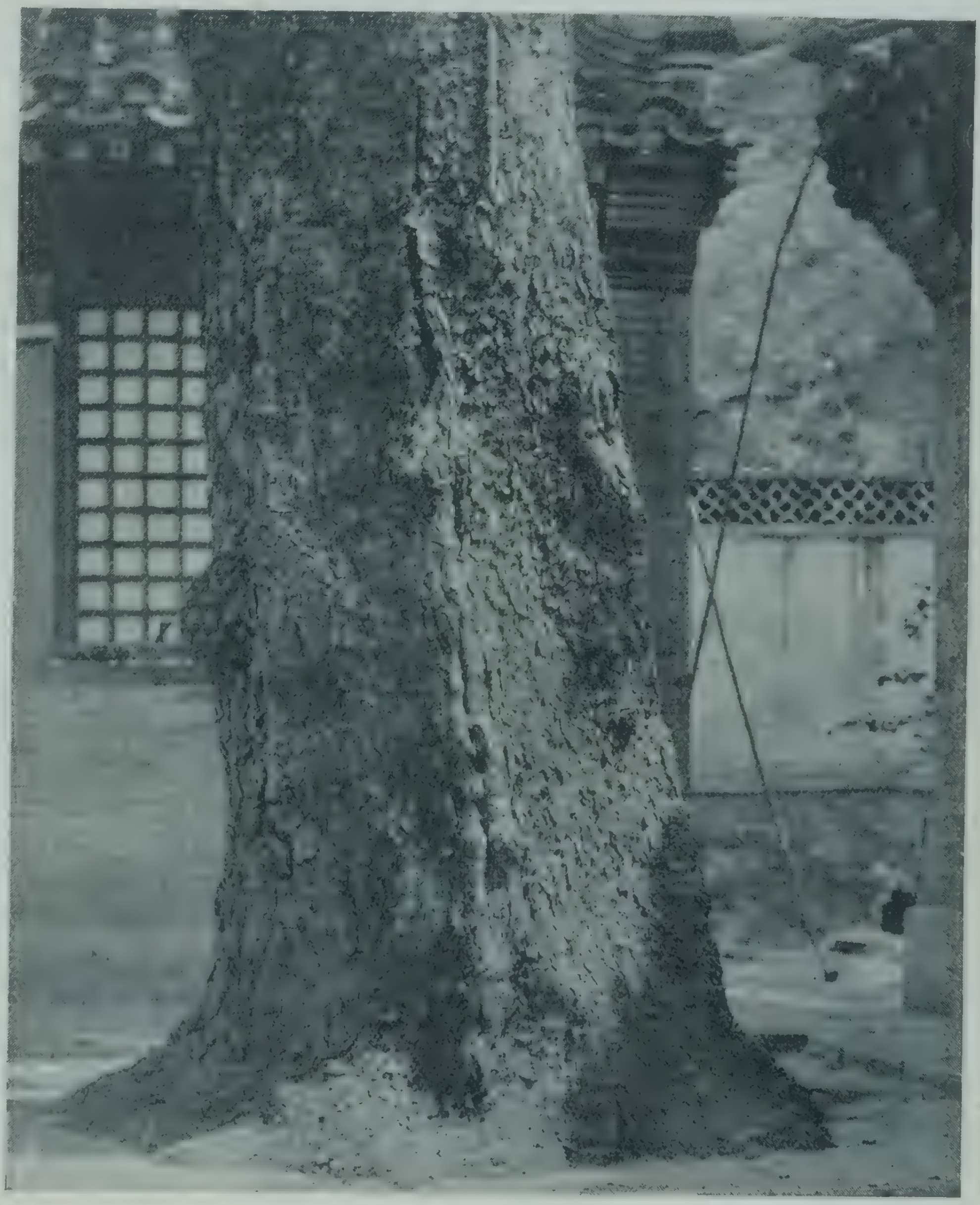
DEARER FIREWOOD.

With the advance in the price of firewood prepared in London from imported timber, there is every reason to believe that house faggots and bundles of wood for firelighting made from home-grown wood will correspondingly increase in value. The rise in price is mainly attributable to a dearth of vessels to carry the firewood, and to increased freights for shipping, the latter being about double what they were at the corresponding period of last year. As a consequence, only about one-half of the usual supply of wood is forthcoming, and the increase in price works out at about 6d. per 100 bundles. Small faggots for fire lighting made of home-grown wood have been delivered at 2s. 6d. per 100 bundles—a price that will no doubt increase with the present scarcity of the foreign supply.—*A. D. W.*

NOTICES OF BOOKS.

THE COTTON PLANT IN EGYPT.*

Mr. Lawrence Balls, who occupies the post of botanist in the Department of Agriculture of the Egyptian Government, has written a remarkable book. This work on the Cotton plant in Egypt is distinguished not so much because of the many important observations which it records—and it is full of such observations—but because it illustrates a novel and better method of the application of scientific research to problems of agricultural economics. There are in vogue at present two general methods for the resolution of the problems of economic biology: the one may be called the slap-dash method and the other the method of watertight compartments.



[*Photograph by W. Purdom.*

Fig. 151.—STEM OF ÆSCULUS CHINENSIS.

(See p. 346.)

Any student of economic mycology may find a dozen examples of the former method in the work of mycologists in relation to plant diseases, and every student of science is aware that the method is unscientific. The departmental method, which is that in high favour in this country at the present time, consists in the carving of economic problems into large slices for distribution among various specialised institutions. Neither of these methods is good and neither is adopted by Mr. Balls. As the philosopher looks on life and sees it whole, so Mr. Balls looks at the Cotton plant. In his professional capacity he recognises that the yield of this crop is determined ultimately by the extent of our knowledge of the conditions which determine the healthy and hearty growth of the Cotton plant. Therefore he has devoted himself with a courage and energy beyond all praise, and worthy of the widest emulation, to the study of the physiology and biology of this plant.

To those who are eager for large profits and quick returns the method will make no appeal. They come with specific problems; they require immediate answers and infallible remedies. These science cannot give, for they are the exclusive stock in trade of charlatans. But to the bigger men with larger views Mr. Balls's mode of attack will appeal. We can imagine, for example, a Lord Kitchener—though, perhaps, he might find the task of reading Mr. Balls's book more difficult than that of subduing the Mahdi—having an appreciation for the wisdom of a man who prepares for an assault by careful disposition of his forces and by thorough inspection of his ground, instead of flinging his forces forthwith against the citadel.

Such men of long views will agree with Mr. Balls that a problem which, like that of the Cotton crop, affects the prosperity of nations and involves sums so vast as 20 to 30 million pounds per annum, requires to be approached with thoroughness and circumspection. Moreover, the Cotton of Egypt, which stands like corn of patriarchal times for the prosperity of the land, has suffered severely of recent years, and it behoves anyone to move cautiously when the movement means either the prosperity or impoverishment of a nation.

It is these considerations which lead us to declare at the outset of our review that Mr. Balls has written a remarkable book. He has attacked the problem of the economic biology of the Cotton plant in a fundamentally proper manner by endeavouring to ascertain all that is to be known of the mode of growth of the plant and of the conditions which make or mar the crop.

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* *The Cotton Plant in Egypt: Studies in Physiology and Genetics*, by W. Lawrence Balls, M.A. (Macmillan's Science Monographs.) 5s. net.

Nor is it to be supposed that this method of approach is ultimately slower than the more specious mode of undertaking the enquiry by compartments. The divisions of economic biology in mycology, genetics, soil-science, and so forth are arbitrary; they correspond to nothing real in plant-life. No one may say in advance to which section a given problem should be referred. On the other hand, by proceeding from the general to the particular, the problems sort themselves out automatically and reveal the lines along which their resolution may be pursued.

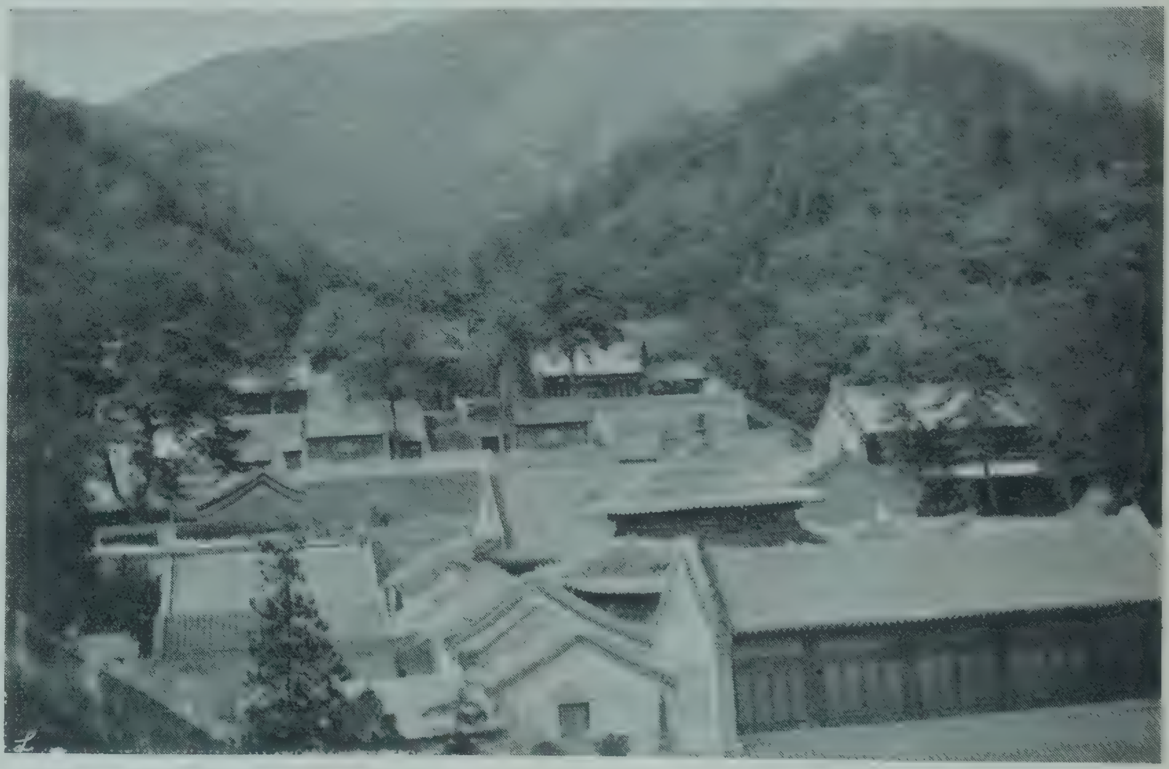
Mr. Balls's work provides many striking illustrations of the truth of this fact. His study of the root system of the Cotton plant confirms the all-important conclusion that the recent failure of the crop is the consequence of more copious irrigation and the resultant raising of the water-table. He shows, moreover, that the damage done varies in amount and definitely with the time of the year at which the excessive irrigation is practised.

Among the many interesting researches described in this volume, mention may be made of those on the "sore-shin" fungus and on the diurnal rate of growth of the Cotton plant. As a result of the investigations conducted on the fungus, which is a parasite of the Cotton plant, Mr. Balls is able to suggest a reason for the well-known fact that it is destructive of the seedlings only when the temperature is low. As the temperature rises, the fungus produces a substance which is poisonous to itself, and the rate of production of this toxin increases with the temperature. Hence, when seeds of Cotton germinate in warm weather, although the fungus gains access to their tissues, its growth is checked by the large amount of toxic substance which it produces, and the seedling is not mortally injured. This phenomenon Mr. Balls terms "thermotoxy," and if it is of general occurrence it may possibly prove a useful basis on which to develop preventive measures against other parasitic fungi. For example, it would be well worth the while of some mycologist to work out the temperature relations of the fungus (Fusarium solani) which does so much damage to stored Potatos. A determination of the temperature at which the fungus is least active might indicate a method which would be susceptible of reducing the ravages due to this disease.

The most remarkable fact discovered by Mr. Balls has reference to the daily rate of growth of the Cotton plant. By measuring the rates of elongation throughout the day it was discovered that direct sunshine brings about a complete cessation of growth. Throughout the season of active development from the seedling stage until autumn the elongation of the stem is arrested directly the sun shines upon it. So exact is the relation that "a cloud passing across the sun is immediately effective in permitting growth, which ceases again directly the cloud has passed." This sunshine effect, which is a striking testimony to the intensity of the light and heat of the Egyptian sun, is attributed by Mr. Balls to loss of water by the plant. In the high temperature so much water is transpired that growth becomes impossible, and, in support of this conclusion, Mr. Balls points out that if, by removing some of the leaves the rate of transpiration be lowered, the stem resumes its growth almost instantly.

As we have indicated, Mr. Balls has done good service in pointing, by his example, to the one true way of solving problems in economic biology, and we regret, therefore, that the book is so written as to appeal only to those who have a fair knowledge of botany. It is to be hoped that the author may see his way to the preparation of a smaller volume, in which the story of his researches is put in a form intelligible to the layman, and from which are removed many of the observations which are as yet inconclusive. Even the student of botany will, we fear, find considerable difficulty in picking out the fundamental conclusions drawn by Mr. Balls from his extensive experiments in the domain of genetics. Nevertheless, so much of the substance of the work is valuable, and the attitude of the writer to his problem is so just, that it would be ungenerous to close this review with a note of adverse criticism.

Mr. Balls has carried on his work with energy, acumen, and endurance. He has not faltered under a sun so fierce that it arrests not only the growth of many plants but also the energies of most Europeans. He hands us a volume which is partly monograph, partly note-book, and he would be but a curmudgeon who grumbled because he had at times to dive a little deep for the pearls.



[Photograph by W. Purdom.

FIG. 152.—TEMPLE GROUNDS IN WESTERN HILLS, PEKING, CONTAINING THE TREE OF ÆSCULUS CHINENSIS SHOWN IN FIG. 150.

(See p. 346.)

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

THE NARCISSUS FLY.—While Mr. A. J. Bliss (p. 298) has afforded proof that the grub of the Narcissus fly does usually enter the bulb at its base, it would be incorrect to conclude that it "invariably" does so. I have this season had proof of its entering from the upper part between the bulb and the offset, as though the larva had found a congenial resting-place amid the coats of the bulb at that point. This is not an isolated experience, or of one season. Occasionally, too—the instances I admit are rare—one finds the grub entering from the side of the bulb. In the former case the discoloration of the tunics of the bulb usually betrays the presence of the grub, though this might also be due to the presence of mite (Rhizoglyphus). Whilst, therefore, an entry is generally effected at the base, other parts of the bulb should be looked at during examination. The conclusion I came to years ago when considering the frequency with which the grub entered from the base was that the eggs had gradually found their way down the smooth side of the bulb, those entering by the neck having been arrested in their progress by the fork formed between the offset and main bulb. In the case of those entering at the side of the bulb, I assumed that the bulb had been either turned upon its side, or that some hard substance, such as a stone, pressing closely to the bulb had constituted a temporary shelf or resting-place for the grub. There is no doubt whatever about the grub entering by the neck or from the upper part of the bulb, as by pulling away the offset the direction of the progress of the pest was at once revealed. It is consistent, too, with the position in which the eggs are first deposited by the fly. Mr. Bliss also alluded to "basal rot," though in speaking of this it is doubtful whether all Daffodil growers refer to the same thing. The late Rev. Wolley Dod, who originated the phrase, had, I believe, in mind that species of basal decay which first caused a diminished production of root fibres, and, being malignant, resulted finally in an entirely rootless base. That, I think, was proved to demonstration by a series of bulbs I placed before the Narcissus Committee many years ago; these were subjected to a scientific examination, and the conclusion was arrived at that the condition was due to the bulb-destroying mite already referred to operating in the subterranean tissues of the bulb. By working largely near the base and clearing away all the fleshy tissue from the inner tunics of the bulbs in true excavator-like fashion, severance from the basal area was effected and "rot" was the inevitable result. More recently, however, a distinct form of decay affecting the whole bulb has arisen and its cause has not as yet, I believe, been determined. *E. H. Jenkins.*

——— With regard to the illustration to Mr. Long's article on the Daffodil fly (p. 278), the affected bulb, from the amount of leaf and root growth shown, would appear to have been kept under conditions (in bulk, &c.) such as would cause it to start growth, or else one that had been planted and taken up again; that is, a bulb at a much later period than the usual planting time. If this is not understood, it might mislead anyone who was examining his bulbs for evidence of the grub. No bulb that I examined, up to planting time (October 15 this year), was at all like that shown in the illustration; there was no *visible* hole whatever in any bulb, even those which had full-grown grubs in them. I have had some correspondence since my note appeared, and so far the writers agree that they have never seen a bulb of their own growing with a hole in the side, as is shown in the illustration. In such a bulb the hole may have been made either (in the case of a planted bulb) by the grub leaving the bulb to pupate, though I should have expected it to leave by the neck, or (in the case of bulbs kept in bulk) by the entrance of a full-grown grub migrating from another bulb. In either case, it would be no assistance to anyone looking for evidence of the grub in his bulbs between taking up and planting time I think investigators may have been misled by the imaginative use of the word "cloaca," and the idea (which is purely an assumption) that the grub makes an outlet for its excrement.

appearances go to show that the grub enjoys itself and thrives best under conditions which may perhaps seem insanitary to us, but are congenial to it, and that a "cloaca" is the last thing it would go in for. All the bulbs I have examined had nothing in the nature of an outlet below, and the grubs were thriving—some full grown—having evidently been in that condition for months. *A. J. Bliss.*

A VISIT TO GLENART CASTLE (see fig. 153).—On a recent trip to the beautiful County Wicklow I had the pleasure of visiting Glenart Castle, the magnificent Irish home of the Countess of Carysfort. I entered by the Vale Road gate, near to the lovely vale of Ovoca. I shall never forget the quiet loveliness of the scene that lay before me: the expanse of water backed by choice Rhododendrons which stretched from the water's edge to the top of the high hill. There are 10 acres of Rhododendrons, and hundreds of the specimens measure 20 feet in height. The drive takes a winding course with stately trees of noble proportions on either side, fine Oaks, Beech, Elm, and other deciduous species. The Conifers, too, call for particular mention; there are Sequoias (Wellingtonias) over 106 feet in height, also splendid specimens of Pinus Strobus, P. Cembra, the lovely P. insignis, Cedrus Deodara, Abies nobilis, A. Pinsapo, Thuya orientalis, T. plicata, T. occidentalis, and other species, many raising their heads to over 100 feet. I also saw some fine Eucalyptus trees; one measured 60 feet in height, and the trunk at 3 feet from the ground was 4 feet 6 inches in circumference. On reaching the top of the hill there is a charming view of Arklow, the Irish Sea, and the lovely country for miles around. The flower grounds, glasshouses, terraces, and lawns are entered by a stately and most imposing archway and fine, high tower built of dressed Irish granite blocks. The summer bedding was resplendent with flowers of the choicest description; as I passed along the terraces I caught sight of clumps of Eucalyptus of various kinds, fine Retinosporas, splendid Cordylines, Chamærops, and massive clumps of Hydrangeas, which had wintered well for years past. The present gardener, Mr. William Bailey, has not held the appointment long, but his intelligence and energy are showing themselves on every side. *James Ward, Norwich.*

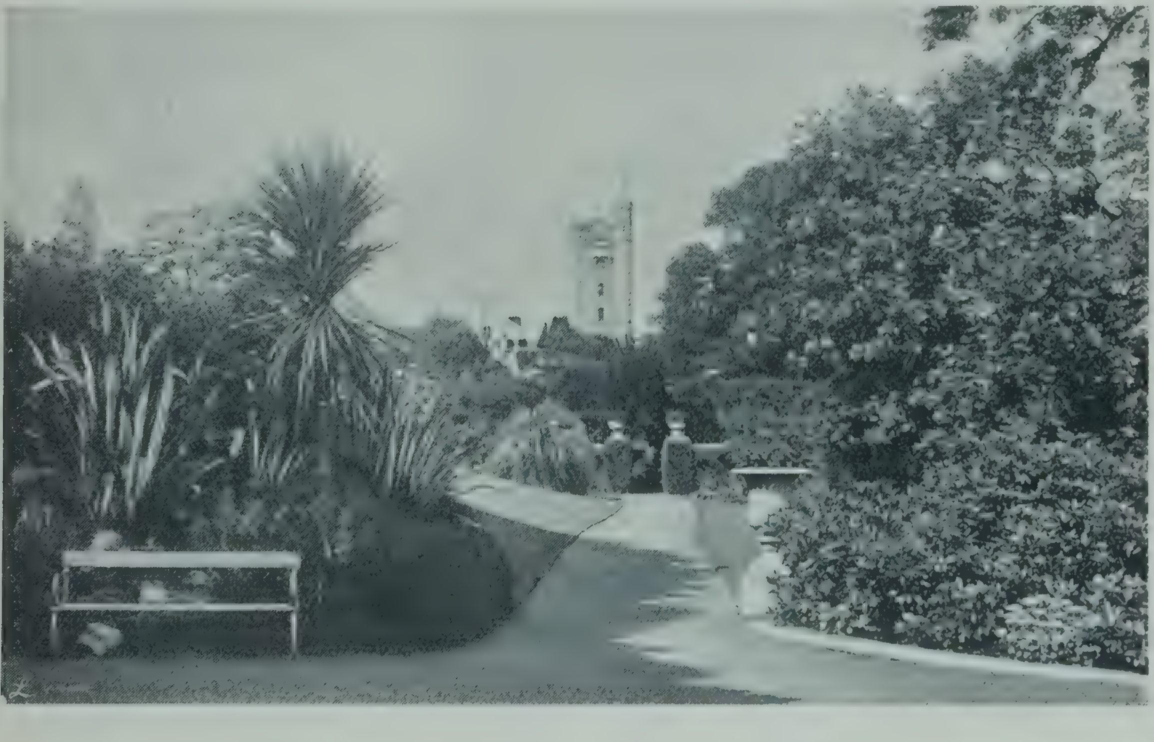


FIG. 153.—GLENART CASTLE, ARKLOW, CO. WICKLOW.

THE LIZARD ORCHID.—It is somewhat strange that, until a few years ago, the Lizard Orchid (Orchis hircina) was thought to be almost extinct as a British plant. During the past five years no fewer than six stations have been added to its range, and it has cropped up this year again in two other parts of England. Unusually fine specimens were shown to me that had been collected in the Dover district, but, fortunately, in such situations as to preclude the possibility of annihilation. Can it be that, like other Orchidaceous plants, notably Cephalanthera and Epipactis, the seeds of the Lizard Orchid lie dormant in the ground for many years? I saw a small colony of the rare little scorched Orchid (Orchis ustulata) on the chalk cliff near St. Margaret's Bay some time ago, but it also is far from common, though by no means so rare as the Lizard Orchid. *A. D. Webster.*

RECENT REVISIONS OF JOHNS' "FOREST TREES OF BRITAIN."—Two revised editions of this well-known book have been brought out recently. The first, although it bears no date, was published by Messrs. George Routledge & Son in 1911, and was edited by Messrs. E. T. Cook and W. Dallimore. The other edition, edited by Professor Boulger, and published by the Society for the Promotion of Christian Knowledge, the original publishers of Johns' book, appeared this year, and, according to the title page, it is the tenth edition of the work, the first edition having been published in 1869. What necessity there was for bringing out two revisions of the book with such a short interval between them is not very apparent, but that is a matter which need not be discussed here. What does concern us, however, is that we have two editions of the book, revised by different editors, which in some particulars flatly contradict each other. In the original edition, Johns described two Planes, viz., the Eastern Plane (Platanus orientalis) and the Occidental Plane (P. occidentalis), and in his revision Professor Boulger has retained these two species just as Johns left them. There is no reference to the London Plane in this edition. In Messrs. Cook and Dallimore's edition, however, a drastic alteration occurs. In the case of the Occidental Plane, the names "acerifolia" and "London" have been substituted for "occidentalis" and "Occidental" respectively, and, with some modification, Johns' description of the Occidental Plane has been made to do duty as a description of the London Plane; his figures also have been used to illustrate the last-named tree. No explanation is forthcoming for this change. Nor is this all, for the term "Occidental" in a quotation from Gilpin which Johns used in the original has been transformed in this edition into "London," so that Gilpin, as well as Johns, is made to appear as if he knew the London Plane by that name, which, of course, he did not. If the editors had been dealing with a romance instead of a scientific subject, such treatment of it as we find in Messrs. Cook and Dallimore's revision would have mattered little; but it is a very different story when a book of this sort, in which, so far as possible, scientific accuracy should be aimed at, is so treated, and it is, to say the least, most puzzling to those who take an interest in trees to have such divergent views as are here put forward placed before them by different editors of the same book. In his revision, Professor Boulger has substituted the specific name surculosa for campestris in the case of the English Elm. Is this his reply to Mr. Claridge Druce's query in the *Gardeners' Chronicle* of January 20, 1912 (vol. li, p. 53), where he asks Professor Boulger "by what name shall the English Elm be called?" If so, I fear, Professor Boulger will not find unanimity on the point among British botanists. The name is not even mentioned in the *Hand List of Trees and Shrubs* at Kew (second edition, 1902). *A. D. Richardson, Edinburgh.*

THE NATIONAL SWEET PEA SOCIETY.—In your report of the annual meeting of the N.S.P.S. Captain Ashworth charges we with using his wife's ("Miss H. Hemus") name in connection with my Sweet Pea trials without permission, and adds that I have "probably done so in many other cases." There is not a shadow of justification for these statements. *Walter P. Wright.*

BLUE TITS AND SWEET PEAS.—I was pleased to read that *W. A. M.* has found a method of scaring tits from Sweet Peas, and if I am troubled again with these pests I shall certainly adopt his plan of the seagull. One might naturally expect a protest from some bird enthusiast, but Mr. Nicholson must bear in mind that there are some employers who would blame the gardener for the damage. Mr. Nicholson's method would be very expensive, whilst nets would never keep out these little birds. Besides, there would be endless bother in staking, watering, &c., inside the enclosure. I have a theory why the tits attacked the Sweet Peas so badly last summer: the weather being so wet the insects which the tits apparently live on did not hatch out in their proper season. I base this idea upon the fact that the little creatures entirely disappeared during the few sunny days we had here, but renewed the attack directly it commenced to rain again. *A. J. Elgar, Killarney House Gardens, Co. Kerry.*

LATE PEAS.—It may interest your readers to know that I am still picking Peas out-of-doors. We have three rows each 60 feet long, and the plants are green and healthy, notwithstanding that we experienced frost on 12 occasions lately, ranging up to 7°. If the weather remains mild, the plants will continue in bearing, as they are flowering freely. The varieties are Late Queen, The Gladstone and Autocrat. The seeds were sown in July in trenches prepared as for Celery (but the soil was made level again) in an open part of the garden. The gardens are situated very high, close to Beacon Hill. Enclosed you will find pods, flowers and haulm, the latter being over 6 feet high. *F. R. Staddon, Sydmonton Court Gardens, Newbury, Berkshire. October 31.*

AN OLD ROCK-GARDEN.—I am unaware at what date rock-gardens were first made in this country, but it may interest some of your readers to hear of one which was planted at any rate before 1819, when some unpublished verses were written about it, in which appears the obsolete word "clift" for cleft, and also cliff:

"Each clift, each chink, each rugged haunt
Teems with its own its native plant!"

Having observed on several labels in the herbarium of my ancestor, Thomas Clark, Junr.* (the "obliging correspondent" of Sir Wm. J. Hooker), the expression "Cheddar Cliffs," I communicated 18 months ago with an elderly relative who had given me Clark's herbarium 20 years previously, with the result that she mentioned these lines, written by a friend of her great-aunt, who had the garden to which they referred. My correspondent, Miss M., said that her aunt made her rock-garden about 100 years ago, so far as she could tell from circumstantial evidence. The verses in its praise, of which two lines are quoted, were dated 1819. Her mother, born in 1801, was familiar with the rock-garden, and it was from her that Miss M. knew all she did about it, "the time and interest expended in its creation, and her aunt's pride in taking her visitors down the steep steps and paths; also the amusing contempt of the *older* generation, Aunt M.'s mother, for instance, whose ideal in gardening was uniformity. . . . . The rock-garden was made on the steep hill slope below their garden, where natural rocks of considerable size break out of the slope and form vertical rock-faces and broken surfaces here and there. Rockeries in those days were not common; indeed, I believe my aunt's was quite an idea of her own. She brought fresh soil, and made paths and planted things, but used no artificial stone." More of these natural rockeries might be planted to-day by those who are fortunate enough to have the opportunity. *H. S. Thompson.*

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* See *Journal of Botany*, August 1898, and August, 1905, for Biography, &c.

FUCHSIAS AS ROOF PLANTS.

MANY varieties of Fuchsia, especially those of a lax habit of growth, are admirably adapted for training to the roof of a greenhouse.

In the first place, owing to the strictly pendulous nature of the blossoms, they are seen to the best advantage when disposed on a flattened surface overhead; next, they are borne in great profusion throughout a lengthened period, while the plants themselves are less liable to the attacks of insect pests than many other greenhouse climbers. Further, Fuchsias, being of a deciduous nature, do not, when trained to the roof, shade the plants underneath at a time when the greatest amount of light is essential to the occupants not only of the greenhouse, but also of any other glass structure.

The vigorous growth made by Fuchsias when trained at an angle corresponding with the roof of a greenhouse, and the profusion in which they flower were well shown by an exhibit of Messrs. Veitch's at the Olympia Show last year, and again at the International Horticultural Exhibition at Chelsea. The varieties shown in this way were Clipper (red tube and sepals and purple corolla), General Grenfell (coral-red tube and sepals, bluish-purple corolla), Lustre (a long, white flower with a bright-red corolla), Mrs. Marshall (an old and popular market variety with light flowers, valuable for almost any purpose), Mrs. Rundle (pinkish tube and sepals and salmon-red corolla), Mrs. Todman (a long, whitish flower with rosy-scarlet corolla), Olympia (large carmine-scarlet corolla and salmon-pink calyx), and The Shah (bright coral-red tube and sepals and a violet-blue corolla).

This by no means exhausts the list of varieties suitable for the purpose above named, for, beside these, the following are worthy of especial note:—General Roberts (a very large, dark-coloured flower), Rose of Castile Improved (whitish tube and sepals and purple corolla) and the red-flowered Monarch.

Fuchsias with white corollas are very generally admired, but none is mentioned above, because they are less lax in growth. A very old variety, Alexandrina, with medium-sized flowers, used to be splendid when treated as a roof plant, but it appears to have dropped out of cultivation. A good variety with well-shaped flowers and a clear-white corolla is Cadmus, which can be well recommended for the purpose.

Varieties with double flowers are not so well adapted for roof plants as the single ones; still, they afford a change and are admired by many. Good dark, double-flowered varieties are Brilliant, President Felix Faure, and Phenomenal, and with white corollas the universally-grown Ballet Girl and Mme. Jules Chrétien.

The pretty little Fuchsia gracilis variegata supplies quite a unique feature when trained to a greenhouse roof, and if planted out in a prepared border it will soon cover a considerable space. On a roof the white variegated leaves form a striking background, or rather overhead canopy, to the myriads of small, slender flowers, which hang in great profusion.

Some of the true species are available for the same mode of treatment, one of the very best being the Peruvian Fuchsia simplicaulis, which has been grown at Kew for many years; yet, surprising to say, it does not become generally cultivated. It is of quite a loose, rambling habit, and bears pendulous clusters of very long, rosy-scarlet flowers. I have seen this fine roof plant under the name of F. penduliæflora. *W. T.*

The Week's Work.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Hertfordshire.

ROTATION OF CROPS.—This is of far greater importance than is often supposed, and should receive consideration long before the time for sowing or planting arrives, so that the ground may be treated appropriately. A change of site is beneficial to most vegetables, though there are exceptions, for good crops of Onions, Shallots, Horseradish and Artichokes may be cultivated year after year on the same ground. In addition to changing the kind of vegetable crop, it is advantageous for vegetables to follow Strawberries. Potatos will succeed on the same piece of ground successively, provided the soil be well worked and manured each time. Carrots, Parsnips and Beet should follow crops for which the land was specially well manured, as the use of fresh manure is detrimental. The treatment of Celery brings the ground into a high state of cultivation, and most vegetables do well after Celery. The Brassica family, which includes Turnips, should not be allowed to follow each other, but should generally succeed tap-rooted vegetables. They may be planted again after a complete change of two crops. Though the soil does not require the addition of manure for tap-rooted vegetables, it is essential that it be thoroughly well worked to a good depth so that the roots may grow deeply.

PEAS.—Early Peas may be grown in pots, boxes or borders provided a suitable house is available. At Aldenham we usually grow them in 10-inch pots and gather the first pods about the end of April, but the date is largely determined by the weather whilst the plants are making their growth. Clean pots should be selected and they should be drained efficiently, covering the crocks with turfy material to keep the finer particles of soil from choking the drainage. The pots should be half filled with a compost consisting of turfy loam and a small quantity of flaky leaf-mould and manure from a spent Mushroom bed, with a sprinkling of bone-meal, soot, and wood ashes. If the soil is prepared a week or two before it is required and protected from rains, it will be an advantage. Do not employ manures at the commencement, but rather use a sweet compost that will remain open in texture and admit of an abundance of food being applied later. The seeds should be sown twice as thickly as necessary in order to admit of thinning, and they should be buried about ½ inch below the soil. Five or six plants are ample in each pot. After the seeds are sown the pots may be stood closely together in a cold frame on a firm bottom of ashes. Water the soil thoroughly with a rose can. Rats and mice must be guarded against, as these may devour the seeds and render the work a failure; traps should be placed near to the pots. During the time the plants are growing, they should not be subjected to much fire-heat, for they need to grow sturdily from the commencement. Admit air freely whenever the weather permits, removing the lights entirely on very mild days and replacing them at night to prevent damage from frost. When the seedlings are about 3 inches high, remove the weaker ones, and leave the other plants distributed as evenly in the pots as possible. When the shoots have reached the top of the pots, the latter may be filled with the compost. Select free-setting varieties of both dwarf and tall sorts, for although the latter require considerable head room, they never grow quite so tall as in the open, and furnish good crops of large, well-flavoured Peas.

BROAD BEANS.—For several years we have grown early batches of Broad Beans from sowings made at the same time as the Peas and treated much the same. Place five or six good Beans in each pot and use rather more soil at the commencement than in the case of the Peas. As soon as the plants need support, afford each growth a neat little stick. Broad Beans require plenty of light and air. Varieties of the Leviathan type are the most suitable for pot culture. I have long since abandoned the practice of sowing Broad Beans out-of-doors in the autumn, as our soil is not suitable, the risk of failure being too great. But in warm districts it may be carried out successfully, although I recommend the seedlings to be grown first under glass and transplanted afterwards.

POTATOS.—Where it is intended to grow early Potatos in pots, suitable tubers for the sets should be selected without delay and placed in single layers in trays to sprout. Stand the trays in a light position in a cool house or shed to favour a sturdy growth; they should be ready for planting in pots or boxes next month. Boxes are quite as convenient for growing early Potatos as pots, and they last for several seasons. At Aldenham we use herring boxes, which are readily obtained from the local fishmonger.

GLOBE ARTICHOKES.—The growth of these plants may be cut down nearly to the ground and a quantity of cinder ashes heaped about the base as a protection to the stocks. But before the ashes are applied, loosen the soil with a fork in order that water from heavy rains may pass away easily. In the event of severe weather, straw, bracken or some other litter should be applied as a further protection.

CELERY.—The latest batches of Celery should be earthed up, placing the soil up the stems to the fullest extent. Choose a dry day for the work, and break the particles of earth finely.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

MARGUERITE MRS. F. SANDER.—This beautiful double-flowered Marguerite is one of the most useful plants of recent introduction, the pure-white flowers being very valuable for use in floral decorations. The plant blooms very freely in pots, and surpasses any of the single varieties in this respect. Cuttings of a soft nature will root readily at this season in a little heat, or they may be struck without heat in a frame in the same manner as the single varieties used for bedding purposes. I prefer the former method, as the plants may be potted as soon as they are rooted and become ready for a further shift early in the spring. Flower-buds may appear as soon as the cuttings are rooted, but should be pinched out; by pinching the shoots fairly hard back, stronger, better growth develops than if only the flower-buds are removed.

CLIMBERS.—Certain of the greenhouse and stove climbers, such as Clerodendron, Allamanda, Gloriosa and Fuchsia may, if in pots, be afforded a complete rest by removing them to a cool, dry house during the winter. A fruit house in which the trees are resting is a very suitable place for wintering them.

FUCHSIA.—Cuttings of Fuchsias inserted early in September are well rooted and should be potted singly into 60-sized pots. They may be grown in a frame or a glasshouse where the temperature is about 50°. If they are afforded a position exposed to the light they will grow stocky and short-jointed even in winter.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to Lady NUNBURNHOLME, Warter Priory, Yorkshire.

BUSH FRUITS.—In gardens where large quantities of Gooseberries and Currants are required, it is necessary to form new plantations from time to time. Fruits produced by young bushes are superior to those obtained from older plants, and as the plants can be purchased or raised in gardens very easily, a certain number should be planted every few years. As soon as the old plantations of these fruits show signs of deteriorating, a corresponding area should be planted afresh, and when the young bushes come into bearing the old ones should be grubbed up. Bush fruits are best planted in quarters by themselves, especially the dessert varieties, as they can then be protected more easily from birds. The fruits of those distributed about the garden can be picked green. Gooseberries and Currants succeed in almost any good soil. Black Currants require a moist, light, rich soil and a partially-shaded and cool position. They are greatly benefited by copious applications of liquid manure when in full growth. Black Currants grow freely and develop very fine fruit when trained on fences or north walls. Trees purchased from nurserymen should be examined at the roots, and any of the latter that are broken or bruised should be trimmed with a sharp knife; if dry, the roots should be moistened with wet mud. Avoid planting too deeply, for it is best to arrange the roots near to the surface. The trees should be afforded temporary supports, to prevent them becoming loosened in the ground by strong winds, but they should not be tied finally until the spring. Bush fruits that are bare of leaves may be pruned, and if caterpillars have been troublesome, well dusted with quick-lime. Red and White Currants should always be trained with a single stem, but Black Currants produce the greatest quantity of fruit when they are allowed to form suckers. Many growers defer the pruning of Gooseberries until the birds have taken a share of the buds, but it is best to prune early and net the bushes before the buds begin to swell. Remove all downward-growing shoots which are less than 10 inches from the ground, shorten others, and open out the centre of each plant to let in the light and air. Red and White Currants produce the finest fruit on short spurs, and should be pruned accordingly, but a few of the older branches should be removed annually, and young ones trained in their places. Black Currants do not fruit on spurs, and in their case shortening the branches should not be practised. Endeavour to obtain vigorous young shoots from the base, as on these the fruits are borne. Room may be made for them by the removal of branches which are more than three years old.

Raspberries.—If it is intended to make a new plantation of Raspberries, advantage should be taken of open weather to get the young canes planted and the ground mulched. The soil should be of a light, rich nature and deeply cultivated, with good drainage, and leaf-mould, burnt refuse, road scrapings, or similar materials are all beneficial. Raspberries never fruit much the first season, therefore cut the canes down nearly to the ground in the spring, when danger from frost is past.

Strawberries.—The plants have grown freely this autumn, and vigorous young plants may have developed late runners, which should be removed. The ground should be hoed and a mulch employed afterwards that will be suitable for the particular soil, whether light or heavy.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Bulbophyllum.—Plants of Bulbophyllum anceps, B. inflatum, B. vaginatum, B. virescens and B. Ericssonii and others are growing freely and pushing forth new roots from the bases of the young growths. Any specimens that require fresh rooting material should be attended to in this respect. Those that have outgrown their receptacles, and have a number of useless back pseudo-bulbs, may be divided into portions, each with two or three stems behind the leading growths, and made up into fresh specimens. Others that have sufficient rooting space to serve them for another season and with compost in a good condition, may have a portion of the latter removed from the surface, replacing it with fresh materials. Any of the leading growths that have extended over the sides of the receptacles should be trained round towards the centre of the pot, and pegged on to the surface moss. A suitable potting medium consists of equal parts A1 fibre, Osmunda, and Sphagnum-moss, with a quantity of crushed crocks added. During their season of active growth the plants should receive sufficient water at the roots to keep the layer of moss in a growing condition. The plants may be placed in a moist position in the East Indian house.

Cirrhopetalum picturatum.—Attention at the roots is also required by this plant, which should be grown in a moist position in a house having an intermediate temperature. Owing to the rambling habit of the plant, boat-shaped teakwood baskets are the best receptacles for this species.

Cœlogyne.—C. cristata and its varieties are nearing the completion of their season's growth, and will soon be pushing flower-spikes from the new pseudo-bulbs, at which stage the supply of water at the roots should be reduced, but not to such an extent as to cause the plant to suffer. Well-rooted, pot-bound specimens will be greatly benefited from now onwards to the flowering stage by periodical applications of weak manure water prepared from cow dung. C. barbata, C. ocellata, and C. elata are developing their flower-spikes, and should be well supplied with moisture until the flowering season is past.

Masdevallia.—Plants of M. tovarensis are developing the flower-spikes, and specimens that have been growing under cool conditions during the summer months should be removed to a house having an intermediate temperature. Great care should be exercised in watering these plants at this season; the compost should always be allowed to become dry between each watering, as excess of moisture at the roots may cause the foliage to damp and fall from the plants.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Artemisia lactiflora.—This plant is suitable for the waterside, and will thrive also in the herbaceous border if the roots are well supplied with water. The flower-stems grow about 4 feet high, and the blooms expand in September and October. The habit of growth is pleasing and the foliage is distinctly ornamental, being finely laciniated. The plumes of creamy-white flowers resemble those of a giant Spiræa.

Dahlias and Begonias.—The frost having destroyed the foliage, these subjects should be lifted and stored for the winter. Cut off the Dahlias to less than 1 foot of the roots, and store the tubers in a frost-proof place—a cellar is very suitable, or they may be placed under the stage of a cool house—not where it is too dry, or they will shrivel and deteriorate. Begonias should be lifted and the corms cleansed thoroughly, preparatory to storing them. A slight drying will assist the cleaning process; they should be stored in similar conditions to the Dahlias.

Eremurus.—To flower these plants successfully their first season, the planting should be done early in the autumn, and the sooner after the foliage has decayed the better. The early varieties bloom in May and June, the spikes of the different species ranging from 3 or 4 feet to nearly 10 feet in height. Growth commences very early in the spring, and as the young foliage is very susceptible to injury from frost or cold winds, it is advisable to plant in sheltered situations. If the position is not naturally sheltered, some protection should be afforded in spring; a few evergreen boughs will serve the purpose exceedingly well. Eremuri are very suitable for the semi-wild garden, and show to advantage against a background of tall Bamboos. Or they may be associated with dwarf-growing shrubs in a sheltered corner, whilst they succeed admirably at the back of the herbaceous border. In whatever situation they may be, their stately spikes of flowers invariably attract attention. The best soil for Eremuri is a deep, rich loam that has been trenched and enriched at the bottom with plenty of decayed manure and leaf-soil. E. robustus is one of the strongest growers, and, with good cultivation, the flower-spikes will attain to a height of from 8 to 10 feet. The rosy-pink blooms are sweetly-scented. E. Elwesianus is another strong-growing plant, and throws up its spikes of pink flowers in May. E. himalaicus, one of the earliest to bloom, has white flowers and a somewhat shorter flower-spike than E. Elwesianus. E. Bungei flowers later in the summer, thus prolonging the season; the flowers are bright yellow. E. Warei is also worthy of inclusion in a good collection of herbaceous plants.

Bulbous Irises.—Both Spanish and English Irises should be planted whenever the ground is in a suitable condition. The bulbs are inexpensive, and they should be planted not only in flower-borders, but in the reserve garden, to furnish cut blooms. If space is limited, they may be grown in the fruit quarters amongst the trees and bushes. They grow best in a light, porous soil; if the ground is of a heavy, retentive nature, it can be rendered more amenable by adding leaf-mould, manure from an old Mushroom bed or discarded potting soil. The Spanish Iris blooms before the English Iris, and though the flowers are much smaller, they are valuable on account of their earliness. Of the Spanish section, Chrysolora (yellow), King of the Blues, Snowball (white), Philomela, The Pearl, and Beauty are all good varieties. Half-a-dozen choice varieties of English Irises are King of the Blues, alba grandissima, Electric, Blue Celeste, Daylight, and Mont Blanc.

Border Chrysanthemums.—There is a danger, on wet and cold soils, of many varieties of border Chrysanthemums dying during the winter; to guard against this, the roots should be lifted. They may be placed in boxes and grown in cold frames, with plenty of ventilation. If space is limited, they will usually be quite safe laid in ashes in a sheltered corner under a wall. Before lifting the roots, the stems should be cut down to about 6 inches, and a label fixed securely to each plant.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Early Pot Vines.—If ripe Grapes are required at the end of April or early in May, the vines should be placed in the forcing house without delay. For very early forcing a lean-to or hip-roofed house facing due south should be selected. The house should be amply provided with hot-water pipes so that the proper temperatures may be maintained without making the pipes excessively hot. A hot-bed should be formed to furnish bottom heat, and the pots plunged in this. The bottom heat should not be excessive; a suitable bed may be made with three parts Oak or Beech leaves and one part short litter. The materials should be thrown into a heap and turned several times at intervals of two or three days. The bed should be of sufficient bulk to provide warmth over a long period. For the first two or three weeks fire-heat should not be employed unless the thermometer falls very low. A temperature of 45° or 50° will be suitable till the vines show signs of breaking into growth, when it may be raised 5°. As growth proceeds the temperature should be gradually increased. When the pots have been plunged in the hot-bed, the rods may be tied along the front of the house in a horizontal position, till they burst regularly into growth. Water should be applied to the roots with great care until growth is active; when moisture is necessary, the pots should be filled twice, to ensure the roots being soaked through. Spray the rods both morning and noon on bright days, and promote a moist atmosphere by damping the bare surfaces in the house whenever necessary. Black Hamburgh, Madresfield Court and Foster's Seedling may all be relied upon for early forcing.

Early Permanent Vines.—Where the earliest crop of Grapes is obtained from pot vines, the forcing of the permanent vines may, with advantage to the plants, be delayed till the end of the year. But if ripe Grapes are required from the permanent vines early in May they should be started forthwith, provided the wood is ripened perfectly. The temperature and general treatment recommended for the pot plants will be suitable for these, except that the rods need not be tied along the front of the house, as old vines generally break freely. The rods should not, however, be tied up permanently to the trellis till they have had another good washing. This work should be done just when the buds are breaking into growth, taking care not to damage the young growths. If the vines are infested with mealy bug, the pest should be destroyed whilst the vines are in the early stages of growth; this precaution will save much labour later in the season.

Pot Fruit Trees.—These may now be placed in their winter quarters. Trees which will be required for forcing withn the next few weeks may be placed in a cool, airy house. Others may be arranged closely together under a south or west wall out-of-doors, where they will be somewhat sheltered from heavy rains. Such a position will be favourable for the further ripening of the wood and fruit spurs, which is not so satisfactory as might be desired, owing to the dull summer. Trees affected with American blight should be cleansed of this pest before they are placed in their winter quarters. Methylated spirit is an effective specific, but it must be used with great care. The soil in the pots should be covered with bracken or leaves to prevent the fluid injuring the roots. Pot Fig trees should be placed in a cool house, where they will be safe from frost.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

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Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS.

SATURDAY, NOVEMBER 9—
British Gardeners' Association (Birmingham and Midland Branch) meet.. Burton Chrys. Sh.

MONDAY, NOVEMBER 11—
Nat. Chrys. Soc. Floral Com. meet.

TUESDAY, NOVEMBER 12—
Plymouth Chrys. Sh. (2 days). Belfast Chrys. Sh. (2 days). Chester Paxton Soc. Sh. (2 days). Royal Bot. & Hort. Soc. of Manchester Chrys. Sh. (3 days).

WEDNESDAY, NOVEMBER 13—
Dorchester Chrys. Sh. (2 days). Buxton Chrys. Sh. Colchester Rose & Hort. Soc. Sh. Bristol Chrys. Sh. (2 days). Barry Chrys. Sh. (2 days). Clevedon Chrys. Sh. (2 days). Ancient Soc. of York Florists (2 days). Finchley Chrys. Soc. Sh. (2 days).

THURSDAY, NOVEMBER 14—
Edinburgh Chrys. Sh. (3 days). Bridgwater Chrys. Sh. Aberdare Chrys. Sh. Cardiff Chrys. Sh. Newport Chrys Sh. Sheffield Chrys. Sh. (3 days).

FRIDAY, NOVEMBER 15—
Leeds Paxton Chrys. Sh. (2 days). Bradford Chrys. Sh. (2 days). Blackburn Chrys. Sh. (2 days). Bolton Chrys. Sh. (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—43·5.

ACTUAL TEMPERATURES:—

LONDON.—*Wednesday, November 6* (6 P.M.) Max. 52°; Min. 49°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, November 7* (10 A.M.): Bar. 30·2°; Temp. 54°; *Weather*—Overcast.

PROVINCES.—*Wednesday, November 6:* Max. 51° Shields; Min. 50° Cornwall.

SALES FOR THE ENSUING WEEK.

MONDAY TO FRIDAY—
Dutch Bulbs, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY, WEDNESDAY AND THURSDAY—
Rose Trees, Liliums, Dutch Bulbs, Shrubs and Azaleas, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

WEDNESDAY—
Palms, Azaleas and other plants, at Protheroe & Morris's Rooms, at 5.

THURSDAY—
Special Sale of Roses in all varieties, at Protheroe & Morris's Rooms, at 12.30.

FRIDAY—
Rare and Valuable Orchids, at Protheroe & Morris's Rooms, at 12.45.

Agricultural Credit Societies. Those interested in the development of co-operative societies, the purpose of which is to grant loans to small farmers, should apply to the Board of Agriculture for a copy of leaflets Nos. 260 and 261. The former gives statistics of the agricultural credit societies which were in existence in 1910 in England and Wales, and the latter describes the sucessful career of the oldest credit society, that of Scawby, in Lincolnshire. At that date some 40 societies had been established, although not all of them had been formed long enough to get into full working order. Of the 40 societies 31 supplied statistics, from which it is seen that the total membership for the year under review is 663, that 119 loans had been granted to members, and that the total sum so loaned was £1,390. The smallness of these numbers is apt to be misleading unless it is borne in mind that the majority of the societies were of recent origin in 1910. The statistics of the older societies show that although, even in the case of those societies, the operations were on a small scale, their membership was higher and their activity greater than those of societies more recently established. Thus the six societies of Scawby, Laxfield, Grandborough, Castle Morton, Hedge End and Wiggenhall—all of which were established in 1895 or 1896—possessed 145 members and issued loans during 1910 to 34 of their members and to the extent of £511.

The rate of growth of this movement is shown by the statistics to be slow and intermittent. Thus the first three societies were established in 1895. In the following year three more came into existence. Then there appears to be a break of about eight years, during which period no new agricultural co-operative societies were established. Three were founded in 1904, two in 1905, two in 1907, after which year the rate of increase became more marked. The year 1908 saw the formation of seven societies, and in each of the succeeding years 10 new societies were established.

The existing societies are distributed fairly evenly over the south-eastern, eastern, and midland counties, but do not appear to have penetrated north of the Wash. Norfolk heads the list with five societies, and is followed by Surrey and Lincoln with four, Kent, Leicester and Worcester three each, Oxford two, and several other counties with one society. The existing credit societies, whose sole function is to arrange loans for their several members, are all registered under the Friendly Societies Act, 1896. The funds are created by subscriptions, and may be lent to or invested for members, and no part of the funds may be divided as profit, bonus or in other manner. The loans granted to members must be devoted to purposes approved by the society which lends them. Though it is open to societies to limit their liability it is noteworthy that all those in existence have preferred not to do so and have adopted the rule making every member jointly and severally liable for all debts incurred by the society. Most of the societies have adopted the model rules recommended by the Agricultural Organisation Society, to which body all but two of the local credit societies are affiliated. Only those who live within a certain area are eligible for membership, and the applicant must be approved as of good character before admission is granted. Loans, which are limited in amount to £50, are granted only on approved security and for a defined purpose. The rate of interest required ranges from four to six per cent., and is generally five per cent.

Any profits are carried to reserve, and in no circumstance may such profits be disbursed among members; in the case of dissolution of the society the surplus funds must be spent on some useful purpose in the parish.

It is to be hoped that when more recent returns are available they will show a considerable increase both in the number of societies and of members. The figures at present available show only one society with a membership of more than 50, and the average membership of all is only about 24. It is to the interests of the community of small agriculturists to support these institutions, and, indeed, without some such means of obtaining loans at reasonable rates of interest it is difficult to believe that the small holder can make headway. Many a small man has suffered from the effects of the present disastrous season and must stand in need of just that assistance which these self-supporting societies can afford. Nor should the latter attract only those who are likely to be in need of loans; they should serve as foci of local patriotism, for their purpose is admirably defined in the name, "All for Each," adopted by the Southall society. That the establishment of credit societies in all parishes of agricultural districts is calculated to help the small man is shown by the account given of the Scawby society in leaflet No. 261 of the Board of Agriculture. The population of Scawby parish, which is near Brigg, in Lincolnshire, is about 1,000. The land under crops or grass amounts to 2,825 acres, of which two-thirds are under crops. The land is divided into 39 holdings, of which 26 are each of less than 50 acres. The society started in 1894 with nine members, and has at present 32. Among the members are 11 small farmers and three market gardeners. The remaining members are engaged in various trades, and most of them also cultivate holdings.

During its existence the Scawby society has made no fewer than 78 loans to its members, and the total sum loaned in this way amounts to £2,300.

The original rate of interest charged on loans was five per cent.; but this was raised subsequently to six per cent. in order to build up a reserve fund. That achieved, the rate of interest was reduced again to the figure at which it stood at first.

The reserve fund amounted in 1910 to some £64, and since, as already indicated, this reserve is inalienable, the financial position of the society is so sound that it might, if it chose, reduce to a yet lower figure the rate of interest which it charges to its members.

With this model before us we cannot refrain from hoping that a system which has proved its value on a large scale in other countries may in the immediate future make far more rapid headway in England than it has done in the past.

SUPPLEMENTARY ILLUSTRATION.—Miltonia vexillaria has been known since 1867, when it was described in the *Gardeners' Chronicle* as Odontoglossum vexillarium by the late Professor H. G. REICHENBACH. It at once became the aim of all Orchid importers to be the first to introduce the so-called Banner Orchid. But all efforts in that direction proved futile until early in 1872, when Messrs. JAS. VEITCH & SONS were fortunate enough to secure a small collection brought home by CHESTERTON from New Granada, where the plant in its several wide range. But the plants then introduced, and those of other consignments which followed, did not give much promise of becoming such fine ornaments in our Orchid houses as they are now that the cultural requirements are better understood. Miltonia Memoria Baron Schröder, shown in our Supplementary Illustration, is included in the collection of Lieut.-col. Sir Geo. L. Holford, at Westonbirt, whose gardener, Mr. H. G. Alexander, is so skilful in the cultivation of all kinds of Orchids. This unique plant, about the origin of which there is some doubt, was shown as a seedling at the Temple Show, May 24, 1910, when it secured a First-class Certificate, and it was described and illustrated in the *Gardeners' Chronicle*, May 28, 1910, pp. 353-355. The coloured plate shows the plant reduced, but it will readily be seen that the flower is one of the most remarkable of this section of Miltonia. The raisers state that they believe it originated by fertilising a fine, large-flowered Miltonia vexillaria with M. v. Memoria G. D. Owen, which seems highly probable, and consequently it is still a form of M. vexillaria. Other experts consider that it was probably a secondary cross of Miltonia Bleuana (vexillaria × Roezlii), and, therefore, the name originally given might well be retained. Miltonia vexillaria varies much in colour from the large, white M. v. Snowflake, for which Sir George L. Holford obtained a First-class Certificate at the R.H.S. meeting on June 4 last, to the rose-tinted M. v. Memoria G. D. Owen, with its large, deep-claret-red mask on the lip. Indeed, so much does it vary, and so excellent are the varieties, that over 30 awards have been made to the forms of the species at the Royal Horticultural Society, more than 20 of them being First-class Certificates. As a subject for the hybridist it has been equally prolific, resulting in M. Bleuana (vexillaria × Roezlii), M. Hyeana (vexillaria × Bleuana), M. St. Andre (Bleuana × Roezlii), and others which are equally beautiful and variable. With the introduction of seedling forms and hybrids of M. vexillaria the difficulties in cultivation seem to have been overcome, for in most collections both the species and hybrids thrive admirably in any well-arranged house with a rather higher temperature than the Odontoglossum house, a moist corner in the intermediate house being generally found to suit them.

National Chrysanthemum Society.—A special show and conference will be held at Essex Hall, Essex Street, Strand, on Wednesday, the 20th inst. The show will open at 1 p.m. The conference will take place in the Lower Hall at 7 p.m. Dr. E. J. Russell will deliver a lecture on "Soil Sterilisation" (illustrated by limelight views), to be followed by a discussion. The President of the Society, Sir Albert Rollit, D.C.L., LL.D., will occupy the chair. The annual dinner will be held in the Royal Venetian Chamber, Holborn Restaurant, on Wednesday, the 27th inst., at 6.15 p.m., under the auspices of the President. The Challenge Trophy, the Holmes Memorial Cups and Medals will be presented to the winners during the evening.

British Gardeners' Association.—The following meetings have been arranged to take place during November:—Saturday, the 9th inst., at Rodway's, Bristol Street, Birmingham, at 8 p.m. Speakers: Messrs. W. B. Child, J. D. Jones and Cyril Harding. Tuesday, the 12th inst., at the Conservative Annexe, Clarendon Road, Watford, at 8.15. Speakers: Messrs. E. F. Hawes and Cyril Harding. Wednesday, the 13th inst., at the Grosvenor Hotel, College Street, Swansea, at 7.30. Speakers: Messrs. A. Blackburn and Cyril Harding. Thursday, the 14th inst., at the Y.M.C.A. Hall, Cardiff, at 7.30. Speakers: Messrs. W. W. Pettigrew and Cyril Harding. Friday, November 15, at Pitt's Restaurant, Kew Green, at 7.30. Speakers: Messrs. H. B. A. Tindall, G. W. Butcher, and Cyril Harding.

Northern Fruit Congress, 1913.—This congress and show will be held at Kendal, Westmorland, on October 15 and 16, 1913, in cooperation with the North of England Horticultural Society. A meeting of the promoters was held at Kendal on the 19th ult., when an executive committee was appointed. Subscriptions and guarantees (including £30 guaranteed at the meeting) already amount to £70, and a challenge cup has been offered by the High Sheriff, W. D. Crewdson, Esq. Two other challenge cups, the "Straker" and "Voss" cups, are already in hand. Lord Henry Bentinck has promised to open the congress. Delegates will represent the Royal Horticultural Society with power to award R.H.S. Medals. The Department of Horticulture of the Board of Agriculture will put up an exhibit of Potatos and diseases of Potatos. The Cumberland and Westmorland Beekeepers' Association will hold their annual show in the same building. A ladies' reception and hospitality committee has been formed. It is expected that papers will be read on "Land Tenure and Fruit Growing," "Diseases of Potatos," "Organisation of the Damson Industry," and "Conditions Necessary to Successful Fruit Growing" (local). There will be demonstrations in pruning, spraying and fruit bottling. The Rev. J. Bernard Hall will lecture on "Apple Culture," in the Town Hall, Kendal, on the 16th inst., in order to arouse local interest.

The Saturday Half-Holiday.—Messrs. Dobbie & Co., Edinburgh, have arranged that in future their nurseries shall be closed at 1 p.m. on Saturdays. For over 20 years the time to cease work on Saturdays has been 2 p.m., and the new concession has given great satisfaction to the employees, between whom and the firm most cordial relations have always existed.

Chrysanthemums in the London Parks.—The Chrysanthemum displays in the London parks are this year quite as interesting as in the past. The few alterations are chiefly of a decorative character, and may be considered as improvements. Thus at Battersea the collection is arranged in a double bank with an intervening path. The middle of the path is broken to make room for a large oval central bed filled with the variety Soleil d'Octobre. Hanging baskets from the ridge are a new feature. The ends and sides of the span-roofed glasshouse are arranged with decorative Japanese varieties, while the collection includes a fine selection of Incurved, Anemones, Singles, and Japanese varieties. At Southwark Park the T-shaped greenhouse is so arranged that one central serpentine path conducts the visitors from the entrance to exit. There are many beautifully-flowered specimens well arranged. At Brockwell Park the flowers are exhibited in a greenhouse about 40 feet long. There is a good collection, but it would be more instructive for the public if the plants were labelled. At Waterlow Park there is a capital attempt at effective decoration, and the varieties used are well suited for the purpose. The large conservatory at Finsbury Park contains a fine collection of Chrysanthemums, well arranged and interspersed with Ferns and other greenery. The blooms are well grown, clean and bright, but it is a matter for regret that so little regard is paid to the labelling of the varieties. At Victoria Park a new departure consists in the construction of a serpentine path through the house. The liberal way in which the plants are named and the clearness of the type are highly commendable and much appreciated. There are numerous finely-grown plants of decorative Japanese varieties. The collection also comprises choice blooms of good Incurved, Anemone and Single varieties.

Appointments from Kew.—We learn from the Kew *Bulletin* that Mr. George Henry Eady and Mr. Ernest William Morse, formerly members of the gardening staff of the Royal Botanic Gardens, have been appointed by the Secretary of State for the Colonies, on the recommendation of Kew, Curators in the Agricultural Department of the Gold Coast.

Botanical Appointment.—Dr. A. Anstruther Lawson, Lecturer on Botany at Glasgow University, has been appointed to the new Chair of Botany in the University of Sydney, New South Wales. Dr. Lawson, who graduated at Glasgow in 1895, is a son of Mrs. J. Kerr Lawson, the Scottish novelist.

Directorship of Singapore Botanic Garden.—The Kew *Bulletin* announces the appointment of Mr. I. H. Burkill, M.A., Reporter on Economic Products to the Government of India and Curator of the Industrial Section of the India Museum, Calcutta, as Director of the Botanic Gardens, Singapore, in succession to Mr. H. N. Ridley, M.A., C.M.G., F.R.S., retired.

Estimates of the Corn and Hay Crops.—Returns issued by the Board of Agriculture and Fisheries show that the total yield of Wheat in England and Wales in 1912 amounts to 6,710,183 quarters, which is more than three-fourths of a million quarters less than last year. The yield per acre, 28.81 bushels, is nearly four bushels less than in 1911, and almost three bushels less than the decennial average. The yield per acre of Barley was nearly one bushel below that of 1911, and, like Wheat, nearly three bushels below the average, but in consequence of the increased acreage, the total production is very little below that of last year. Oats are more deficient, being fully six bushels per acre below the average, and three bushels below last year; while the total production falls short of 1911 by some two-thirds of a million quarters. Beans are 2¾ bushels below the average, but better than last year's poor crop. Peas are 4¾ bushels below average, but, in consequence of a considerably increased acreage, the total production is a little above that of 1911. The Hay crop is much larger in bulk than last year; that from Clovers and rotation grasses is nevertheless 3½ cwts. below the average. Meadow Hay is the only one of the seven crops now reported on which shows an over-average yield, although the excess is not more than five-sixths of a cwt. The total production of Hay of all kinds amounts to 8,125,444 tons, which is nearly 2,000,000 tons more than was produced in the droughty season of 1911.

Linnean Society.—The Linnean Society inaugurated its winter session with a dinner and conversazione, which were held on Thursday, October 31. The dinner ,which was held at the Criterion Restaurant, was well attended, and proved a great success. At the conversazione, which took place in the rooms of the Society (Burlington House), exhibits of members were shown and lectures were delivered by Professor Seward and Professor Herdman.

Acreage of Small Holdings.—In reply to a question in the House of Commons last week Mr. Runciman stated that the Board of Agriculture had received schemes providing for the voluntary acquisition of small holdings extending to 141,667 acres, and in addition orders had been made for the compulsory acquisition of a further 16,151 acres, making a total of 157,818 acres.

THE RESOURCES OF THE EMPIRE.—In publishing the names of the Royal Commission appointed to inquire into and report upon the natural resources of the Empire, *Nature* (October 31, 1912) comments on the fact that the list does not contain the name of anyone prominently associated with any branch of scientific knowledge. The omission is interesting, and would appear to be a tacit acceptance on behalf of the Empire of the spirit of the epigram attributed to revolutionary France of a hundred years ago—La Republique n'a pas besoin de savants. The revolutionaries put their faith in practice by guillotining Lavoisier, "the father of modern chemistry." We are of milder manners, and relieve our men of science from the onerous and patriotic task of surveying the resources of our Empire. They have contributed to the development of those resources more than any other body of men in the community. Why, therefore, should the State ask their opinion on a subject on which they have only expert knowledge?

SELBORNE LECTURES.—The series of lectures which the Selborne Society annually arranges, and which are given in the theatre of the Civil Service Commission, Burlington Gardens, W., will begin on November 11, when Lord Montagu of Beaulieu will preside, and Mr. Fred Enock will deal with "Fairy Flies and their Hosts." The lectures are given on Mondays, at 6.30 p.m., and tickets can be obtained through members, or from the honorary secretary, Mr. Wilfred Mark Webb, 42, Bloomsbury Square, W.C. The other subjects are on "The Elizabethan Playhouses of London," by Dr. William Martin (November 24); "English Cathedrals," by Mr. Charles E. Keyser (December 9); "Minor Planets," by Dr. A. C. D. Crommelin (January 20); "Fibres and Fibre Lore," by Mr. C. Ainsworth Mitchell (February 17); and "Byways in Biology," by Mr. James Saunders (March 3). The special children's lecture will be given by Mr. Spencer Fletcher, on "Dew, Hoar-frost, and Clouds" (January 9).

AGRICULTURE IN BELGIUM.—Agriculture in Belgium is easily classified by the conditions of the soil. First comes a belt of strong clay land some eight miles only in width, which has been reclaimed from the sea and grows fine crops of Barley and Wheat. The main part of the country is then divided into three grades of varying quality running east and west, the farms growing larger in the southern belt. The northern strip, of which Ghent is the principal centre, is sandy and requires heavy manuring. In this is to be found the most intensive culture in Europe, excepting only the circle of market gardens round Paris. Half the land yields two crops a year; everywhere is spade culture, and its value is in some cases as high as £850 per acre. East Flanders is land of poor quality. The central belt across is the richest, a fine loamy soil of wonderful productiveness. Beet, for instance, has been grown in alternate years for half a century without exhausting the fertility of the soil. South of this is the mountainous district of the Ardennes, where forestry is a big feature, and south-east is a limestone country, where the chief industry is farming—the farms ranging from "three cow" to "20 cow." The Belgian climate is a kindly one to the farmer and horticulturist—no excess of either heat or cold—the average temperature ranging from 59° to 86° only. Of the 14,500,000 acres which comprise Belgium, about 11,000 are cultivated land, while 3,000,000 are woodlands, nearly half of which are in the Ardennes. There are only 1,250,000 acres of uncultivated land in the country, and the balance is represented by the built area, roads, canals, &c. Belgium thus offers a compact field of study for the agriculturist, from the large farmer to the small holder, and the International Exhibition at Ghent next year will furnish an excellent opportunity to visit Belgium and study their problems on the spot.

SOCIETIES.

ROYAL HORTICULTURAL.

November 5, 6.—The competitive classes for Orchids, arranged in connection with the Orchid Conference on Wednesday, gave an unusual character to this meeting, which extended over two days. More than half the Vincent Square Hall was filled with collections of these flowers; thus the first competitive exhibition of Orchids held in this country in the month of November proved an unqualified success. As will be seen from the detailed report, the exhibits were drawn from the chief collections in the country, both amateurs' and traders', but the palm must be given to Sir George Holford, whose plants were magnificent. Most of the Orchid exhibits were arranged as separate groups, the long rows of tabling being dispensed with, so that the show was much more effective than usual. No fewer than six Certificates and ten Awards of Merit were conferred by the Orchid Committee.

The exhibits before the Floral Committee were fewer than usual. This Committee granted 11 Awards of Merit.

The Fruit and Vegetable Committee had practically nothing to inspect; the only award made by this body was a Cultural Commendation.

At the three o'clock meeting in the Lecture Room, Miss Edith R. Saunders gave a paper on "Double Flowers," a report of which is published on p. 357.

The Orchid Conference which was held on Wednesday made up in interest what it lacked in numbers. Papers were read by Professor Keeble, on "The Physiology of Fertilisation"; by Major Hurst (Director of the Burbage Experiment Station), on "The Application of Genetics to Orchid Hybridisation"; by Mr. H. G. Alexander, Orchid-grower to Sir George Holford, on "Epiphytal Orchids"; and by Mr. R. G. Thwaites, on "Albinism in Orchids." The several papers contributed by these gentlemen were followed with evident interest by the members of the Conference, and gave rise to most useful discussions.

The business-like character of the Conference was guaranteed by the presence in the chair of Mr. J. Gurney Fowler, Treasurer of the R.H.S.

An account of the several papers will be published in due course, but it is well worth pointing out here that perhaps the most valuable part of the Conference consisted in the emphasis given to the importance of Orchid raisers keeping full and careful records of the results of their experiments, not only when these results are of a positive nature, but even when they fail to achieve the immediate end for which they are designed.

Floral Committee.

Present: H. B. May, Esq. (in the Chair); Messrs. G. Reuthe, W. J. James, William Bain, John Dickson, Chas. Dixon, A. Turner, Chas. E. Pearson, Chas. E. Shea, W. P. Thomson, John Green, W. J. Bean, C. R. Fielder, Jas. Hudson, J. F. McLeod, Wm. Howe, W. T. Ware, E. H. Jenkins, R. Hooper Pearson, W. G. Baker, J. W. Barr and C. Blick.

Messrs. James Veitch & Sons, King's Road, Chelsea, filled a table with their beautiful winter-blooming Begonias and another with dwarf Chrysanthemum plants in pots. Of the former Mrs. Heal, Julius, Winter Perfection, Elatior (one of the finest), and Ensign were represented by large batches of well-grown plants. The Chrysanthemums were principally varieties of the Caprice du Printemps type, those named White Cap, Purple Cap, Red Cap and Yellow Cap being the choicer. (Silver-gilt Banksian Medal.)

Messrs. W. Cutbush & Son, Highgate, filled a large table with Begonias of the winter-flowering section. In the centre of the group was a new white variety named Lady Waterlow, a sport from Turnford Hall of the Gloire de Lorraine type. The others were shades of red, and included Beauty of Hale, Mrs. Heal, Winter Cheer, Ensign, and Emily Clibran, all well-known sorts. (Silver Banksian Medal.)

Messrs. Blackmore & Langdon, Twerton-on-Avon, Bath, showed two varieties of Begonias of the semperflorens type, named Pink Beauty and Carmen. They were stated to be hybrids of B. semperflorens and Gloire de Lorraine, but resembled large-flowered forms of the first-named parent

Mr. L. R. Russell, Richmond, showed varieties of Sonerilla, Bertolonia and Anœctochilus. These dwarf plants have beautifully coloured leaves and are amongst the most decorative of all stove foliage plants. Bertolonia Mme. Van Houtte, B. Sanderæ (with shades of green), B. sericea cristata, B. maculata, Anœctochilus petiola (light green markings on deeper green), A. setaceus (red markings on olive green), and Sonerilla argenta were among the more interesting. (Silver Flora Medal.)

Messrs. W. Wells & Co., Merstham, Surrey, showed Chrysanthemums, including their fine new white seedling Queen Mary, Mrs. G. W. C. Drexel, also new, a large Japanese bloom of pink colour, Thos. Lunt (crimson and gold), Mrs. Gilbert Drabble, and a promising, unnamed seedling of sulphur-yellow colour. Besides these large blooms there were excellent flowers of the beautiful single varieties Sylvia Slade, Marjory Lloyd and others.

Messrs. H. B. May & Sons, The Nurseries, Edmonton, showed varieties of Nephrolepis exaltata and Osmunda palustris. The newest Nephrolepis, named Willmottæ, received an Award of Merit. The varieties Marshallii, M. compacta and Whitmanii compacta have moss-like fronds, but muscosa has leaves not so finely sub-divided. (Silver Banksian Medal.)

Messrs. Allwood Bros., Haywards Heath, exhibited a small but choice collection of Carnations. Marmion, Fairmount, Rosette, Empire Day and Mary Allwood, a fine new flower of reddish-pink colour, were all excellent.

A small collection of Carnations and vases of Heliotropes, Hymenocallis macrostephana and Plumbago rosea were exhibited by the Rt. Hon. Viscount Ridley, Blagdon Hall, Cramlington (gr. Mr. F. Perry).

Mr. G. Reuthe, Keston, Kent, showed hybrid Nerines, Berberis Bealii and Alpines in pots. Galanthus Olgæ and Oxalis lobata were exhibited in bloom.

A small rock-garden was exhibited by the Misses Hopkins, Shepperton.

AWARDS OF MERIT.

Chrysanthemum Queen Mary (Japanese).—A large incurved, white variety, which received the F.C.C. of the National Chrysanthemum Society on the 29th ult. (see p. 342). Shown by Messrs. W. Wells & Son.

C. Miss A. E. Roope (Japanese).—A large exhibition variety with broad, curled florets of rich lemon-yellow colour (golden yellow of the N.C.S.). It is a seedling from Hon Mrs. Lopes. (See p. 342.)

C. Hector Menzies (single).—The flowers are less stiff and formal than some, there being a slight twist of the florets tips. The large flowers, with two or three rows of florets, are a clear lemon yellow colour. Both these shown by Messrs. H. J. Jones, Ltd.

C. Portia (single).—A very beautiful, large-flowered variety. The rays are of a uniform shade of terra-cotta (approaching the darker dull carmine lakes of the *Répetoire des Couleurs*, and slightly recurve at the edges, giving a quill-like tip, which here and there reveals the yellow under-surface of the florets.

C. Snow Queen (Anemone-flowered).—A pure white variety, more admired perhaps than any other novelty exhibited. The length of the ray florets, which were in two or three rows, and the smallness of the white Anemone-like disc, showed the proportions of the best singles, and thus broke away from the bunchiness or heaviness of the typical Anemone-flowered varieties. These two were shown by Messrs. Cragg, Harrison & Cragg.

C. Mr. Leonard Harrison (single).—A fine flower, with broad, flat florets and vigorous habit, especially admired for its rich colour—a bright chestnut-red with a distinct yellow ring at the base of the rays surrounding the disc. Shown by Mr. L. F. Harrison, Orchards, East Grinstead (gr. Mr. A. H. Chapman).

Carnation St Nicholas.—An American-raised, perpetual-flowering variety, said to be the largest and brightest scarlet Carnation in commerce. The calyx is excellent, and the flower is distinctly clove-scented. As shown, the blooms were rather thin. The colour is the carmine-red of the *Répetoire des Couleurs*, commonly referred to as vermilion. Shown by Messrs. Stuart Low

Nephrolepis exaltata Willmottæ.—This is a dwarf form, closely resembling the variety Marshallii, but the leaves are more moss-like. Shown by Messrs. H. B. May & Sons.

Begonia Optima.—This beautiful variety was raised from B. Socotrana × Pearcei seedling. The large, rose-pink flowers, tinged with salmon, are freely but loosely borne.

B. Emita.—Derived from B. Socotrana crossed with a single, orange-scarlet, tuberous-rooted variety. The habit is more compact, the foliage is more handsome, and the colour marks a more distinct advance than in the variety Optima. The open flower is a rich orange shade, but the general colouring is a deep rose-pink, pervading the unopened buds and the back of the expanded flowers, which are generally uppermost from the drooping habit of the flower. Both these shown by Messrs. J. Veitch & Son, Ltd.

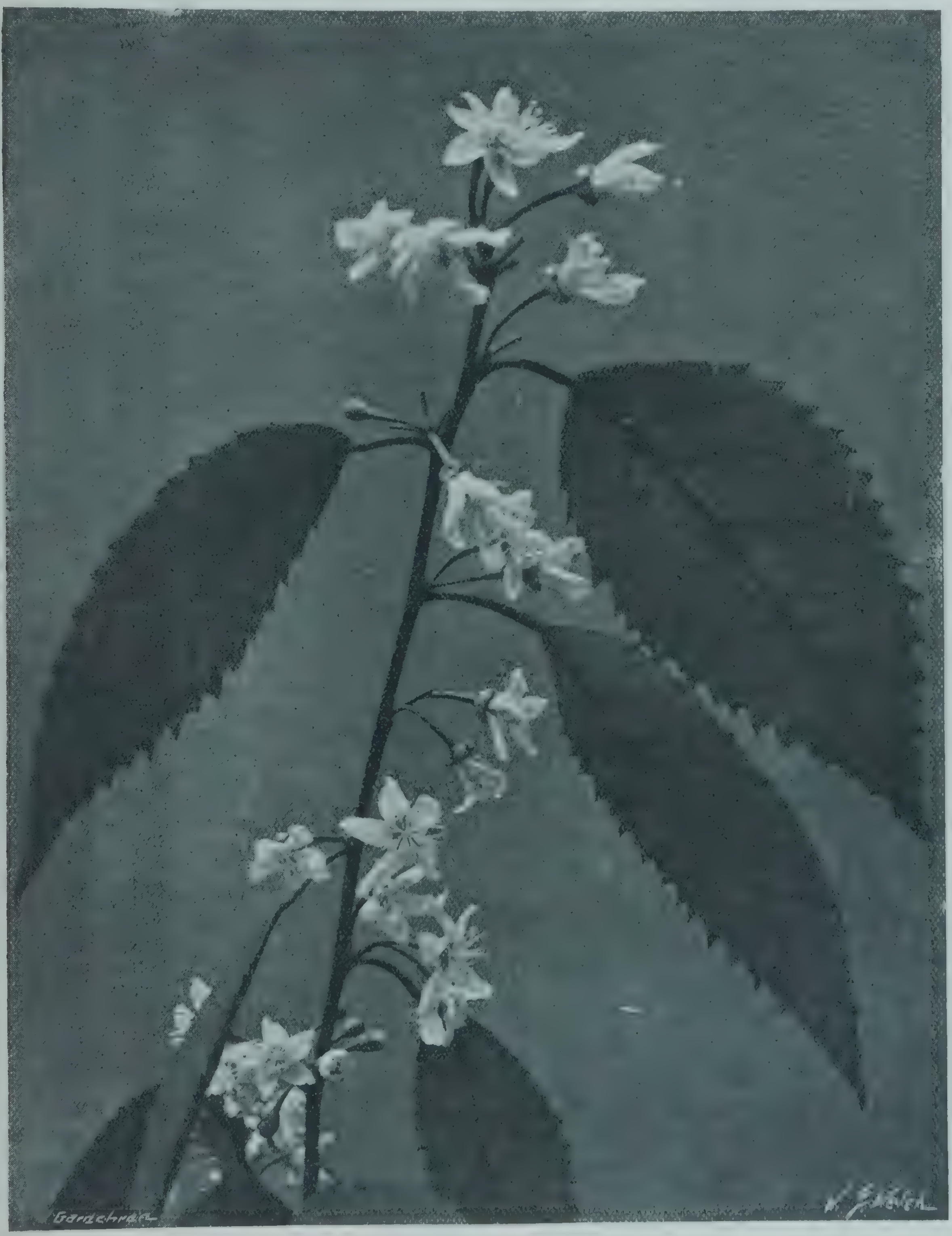


Fig. 154.—Hoheria populnea: flowers white.

(From specimens exhibited at R.H.S. meeting, on Tuesday last, by Mary Countess of Ilchester.)

Hoheria populnea (see fig. 154).—Heheria (derived from the native name) is a Malvaceous monotypic genus, found only in New Zealand. The shrub is closely allied to Plagianthus and Gaya, which share with it the popular name of Ribbon Wood or Lace Bark. The flowering sprays exhibited were cut from a bush 9 feet high growing in the open at Abbotsbury, but the species may reach 20 or 30 feet. The leaf and flower shown were both distinct. The leaf is leathery in texture, very glabrous but not glossy, and finely veined on the paler under-surface. The margin has the sharp curving teeth characteristic of some of the Olearias, but the surface is flat and ovate-lanceolate to lanceolate in shape, sometimes tapering to a fine point. The flowers are pure white, about ½ inch in diameter, with a central cluster of numerous white filaments. They are borne very freely in little bunches of three to seven or more in the axils of the leaves, and at the ends of the shoots, so that a plant in full flower presents a remarkable sight. Cheeseman *(Manual of New Zealand Flora)* describes the species as an extremely variable one, and groups the forms of it under three sub-species, mainly characterised by the breadth and variability of the leaf. The best form, vulgaris, is abundant in the North Island, where it flowers from March to May. The other forms have smaller, fewer and earlier flowers and leaves, which are more lanceolate or even linear. The type is figured in Hooker's *Icones Plantarum*, 565-6. Shown by Mary Countess of Ilchester, Abbotsbury, Dorset (gr. Mr. H. Kempshall).

Some Further Novelties.

No fewer than 41 of the 52 novelties submitted for award before the Floral Committee were varieties of Chrysanthemums. In addition to those receiving awards, other good varieties were Daisy Burden, a large and very soft-pink single flower shown by Messrs. H. J. Jones, Ltd., and an effective bronze single, Caterham Bronze, shown by Mr. Frank Brazier. The growing popularity of the winter-flowering Begonia was evidenced by the entry of further types, in addition to those from Messrs. Veitch, Messrs. Clibrans, and Messrs. Blackmore & Langdon. The variety Pink Beauty, derived from crossing B. semperflorens Triumph and a seedling from Lemoinei gracilis × Gloire de Lorraine, is distinct and pretty, but none too free in flowering.

FIRST AUTUMN EXHIBITION OF ORCHIDS.

A pleasant change from the ordinary arrangement of long tables occupying the centre of the Hall was made by the removal of most of the straight tables and the substitution of circular, quadrangular, and triangular stages, each devoted to a separate group.

The most important groups were those staged by Lieut.-Col. Sir Geo. L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), which in themselves exceeded in beauty and extent any previous show in the month of November.

The largest group, in Class 7, for a group of Cattleyas, Lælias and Brassavolas and their hybrids, was a superb exhibit occupying about 300 square feet, and was a gorgeous show of colour and variety, in which the handsome Cattleya Fabia of the renowned Westonbirt strain was represented by over 50 plants, bearing together 260 flowers. White forms of Cattleya labiata were a representative collection, bearing together over 40 flowers, one being pure white except for an orange disc to the lip. Many hybrid Cattleyas were also included, for the best of which and other fine novelties see "Awards." The pure white C. Dusseldorfei Undine had four spikes with 16 flowers, C. fulvescens "Westonbirt variety" was very handsome, and varieties of C. Dirce, C. Brenda and C. Prince Olaf were specially noted. Among Lælio-Cattleyas the Westonbirt strain of L.-C. Berthe Fournier, the bright yellow L.-C. Golden Beauty and Golden Fleece; L.-C. Neleus (a fine yellow hybrid between C. Iris and L.-C. Ophir), and other equally handsome hybrids made a grand display. Among species and varieties were a batch of C. Dowiana with its richly-coloured variety Rosita and some superb forms of C. Hardyana. (Gold and Silver-gilt Lindley Medals.)

Adjoining was Sir George L. Holford's group of Vanda cærulea in Class 12, the only entry. It made a splendid group occupying 120 square feet and containing about 45 fine specimens bearing from one to three grand spikes of pure blue-tinted flowers, the best being appropriately the variety Lady Holford, a great beauty which secured a First-class Certificate. These were arranged with finely-flowered Oncidium varicosum; the bright yellow flowers went admirably with the sky-blue Vandas. (Gold and Silver-gilt Lindley Medals.) Fronting these two fine groups was Sir George Holford's group of Cypripediums in Class 10, which was arranged on a separate stage of about 130 square feet. In this group were most of the best-known species and hybrids, and prominent varieties such as C. Beacon magnificum, C. nitens-Leeanum Hannibal, C. Dante, C. Draco, C. Lucifer, C. Sultan, C. Actæus and its charming yellow and white variety Bianca; C. Rosettii and other Westonbirt novelties of great merit, the new C. Muriel securing an Award of Merit. (The Davidson Silver Cup.)

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), continued the end stage with a splendid group in the elevated parts of which were fine displays of Dendrobium Phalænopsis Schroderianum, the central arrangement having also the bright-reddish mauve variety rubescens, the blush-white Miss Louisa Deane, and the pure white variety hololeuca. Above them were graceful sprays of Oncidiums, and in the arrangement in the lower part of the group were a rich display of Cattleyas, Lælias, Brasso-Cattleyas and other hybrids and a fine selection of Cypripediums, among which were noted as specially fine C. The Baron, C. Niobe superbum, an interesting selection of C. Fairrieanum crosses, good batches of C. Maudiæ, C. callosum Sanderæ, C. Bianca, &c. (Gold Medal.)

At the other end of the side stage H. S. Goodson, Esq. (gr. Mr. Day), staged an effective group in the centre of which was a brightly-coloured selection of Sophro-Cattleyas and Sophro-Lælias. Some very handsome hybrid Odontoglossums and Cattleyas were also noted, C. Mrs. Pitt "Goodson's variety" being the best of its class, having a uniformly deep rose flower with yellow disc. (Small Silver Cup.)

J. Gurney Fowler, Esq., Glebelands, South Woodford, in Class 3, for a group of Orchids, arranged in a space not exceeding 150 square feet, occupied very effectively a triangular stage with raised centre, the highest point having graceful Palms with yellow Oncidiums, white and blotched Odontoglossums, well-flowered Cattleyas, Lælio-Cattleyas, &c. Some good scarlet Odontiodas, Cattleya labiata alba and other white forms, bright orange scarlet Epidendrum vitellinum, good Odontoglossum grande, and a very fine selection of Cypripediums, of which the new C. Glebelands (Lathamianum × insigne Chantinii) secured an Award of Merit. (Silver-gilt Flora Medal.)

In Class 5 E. R. Ashton, Esq., Broadlands, Tunbridge Wells, staged an excellent group containing great variety in Lælio-Cattleya luminosa, Canhamiana and Colmaniana, a nice selection of Cattleya labiata, including some white-petalled varieties, and among new plants two good forms which secured Awards of Merit. (Silver Cup.)

F. Du Cane Godman, Esq., South Lodge, Horsham, in Class 5 staged a very effective exhibit of Oncidium varicosum, O. cheirophorum, O. ornithorhynchum and its white variety, Epidendrum vitellinum, Odontoglossums, Cattleyas and Lælio-Cattleyas, the finest of which was L.-C. Godmanii variety Eve. Some good Cypripediums, including C. Earl of Tankerville, were also included. (Silver Flora Medal.)

The entire length of the staging at the end of the Hall was occupied by Messrs. Mansell & Hatcher and Messrs. Charlesworth, the former entering a grand group in Class 29 for north country exhibitors. Two elevated parts were made, principally of excellent varieties of Cattleya Fabia, with which were good C. Mrs. Pitt, C. Armstrongiæ, excellent Lælio-Cattleyas, and other hybrids. The sunk portions were of good Cattleya labiata, including some white forms, with scarlet Odontiodas, richly-blotched Odontoglossums, and an excellent variety of Cypripediums. Rare species noted were Cirrhopetalum mundulum, C. appendiculatum, Bulbophyllum Godseffianum, and other Bulbophyllums. (Large Silver Cup.)

Messrs. Charlesworth & Co., Haywards Heath, had one of the best and largest groups, the whole of the centre being of the rich, orange-scarlet Epidendrum vitellinum autumnale, which made a very bright effect, Vanda cœrulea, bright-yellow Oncidiums, a fine selection of Odontiodas and hybrid Odontoglossums. Among a very fine lot of hybrid Cattleyas and Lælio-Cattleyas were two superb novelties, C. Rhoda The Jewel and L.-C. Orion var. Othello, which secured First-class Certificates. (Gold Medal.)

On the broad stage inside the entrance, Messrs. Sander & Sons, St. Albans, had a very extensive and well-arranged group, containing fine examples of most of the showy Orchids of the

Cattleya Fabia, C. Hardyana, various Brasso-Cattleyas, and Lælio-Cattleyas, the lower arrangements being of Cypripediums, with specially-finely blotched Odontoglossums arranged above them, with occasional sprays of scarlet Odontiodas. A batch of Pleione lagenaria was very effective, and a new Oncidium and Xylobium were also noted, as well as the fine, pure-white Cattleya Mulleri, a good flower of fine substance, which was raised by crossing C. Mrs. Myra Peeters and Harrisoniana alba. (Gold Medal.)

On the other side, Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gr. Mr. Collier), had a splendid group, the elevated centre of which was of Cattleya Portia cœrulea and C. labiata cœrulea, two distinct forms, with a decided blue tint, a shade of which the Gatton collection has many representatives. The yellow Cypripedium insigne Sanderæ, Vanda cœrulea, elegant sprays of Dendrobium Phalænopsis, and some excellent hybrid Cattleyas, Odontoglossums, Lælio-Cattleyas, &c., were also noted, and at one end a selection of Botanical Orchids—for which a Silver Cup was awarded—including the singular Bulbophyllum mirum and other Bulbophyllums, Pleurothallis, Saccolabiums, &c. Among the Odontiodas, O. Bradshawiæ gattonensis, a deep scarlet, secured an Award of Merit. (Large Silver Cup.)

Messrs. J. Cypher & Sons, Cheltenham, in Class 6, had an excellent group on a circular stage, the handsome Cattleyas, Lælio-Cattleyas, Odontoglossums, &c., being effectively

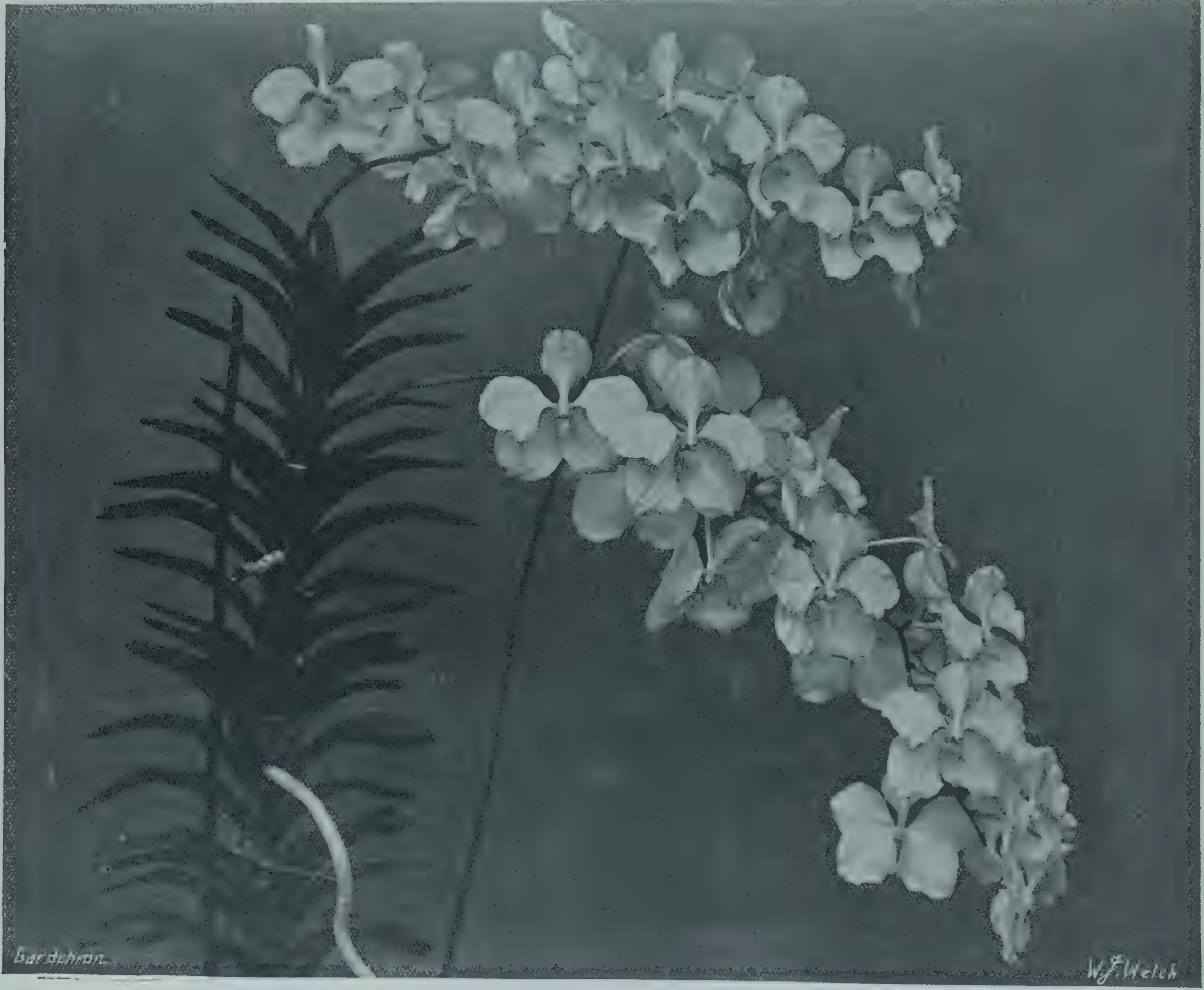


Fig. 155.—Vanda cœrulea "Lady Holford."
(R.H.S. First-class Certificate on Tuesday last.)

Phalænopsis Schröderianum, D. formosum giganteum, and a grand specimen of Cattleya Bowringiana lilacina were also prominent. (Silver-gilt Flora Medal.)

Messrs. Cypher, in Class 11, also well filled a similar stage with excellent Cypripediums, the forms of C. insigne and standard hybrids being shown to advantage, C. insigne Sanderæ, still the best yellow insigne, was illustrated by fine specimens. (Silver Cup.)

Messrs. Stuart Low & Co., Bush Hill Park, in Class 4 for a group of Orchids, in a space of 150 square feet on a circular ornamental staging in the middle of the Hall, had one of the most effective and well-arranged groups, the centre being carried well up, and at the edges four ornamental vases, elevated on pedestals, were placed. These were filled with Dendrobium Phalænopsis, Vanda cœrulea, Oncidium varicosum and other elegant Orchids; the body of the group being composed of Cattleya Fabia, C. labiata, including white forms, and C. Octave Doin; some good Lælio-Cattleyas, Odontoglossum and Odontiodas, with Dendrobium formosum giganteum, were also noted. (Gold Medal.)

Messrs. Jas. Veitch & Sons, Chelsea, staged a select group of Cattleyas, Brasso-Cattleyas, Lælio-Cattleyas, white Calanthes, and Odontoglossums, their new O. Aurora, which obtained a First-class Certificate, being a superb exhibit. (See Awards.) (Silver Banksian Medal.)

Messrs. J. & A. A. McBean, Cooksbridge, in Class 6 staged a good group of Odontoglossums, including fine O. crispum and some showy hybrids, their O. eximium "McBean's variety," which secured an Award of Merit. A batch of Cattleya aurea, fine C. labiata, two well-flowered Vanda Sanderiana, the new Cymbidium Doris and an unnamed hybrid of C. elegans, the beautiful Miltonia vexillaria Leopoldii, Lælio-Cattleya Myrrha, Cattleya Leugæ, C. Fabia Vulcan, and C. Fabiata were also specially noted. (Silver Cup.)

Mr. Sidney Flory, Amyand Park Nursery, Twickenham, staged an effective group including Cymbidium Tracyanum, the large example with four spikes obtaining the prize (a Silver Banksian Medal) for a single specimen Orchid. Four specially good fine hybrid Odontoglossums, some good O. crispum, fine Cypripediums, including a good C. Fulshawense, were also in the group. (Silver Banksian Medal.)

Mr. G. W. Miller, in his group of Cypripediums with other good kinds, showed C. Clarksoniæ (Actæus × insigne Laura Kimball), resembling C. insigne Sanderæ. A selection of C. labiata, &c., was also shown. (Silver Banksian Medal.)

Mr. Treseder, Ardcairn, Co. Cork., staged a small group of hybrid Cypripediums, Cattleyas and hybrid Orchids, together with Odontoglossums, &c. (Bronze Banksian Medal.)

Mr. Harry Dixon, Spencer Park Nurseries, Wandsworth Common, had a well-arranged group of Oncidium varicosum, Epidendrum vitellinum, Odontoglossums and hybrid Cattleyas, one of which was a very fine dark form with the shape of C. aurea. (Silver Banksian Medal.)

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a small group with some excellent white-petalled forms of Cattleya labiata, including La Vièrge, with three fine flowers, alba (pure white), G. G. Whitelegge, and R. I. Measures. Specially fine were Le Président, W. R. Lee and Daphne. Also in the group were Lælio-Cattleya Decia alba, L.-C. Epicasta "Vale Bridge variety," Cattleya Dusseldorfei Undine, Cymbidium erythrostylum, Odontoglossum grande aureum, and some Cypripediums. (Silver Flora Medal.)

C. J. Phillips, The Glebe, Sevenoaks (gr. Mr. Bucknill), sent a finely-flowered plant of Cattleya labiata "Glebe variety," a good white flower with a pale blush-pink tinge on the lip; and C. Fabia "Glebe variety," a grand form of a bright rose tint with broad ruby-purple lip having an orange disc.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontioda Bella (C. Noezliana × O. bellatulum) of a deep blood-red colour; and a good Odontoglossum Thompsonianum.

W. P. Burkinshaw, Esq., Hessle, near Hull, showed the fine white Cypripedium Boltonii magnificum and C. Aphrodite.

Mrs. Norman Cookson, Oakwood, Wylam (gr.

Calanthe Cooksoniæ, the deep claret-red C. Angela, and the fine Odontioda Bradshawiæ "Cookson's variety," like a large scarlet-tinted Odontoglossum crispum. All had previously received First-class Certificates. (Silver-gilt Banksian Medal.)

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), showed Cattleya Venus "Burford variety" (Iris × aurea), a clear yellow flower with light-rose lip veined and margined with yellow.

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); Messrs. Jas. O'Brien (hon. sec.), W. Bolton, W. Waters Butler, W. Cobb, R. G. Thwaites, de B. Crawshay, G. F. Moore, J. S. Moss, R. Brooman-White, H. J. Chapman, W. H. White, A. Dye, J. E. Shill, W. H. Hatcher, J. Cypher, J. Charlesworth, C. H. Curtis, Gurney Wilson, F. M. Ogilvie, F. Sander, A. McBean, T. Armstrong, F. J. Hanbury, R. A. Rolfe, Stuart Low, Sir Harry J. Veitch, and Sir Jeremiah Colman, Bart.

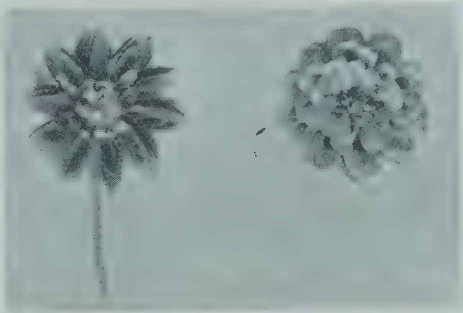


Fig. 156.—double columbines.

Type form and the spurless variety stellata, in which doubling is due to petalody of the stamens.

AWARDS.

First-class Certificates.

Vanda cœrulea Lady Holford (see fig. 155) from Lieut.-col. Sir Geo. L. Holford, K.C.V.O., (gr. Mr. H. G. Alexander). A noble variety of this charming Orchid. The large, round flowers had a silver-white base delicately tinged and veined with clear-blue colour.

Cattleya Peetersii "Westonbirt variety" (labiata alba × Hardyana alba), from Lieut.-col. Sir Geo. L. Holford. Flower large and of fine shape, clear white, with a very fine lip coloured in front ruby-purple and heavy gold veining from the base.

Odontoglossum Aurora (O. Lambeauiana × Rossii rubescens), from Messrs. Jas. Veitch & Sons, Chelsea. A fine advance on previous Rossii crosses, and the richest in colour and best in form. The broad sepals and petals have a broad, blotched band of deep bronzy-red and a rose margin. The broad and finely-shaped lip in rose-purple, with a yellow crest on the white disc.

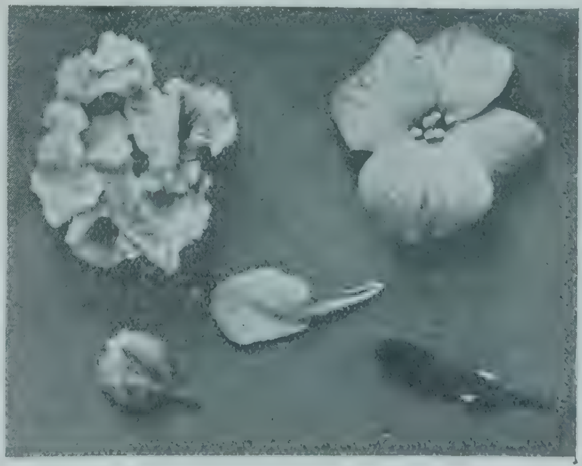


Fig. 157.—double wallflower capable of propagation by seed.

Doubling is due to splitting of the petals. A very early stage in the process is seen in the isolated petal.

Odontioda Bradshawiæ gattoniensis (O.

Colman, Bart (gr. Mr. Collier). Flower nearly as large as O. crispum, deep scarlet-red.

Cattleya Rhoda The Jewel (Iris × Hardyana), from Messrs. Charlesworth & Co. A charming new departure, with flowers of good shape, clear canary-yellow, with a bright cherry-red lip veined with gold.

C. Orion variety Othello, from Messrs. Charlesworth & Co. A very dark claret-purple flower, with maroon lip delicately marked with lighter shades.

Awards of Merit.

C. Fabia gloriosa (labiata × aurea), from Lieut.-col. Sir Geo. L. Holford, K.C.V.O. A very fine variety, with a broad and showily-coloured lip.

C. Fabia Sunset, from Lieut.-col. Sir Geo. L. Holford. Flowers large, deep rose, with a large expanse of yellow in the lip.

C. Hardyana La Perle, from Lieut.-col. Sir Geo. L. Holford. A grand form, with clear-white sepals and petals and ruby-purple lip, with yellow disc and veining.

C. Venus var. Princess (Iris × Dowiana aurea), from Messrs. Charlesworth & Co. A pretty yellow flower, with ruby lip having gold veining.

Cypripedium Muriel (Euryades × Cynthia), from Lieut.-col. Sir Geo. L. Holford. A great improvement on C. Euryades; larger and broader. Dorsal sepal white, with large chocolate-purple blotches.

C. Glebelands (Lathamiana × insigne Chantinii), from J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis). Flower as large as C. insigne Harefield Hall, and of similar colour. The dorsal sepal, which has a fine white upper half, is very well marked.

Brasso-Cattleya Mme. Hye. "Ashton's variety" (B. Digbyana × C. Harrisoniana), from E. R. Ashton, Esq., Broadlands, Tunbridge Wells. A distinct variety, with rose sepals and petals, and broad, slightly-fringed white lip.

Cattleya Oberon (Fabia × Hardyana), from E. R. Ashton, Esq. Flower large and with a resemblance to a good C. Hardyana, the lip being especially fine.

Lælio-Cattleya Walter Gott (L.-C. bletchleyensis × C. bicolor), from Messrs. Sander & Sons. A large flower, as good as C. Iris, and of a bright rosy-mauve shade, with a broad rose-crimson lip. A really good form.

Odontoglossum eximium "McBean's variety," from Messrs. J. & A. McBean, Cooksbridge. A model flower, which resembles Odontoglossum crispum Leonard Perfect, but has larger and brighter blotches on a white ground. The only sign of hybridity is in the lip.

Fruit and Vegetable Committee.

Present: Jos. Cheal, Esq (in the Chair); Messrs. W. Bates, J. Davis, H. Markham, G. Reynolds, John Harrison, W. Poupart, C. G. A. Nix, and A. W. Metcalf.

The only exhibit of importance was a fine, fruiting Orange tree exhibited by Messrs. Felton & Sons, florists, Hanover Square. It was stated to have borne 280 fruits this season, and was grown within seven miles of Charing Cross. (Cultural Commendation.)

LECTURE ON DOUBLE FLOWERS.

We are indebted to Miss Saunders for the following summary of her paper on "Double Flowers."

Doubling in flowers, as is well known, is due to different structural modifications in different cases. Most frequently the cause is either simple petalody of some or all of the stamens, or the petalody may be accompanied by an increase in the number of the parts due either to splitting or to actual multiplication of the whorls.

Whether a double-flowered form can be propagated by seed or not depends upon the nature of the modification which has led to the doubling. In some genera the flower may become very strongly double and yet produce good pollen and ovules, as in the Hollyhock. In other cases the ovary may remain normal but pollen may be absent, as is generally the case in the Sweet William (fig. 158); or the opposite may occur, for example, in the Petunia, in which the ovary is almost always mal-

In a very large number of double flowers, however, both reproductive organs are affected, and neither ovules nor pollen are present. In this last case the flower becomes completely sterile, and such double-flowered plants as a rule can only be propagated vegetatively.

A striking and apparently unique exception occurs in the case of Stocks, where the doubles, which are completely sterile, are obtained from the seed of certain strains of singles, which may be termed double-throwing singles in contradistinction to the pure-breeding strains which give only singles. These double-throwing strains yield a constant proportion of singles and doubles, the doubles being in excess. This excess (as has been explained in an earlier account)* is accounted for on the supposition that the presence of two factors is essential to singleness, and that these two factors occur in all the pollen and all the ovules of the true-breeding singles; but in a pure-bred individual of a double-throwing strain this combination is present in less than half the number of ovules and is absent altogether from the pollen. As the larger half of the ovules and all the pollen are carrying doubleness, and as a double is formed whenever a double-carrying pollen grain fertilises a double-carrying ovule, it follows that the majority of the offspring of such an individual will be double.

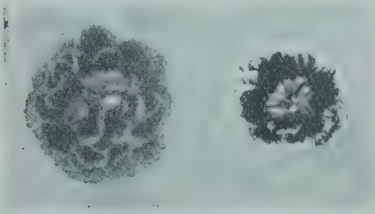


Fig 158.—Two types of double flower in the Sweet William.

Ovules are formed as in the single flower, but there is no pollen.

In the ten-week strains the proportion of doubles varies from about 53 to 57 per cent., and this proportion is maintained quite independently of external conditions. Whether the plants are kept dry or well-watered, whether they are grown in a rich soil or a poor one, the percentage of doubles remains the same.

The view that in Stocks more doubles are obtained from the lumpy, irregular seeds than from the more symmetrical ones is not borne out. The character of the future plant, whether single or double, is already determined at the moment of fertilisation, and is unaffected by the shape of the seed, which is determined mainly, if not entirely, by the dimensions of the pod and the spacing of the ovules (fig. 159).

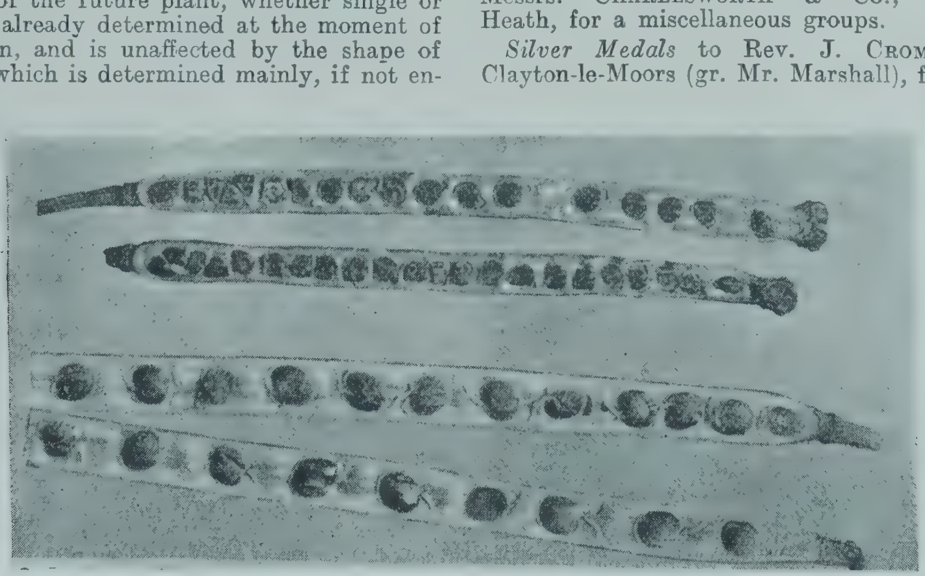


Fig. 159.—Seed pods of Stock. One valve removed to show the seed.

Upper pods short, showing some seeds irregular in shape through mutual pressure. Lower pods long, seeds with considerable interspaces, and all regular in shape.

Though we cannot hope to obtain a higher yield of doubles by pursuing one method of cultivation rather than another, or by selecting the most irregular-shaped seeds and discarding the others, it is sometimes possible in the case of one particular strain to effect a fairly complete separation of the seeds, giving rise to singles and doubles respectively. This strain is the curious form known as sulphur-white, which gives white singles, cream doubles and a small percentage of white doubles. The sulphur-whites of some growers have small, brown, irregular and lumpy seeds (see fig. 160 D) like those of the ordinary pure white form, but there is also sulphur-white seed on the market which is larger, rounded and regular, and mixed in colour, some being browner and others yellowish, like those of the cream form Princess Mary (of B with A, fig. 160). These yellowish seeds give rise to the double creams; hence by sorting the seeds according to colour it is possible to obtain sowings which are almost entirely composed in the one case of singles and in the other of doubles.

Evidence has already been obtained in other cases besides Stocks, e.g., in Primula sinensis and Petunia that doubling is inherited in accordance with definite laws which are independent of external conditions. In those cases where a series of intermediate grades occur between the single and the extreme form of double the question of inheritance is more difficult to determine, and further investigation is needed to discover the inter-relations of the different grades and the extent to which each breeds true.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

October 17.—*Committee present:* Rev. J. Crombleholme (in the Chair); Messrs. J. Bamber, J. C. Cowan, J. Cypher, J. Evans, Dr. Hartley, W. Holmes, J. Lupton, D. McLeod, H. Morgan, C. Parker, H. Thorp, Z. A. Ward, A. Warburton, and H. Arthur (secretary).

A Large Silver-gilt Medal was awarded to A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), who showed a pretty group of Cattleyas and Cypripediums.

A Silver-gilt Medal to Mrs. A. K. Wood, Glossop (gr. Mr. Gould), for a fine group of well-grown plants.

Large Silver Medals to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), for a group of Cattleyas; R. Ashworth, Esq., Newchurch (gr. Mr. Branch), who staged Cattleyas, Odontoglossums, and Cypripediums; Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), for a group composed principally of Cattleyas, Odontoglossums, and Cypripediums; J. McCartney, Esq., Bolton (gr. Mr. Holmes), who showed Cattleyas and Cypripediums; Messrs. J. Cypher & Sons, Cheltenham; and Messrs. Charlesworth & Co., Haywards Heath, for a miscellaneous groups.

Silver Medals to Rev. J. Crombleholme. Clayton-le-Moors (gr. Mr. Marshall), for a pleasing group of Cypripediums; Messrs. Sander & Sons, St. Albans, who staged a small group of good varieties of Cattleyas; and Mr. J. Evans, Congleton, for Cattleyas in variety, and several forms of Odontoglossum crispum.

Other exhibitors included O. O. Wrigley, Esq., Bury (gr. Mr. Rogers); Wm. Thompson, Esq., Walton Grange (gr. Mr. Howes); R. Le Doux, Esq., West Derby (gr. Mr. Fletcher); H. H. Bolton, Esq., Newchurch (gr. Mr. East-

AWARDS.

First-class Certificates.

Cattleya × Ena "Marlfield variety" (bicolor × Massiana); Cattleya labiata "Mme. Le Doux," fine, well-shaped flowers; *Cattleya Mrs. Pitt "Charlesworth's variety,"* all from R. Le Doux, Esq.

Cattleya Enid "Ward's variety," from Z. A. Ward, Esq.

Cypripedium Our Queen (Leeanum × Stevensii), a well-shaped flower, from Wm. Thompson, Esq., Walton Grange.

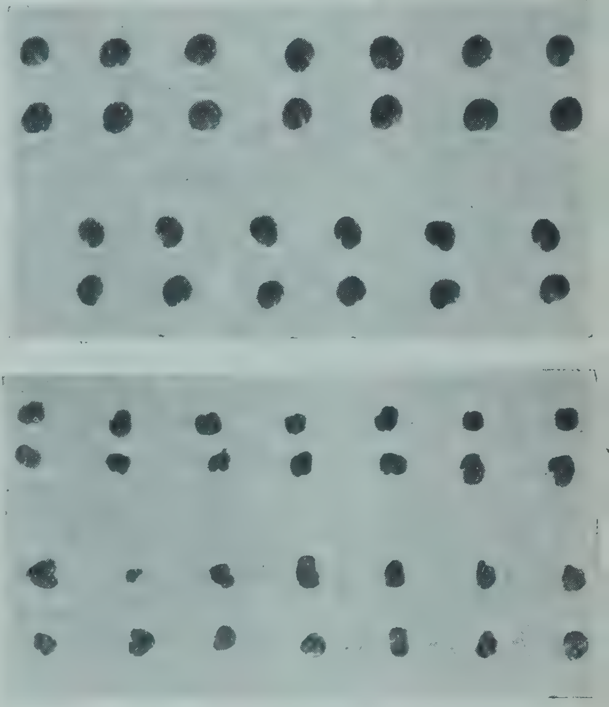


Fig. 160.—Selection of seed to produce double flowers of sulphur-white Stocks.

A.—Seed of pure breeding, cream (Princess Mary); C.—Seed of pure breeding, white; B D.—The seeds of sulphur-white sorted into groups, viz.: B.—Larger number yellow seeds, which give double cream; D.—Small, irregular brown seeds, which give single white. (See text.)

Cattleya labiata variety "Queen of Spain," a good flower; *Cattleya Enid "Orchid Dene variety" (Mossiæ × gigas); Brasso-Cattleya heatonense variety "Virginale" (B. Digbyana × C. Hardyana alba); Lælio-Cattleya Colmanæ "Orchid Dene variety" (L.-C. callistoglossa × aurea),* good shape, lip large and deep velvety colour. All above from Mr. E. F. Davidson.

Awards of Merit.

Odontoglossum × "Scintillans" (Rossii rubescens × Wilckeanum princeps), from Wm. Thompson, Esq.

Cattleya Portia magnifica, from Mr. E. F. Davidson.

KENT COMMERCIAL FRUIT SHOW.

October 28, 29.—Supplementing our report, on p. 340 in the last issue, of this show, held on the above dates, we now refer to the more important of the non-competitive exhibits as follow:—

Messrs. George Bunyard & Co., Ltd., Maidstone, had an exhibit of Apples and Pears, in which the excellence of very numerous varieties was very striking.

An interesting display in connection with plant diseases, insect pests, and Tobacco growing was contributed by the South-Eastern Agricultural College, Wye. A demonstration of Apple grading and packing was given on the second day of the show.

Numerous stands displayed machines for spraying, materials for washing fruit and Hops, and other appliances used by growers.

Messrs. Drake & Fletcher, Maidstone, showed two grading machines, one for Apples and the other for Tomatos and small fruits; also an assortment of spraying machines.

Messrs. Weeks & Son showed a hand-grading machine and packing table, with numerous spraying machines.

The British Basket Co.,

Messrs. McDougall Bros., Manchester, showed materials for fruit and Hop washing.

Messrs. Corfe & Son, Maidstone; Messrs. Walter Voss & Co., London; and Messrs. Berger & Son, London, were also exhibitors of similar materials.

The Four Oaks Co., of Sutton Coldfield, Birmingham, showed sprayers; Messrs. Stett & Co., Faversham, displayed spraying machines and washes; Messrs. Hayes Bros., Maidstone, showed packing boxes, a nailing press, and tools for use in fruit-growing; Messrs. E. A. White & Co., of Paddock Wood, exhibited sprayers and washes; Messrs. J. & N. Smythe, Maidstone, staged fruit boxes.

CONFERENCE ON FRUIT CULTURE.

The Conference in connection with this exhibition was held in the Town Hall, Maidstone, on the second day. Mr. Fred Smith occupied the chair. A paper was read by Mr. M. J. R. Dunstan, M.A., Principal of Wye Agricultural College, entitled "The Scope of Scientific Research in Fruit Growing."

Mr. Dunstan said that science is organised and accurate knowledge; some of the best practical farmers despise science, yet their good practice is based on science unconsciously applied. To the Rothamstead experiments is largely due our present knowledge of the economical manuring of farm crops and the feeding of farm animals.

With respect to fruit, said Mr. Dunstan, there has not been so much investigation work done as with farm crops, one reason being that the life of a fruit tree requires a longer period for investigation, also the conditions are somewhat more complex.

Are there any subjects bearing on fruit-growing in which we may add to our knowledge? What are the subjects on which investigations are required, and by whom and where can they be investigated?

With reference to the first part of his question, the lecturer said that some of the problems of fruit-tree growing are of a botanical nature. For example there are different strains of the Paradise stock, whilst the grafts themselves show differences and variations according to the individual trees from which they are taken. In pruning, it is possible that what is found best suited to one district may not be so suitable in another. Another subject of interest is the non-setting of blossoms, due to various causes, such as frost, lack of pollination, or the condition of the weather following pollination.

Certain varieties of fruit, though good, are specially subject to insect or fungoid pests; some sorts are more susceptible to spray fluids than others. The investigation of these subjects is being carried out by the John Innes Horticultural Research Institution; new varieties should stand a severe commercial test before being widely distributed to growers, to avoid disappointment.

The study of insect and fungoid attacks needs investigation, to learn the life history of the insect or fungus, in order to ascertain their vulnerable points, and the time for the application of the specific. Further investigation is needed in the cases of American Gooseberry-mildew, silver-leaf, and some of the Potato diseases.

We also require a knowledge of the effect of the sprays on insect or fungus, whilst chemistry may teach improved methods of mixing the specifics and introduce new materials useful to the work. We are not yet well acquainted with the manuring of fruit-trees or the effect of commercial artificial manures, which is of special importance now that the supply of animal manures is decreasing. The economic problems, including the packing, preserving, distributing, and marketing of fruit, might be investigated.

The practical man must have patience in these tests, for even failure in an experiment may teach something that may help towards success.

Four conditions are necessary for such research work:—(1) A staff of workers who must individually be both scientific and practical; (2) laboratories; (3) land; (4) confidence of fruit-growers.

As regards the staff of workers, Mr. Dunstan said that at the Wye College they had efficient investigators, and the College was well supplied with laboratories.

They were in a fair way to have suitable land by next autumn. The Board of Agriculture had granted the College £1,000 for answering inquiries from farmers, fruit-growers, and others, and it had promised £500 per annum towards the expenses of a fruit research station if suitable land is found and funds are also raised in the county.

Mr. E. Salmon said different varieties of Gooseberries behaved very differently when treated with lime and sulphur; some kinds were not harmed, whilst others lost their leaves. He stated that a central row of 40 Gooseberry bushes in a plantation attacked by American Gooseberry-mildew was sprayed six times during the season with lime-sulphur at intervals of a fortnight, and was found at the end to be free of mildew, though the row had diseased bushes on either side. Mr. Stephen Ballard, of Malvern, speaking on behalf of the Herefordshire growers, asked Kent to adopt the same box package as Herefordshire was using, namely, that holding 56 lbs. He had been packing Apples in boxes for 20 years, and thought this to be the best weight. Mr. C. Smith considered that the bushel box suited the Kentish growers best, and they were not prepared to adopt Mr. Ballard's suggestion.

Fertilisation of Fruit Blossoms.

A lantern lecture entitled "Bees and the Fertilisation of Fruit Blossoms" was given by Mr. W. Herrod, Secretary of the British Beekeepers' Association.

Mr. Herrod said the Isle of Wight bee disease had made fruit-growers realise the value of bees in orchards, for the Board of Agriculture had received a deputation of fruit-growers, asking its advice and assistance to grapple with the disease. Bees never make holes in fruit, though the wasps do, but after the hole is made the bees may be tempted to take advantage of it. Spraying should not be done whilst the trees are in blossom, both for the sake of the crop and the bees.

The non-setting of fruit, said Mr. Herrod, is attributable usually to one of five causes—too much wood growth, injury by frost, bad weather, fungoid disease, or lack of bees.

In South Africa a Pear tree with 62 trusses of 558 blossoms was covered with cheese cloth to exclude insects, and placed where there was a strong wind; no fruit set on the tree, but on similar trees around in the open fruit set plentifully; Black and Red Currants and Gooseberry bushes covered to exclude insects set practically no fruit.

At Lord Sudeley's fruit plantations in Gloucestershire, where fruit did not set well, 200 colonies of bees were placed in different parts, and the setting of the fruit improved greatly. There are now some 300 hives distributed about the Toddington estate in five different apiaries. In like manner, Messrs. Chivers have introduced bees among their Cherry orchards at Histon in Cambridgeshire for pollination purposes. It is advisable to place the bees as near as possible to the trees.

The lecture was illustrated by lantern slides, some of the most interesting being tables of the time of flowering of the various fruit trees, and observations of the visits of insects, kindly lent by Mr. C. H. Hooper, whose painstaking observations of this branch of fruit growing were referred to with appreciation.

BIRMINGHAM CHRYSANTHEMUM, FRUIT, AND FLORICULTURAL.

November 5, 6, 7.—The annual show of this Society, held in the Bingley Hall on the above dates, was extensive and of good average merit. Cut Chrysanthemums were clean and fresh, but trained specimen plants were few in number and less profusely flowered than usual. Begonias constituted an outstanding feature. They have never been seen in anything like the quantity or quality at Birmingham before. Apples and Pears were of good size and beautifully coloured. Vegetables were excellent, there being no fewer than 32 collections exhibited for the special prizes offered by various seedsmen. The schedule comprised 124 classes, 35 for Chrysanthemums, 17 for miscellaneous plants and cut flowers, and 57 for vegetables.

Specimen Plants.

Six classes were provided for these but, as in recent years, competition was very poor, there being only one entry in each of the first five classes and three in the sixth class, which was for three single-flowered varieties. J. A. Kenrick, Esq., Berrow Court, Edgbaston (gr. Mr. A. Cryer), won 1st prizes for (1) six Japanese varieties, (2) six large-flowering varieties (Japanese excluded), (3) three Japanese varieties, (4) one Japanese variety, (5) one large-flowering variety (Japanese excluded), and (6) three single-flowered varieties. E. Martineau, Esq., Edgbaston (gr. Mr. E. Bostock), and T. W. Piggott, Esq., Moseley (gr. Mr. R. Bullock), were awarded 2nd and 3rd prizes respectively in the last-named class.

Groups.

The most important class was for a group of plants arranged on a space of 16 feet by 10 feet. The 1st prize was again awarded to J. A. Kenrick, Esq. (gr. Mr. A. Cryer), whose well-balanced group, consisting largely of massive Japanese and Incurved varieties, was arranged with artistic effect. Decorative and single-flowered varieties were also well shown, and pleasant relief was afforded by the introduction of graceful Bamboos, Palms, and Ferns. 2nd, Hume C. Pinsent, Esq., Lordswood Road, Harborne (gr. Mr. G. Corbett), whose Japanese varieties were splendid, but the arrangement was much inferior to that of the 1st prize exhibit.

In the next class, which was similar to, but smaller than, the last-named, two very creditable displays were placed before the judges, who gave the 1st prize to H. Green, Esq., Gravelly Hill.

J. A. Kenrick, Esq. (gr. Mr. A. Cryer), was the only competitor in a class for decorative Chrysanthemums arranged as grown on a space of 12 feet by 8 feet. Thinning was allowed, but disbudding to single flowers prohibited. The plants were covered with flowers and well arranged.

Cut Blooms.

In the principal class for cut blooms, which was for Japanese and Incurved blooms, arranged on a table 18 feet long by 5 feet wide, and for which a silver challenge shield and £8 were offered as the 1st prize, Mr. Norman Davis, Framfield, Sussex, was the only exhibitor. He had magnificent blooms of D. B. Crane, His Majesty, H. W. Thorpe, Clara Wells, Romance, &c., nicely arranged in vases and stands over a groundwork of Ferns. Mr. Davis excelled in the next class, which was for single Chrysanthemums on table space of 8 feet by 4 feet. His masses of Mrs. Loo Thomson (a yellow Mensa), Charles Kingsley, Brightness, and Arcturus were particularly good. 2nd, Major Everett, J.P., Knowle (gr. Mr. W. Newton).

The winning exhibit of 18 Japanese varieties, one bloom each of three varieties, in a vase, came from Hugh Andrews, Esq., Toddington Manor, Winchcombe (gr. Mr. J. R. Tooley). The blooms were beautifully fresh, of good depth and finish, and were as follow:—Mme. Rivol, Mme. P. Radaelli, H. Dow, Bessie Godfrey, W. Iggulden, R. Luxford, Master James, A. T. Miller, Hon. Mrs. Lopes, W. Gee, F. Jolliffe, Lady Talbot, Purity, G. I. Kelly, C. Penford, Rose Pockett, F. S. Vallis, and Mrs. Mease. 2nd, Mr. H. Woolman, Shirley, whose best flowers were Master James, Miss Gladys Herbert, White Queen, and Rose Queen. 3rd, Lieut.-Col. Beech, Coventry (gr. Mr. E. J. Brooks). The last-named exhibitor was placed 1st in a class for four Japanese varieties, three blooms of each. He had massive, well-finished blooms of Lady Talbot, F. S. Vallis, Mrs. Lopes, and Frances Jolliffe. 2nd, J. H. Wheatley, Esq., Berkswell Hall, Coventry (gr. Mr. W. H. Westbury), who also won 1st prizes in classes for (1) three blooms of any white Japanese variety, with Purity, and (2) three blooms of any yellow Japanese variety. His examples of the Hon. Mrs. Lopes were very meritorious.

Hugh Andrews, Esq. (gr. Mr. J. R. Tooley), took the lead in a class for the best pink-coloured Japanese variety. His examples of W. Gee were large and shapely. Mr. H. Woolman, Shirley, excelled in a class for any crimson-coloured Japanese variety with Master James in superb condition. Mr. Woolman was awarded the 1st prize in another class for four varieties of decorative Chrysanthemums, eight sprays of each variety in a vase. 2nd, Major Everett, Knowle (gr. Mr. W. Newton).

The best half-dozen vases of decorative Chrysanthemums, six sprays of each, came from T. G. Hyde, Esq., Worcester (gr. Mr. H. Matthews), who showed splendid examples of Dazzler and Felton's Favourite.

There were five good entries in a class for 12 Japanese varieties arranged on a table 6 feet by 3 feet. Exhibitors were at liberty to use any foliage. 1st, F. E. Muntz, Esq., Umberslade (gr. Mr. H. S. Foster); 2nd, Hugh Andrews, Esq. (gr. Mr. J. R. Tooley); 3rd, J. B. Brooks, Esq., Finstall Park, Bromsgrove. The leading exhibit of 12 Incurved varieties came from T. W. Piggott, Esq., Moseley (gr. Mr. R. Bullock).

There were 19 entries in the class for dinner tables, each 8 feet by 4 feet, and the 1st prize was won by Sir George H. Kenrick, Whetstone, Edgbaston (gr. Mr. J. V. Macdonald), whose flowers were crimson with a golden reverse. 2nd, Mrs. Batchelor, Hampton-in-Arden.

Prizes were offered by Messrs. James Randall & Sons, Shirley, for 12 varieties of market Chrysanthemums. The only exhibitor was Mr. Norman Davis, Framfield, who was awarded the 1st prize of £3. He showed superb flowers of Freda Bedford, Felton's Favourite, True Gold, Mary Hope, and Black Prince.

Mr. W. J. Wakefield, Harborne, won Mr. J. Udale's prize for three vases of Incurved varieties like Mrs. George Glenny, Mrs. Dixon, and Mrs. G. Rindle.

The 1st prize of £1, offered by Messrs. Wells & Co., for the best bloom of Mrs. Gilbert Drabble, was won by Lieut.-col. Beech, Coventry (gr. Mr. E. J. Brooks). 2nd, J. H. Wheatley, Esq., Coventry (gr. Mr. W. H. Westbury).

Miscellaneous Plants and Flowers.

In the class for cut flowers of Tree Carnations, arranged on staging 10 feet long by 4 feet deep, two exhibits were placed before the judges, who awarded the 1st prize to Messrs. Young & Co., Cheltenham; and the 2nd to Mr. S. Mortimer, Farnham, Surrey.

The exhibits of Begonia Gloire de Lorraine made a grand show, there being no fewer than eight entries in the class for 12 pots and seven in the class for six pots. The winning exhibitor in the first-named class was Lionel Spiers, Esq., Edgbaston (gr. Mr. John Farmer), and in the second F. E. Muntz, Esq., Umberslade (gr. Mr. H. S. Foster).

Of the four exhibits in a class for 12 Cyclamen, and in the class for six specimens the Rev. H. Buckston, Derby, was placed 1st.

Mrs. C. Greaves, Wormington, was successful in classes for bouquet of Chrysanthemums and in another for a basket of tinted foliage and berries.

The 1st and 2nd prizes offered by Mr. H. N. Ellison, West Bromwich, for six Ferns were won by Mr. J. Higley, Edgbaston, and Mr. A. Cryer, Edgbaston, respectively.

Fruit.

In the leading fruit class, which was for a collection of British-grown fruit, to occupy a table space of 10 feet by 5 feet, there were two exhibits. The 1st prize of £7 was won by Lady Henry Somerset, Eastnor Castle, Ledbury (gr. Mr. G. Mullins), who showed very fine Grapes, large and well-coloured Apples and Pears in variety, and Hero of Lockinge Melons. 3rd, Mr. W. E. Hyde, Ledbury.

The best of two exhibits in a class for a collection of British-grown hardy fruits came from Sir R. L. Lucas Tooth, Bart., Holme Lacey, Hereford (gr. Mr. E. Parry), who had medium-sized, well-coloured Apples and Pears, also Red and White Currants, Coe's Golden Drop Plum and Filberts. 3rd, Sir Francis Lloyd, Aston Hall, Oswestry.

Lady Henry Somerset (gr. Mr. G. Mullins) won 1st prizes in classes for (1) six bunches of Grapes (not fewer than three varieties), (2) three bunches of white Muscat Grapes, (3) six dishes of dessert Apples, and (4) four dishes of Pears.

The best three bunches of black Grapes, as well as the best pair of white Grapes (Muscats excluded), were exhibited by Hugh Andrews, Esq. (gr. Mr. J. R. Tooley).

Godfrey Nettlefold, Esq., Edgbaston (gr. Mr. J. Higley), beat four contestants in a class for black Grapes reserved for local growers; 2nd, Mrs. Richard Peyton, Edgbaston (gr. Mr. W. Young).

C. Winn, Esq., Selly Park (gr. Mr. T. T. Sheppard), took the lead in a local class for white Grapes; 2nd, A. G. Buller, Esq., King's Heath (gr. Mr. G. H. Ganderton).

Mr. C. W. Powell, Warham, Hereford, won 1st prizes for (1) six dishes of cooking Apples and (2) eight dishes of Pears. In each case the fruits were large and highly-coloured.

Vegetables.

Robert Sydenham Limited offered prizes for nine kinds. 1st, Mr. T. Jones, Ruabon, who had very good Ailsa Craig Onions and Autumn Giant Cauliflowers; 2nd, Mr. James White, Bampton; 3rd, Mr. E. Winchester, Rubery.

Robert Sydenham Limited also offered prizes for local growers. 1st, Mr. E. Deakin, Hay Mills; 2nd, Mr. F. Whitbread, South Yardley.

Messrs. Webb & Sons' prizes were offered for eight kinds. The 1st prize was won by Mr. F. J. Barratt, Overton, who had excellent Cauliflowers, Carrots, Onions and Celery; 2nd, Mr. J. Hudson, Leicester.

The prizes offered by Messrs. Sutton & Sons were for nine kinds. 1st, the Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. E. Beckett); 2nd, Mr. John Hudson, Leicester; 3rd, Mr. F. J. Barratt, Overton.

Messrs. Dickson & Robinson, Manchester, offered prizes for single dishes, in which Mr. T. Jones, Ruabon, was the most successful exhibitor.

Non-competitive Exhibits.

Large Gold Medals.—Messrs. Clibrans, Altrincham, for Begonias; the Rev. H. Buckston, Sutton Hall, Derby, for Begonias; King's Acre Nurseries, Hereford, for fruit; Messrs. Dickson & Robinson, Manchester, for Michaelmas Daisies; Messrs. Webb & Sons, Stourbridge, for vegetables, &c.; Messrs. John Waterer & Sons, Bagshot, for hardy shrubs.

Small Gold Medals.—Mr. W. J. Godfrey, Exmouth, for Chrysanthemums and Zonal Pelargoniums; Messrs. Wells & Co., Merstham, Surrey, for Chrysanthemums; Mr. H. Woolman, Shirley, for Chrysanthemums; Hereford Fruit Growers, for fruit; Messrs. Pewtress Bros., Hereford, for fruit; Mr. C. W. Powell, Hereford, for fruit; Messrs. Hewitt & Co., Solihull, for hardy shrubs; Messrs. Wood & Son, Wood Green, for garden sundries.

Silver-gilt Medals.—Messrs. Dickson & Robinson, Manchester, for Onions; Messrs. Thomson & Co., Birmingham, for vegetables, Messrs. W. H. Simpson & Sons, Birmingham, for vegetables; Mr. H. N. Ellison, West Bromwich, for Ferns.

Silver Medals.—Messrs. Peed & Son, West Norwood, for Chrysanthemums and Begonias; Messrs. Hewitt & Co., for Carnations, &c.; Miss Thompson, Handsworth, for Cacti; Messrs. Bakers, Wolverhampton, for hardy shrubs; The Patent Ladder Co., Peterborough, for extension ladders; Messrs. Robinson Bros., West Bromwich, for sundries; Mr. A. Bayliss, Birmingham, for rustic work; Messrs. J. Turton & Co., Birmingham, for greenhouses.

Bronze Medals.—Sir William Cook's Convalescent Home, Romsley Hill, near Birmingham, for vegetables; H. S. Batson, Esq., Handsworth, for Primulas; Mr. A. Edwards, Nottingham, for table decorations.

First-class Certificates.—Japanese Chrysanthemum His Majesty, from Mr. Norman Davis; single Chrysanthemum Mrs. Loo Thompson, from Mr. Norman Davis; Japanese Chrysanthemum Crimson Velvet, from Mr. W. J. Godfrey; Japanese Chrysanthemum Godfrey's Success, from Mr. W. J. Godfrey; Japanese Chrysanthemum Mrs. N. Molyneux, from Mr. W. J. Godfrey; Japanese Chrysanthemum Mrs. Drexel, from Messrs. W. Wells & Co.; Japanese Chrysanthemum Queen Mary, from Messrs. W. Wells & Co.

Obituary.

James Jones.—We regret to record the death on the 22nd ult. at the Draythan, near Newport, of Mr. James Jones, late head gardener to Col. the Hon. F. C. Morgan, at Ruperra Castle, Monmouthshire. Mr. Jones, who was in his 83rd year, retired on an allowance some 20 years ago granted by the late Col. Morgan. He filled the post of gardener at Ruperra for 45 years, having succeeded his father, who held the post for 50 years.

James C. Murray.—The death of this florist of Peoria, U.S.A., at the age of 63 years, on October 13, is announced in *The American Florist*. Mr. Murray was born in Yarmouth, England. Twenty-five years ago he opened a florist's business in Peoria.

ANSWERS TO CORRESPONDENTS.

Acetylene Gas Refuse as a Manure: *S. H. A.* An article on the results of experiments with this material for manurial purposes conducted by Mr. W. B. Burgess, of the South Eastern Agricultural College, Wye, was published in *Gardeners' Chronicle*, April 24, 1909, p. 264. Several correspondents wrote subsequently giving their experience, including Mr. F. R. Staddon, who stated that he had used it in the case of Potatos, Peas, Beans, Celery, Spinach, Onions, Carrots, Parsnips, Turnips, Broccoli, Cabbage, and Brussels Sprouts, also as a dressing for new plantations of Strawberries. Mr. Staddon stated that in all cases the crops were benefited. (See *Gardeners' Chronicle*, May 8, 1909, p. 299.)

Amateur Gardener: *A. H.* According to the R.H.S. *Code of Rules for Judging* an "amateur" is one who grows plants, fruits, or vegetables (either personally or by paid labour) solely for the enjoyment, or for the domestic use of the produce, and not with the object of pecuniarily benefiting by it. The fact of his disposing of surplus produce for money does not necessarily disqualify him unless the whole maintenance of the garden is intended to return him an annual profit. Neither a nurseryman (or his assistants), a gardener who receives wages (or is paid in kind), nor any lady or gentleman who grows or advertises garden or orchard produce for the purpose of sale should be regarded as an amateur in respect to exhibits contributed to competitive exhibitions.

Cedars: *W. S.* It will be better to apply the farmyard dung as a top-dressing than to employ bonemeal. If convenient, strip off the grass, remove some of the old soil about the roots, and replace with old potting compost. The mulch may then be applied, and the turf replaced in the spring. The bonemeal may be mixed with the old potting soil.

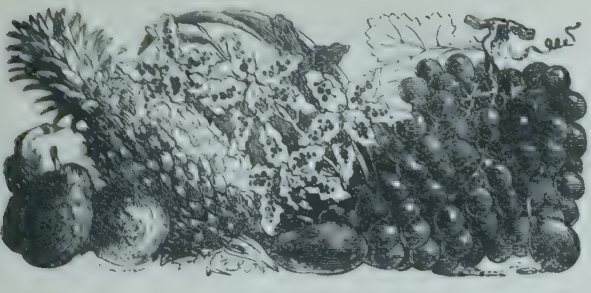
Chrysanthemum Sport: *J. W. F.*—The variety La Triomphe is very liable to sporting; we do not know if there is a similar sport to yours already in cultivation.

Clinkers as a Drainage for Peach Borders: *E. A. M.* Clinkers may be employed as drainage material for Peach borders, and their use is recommended by Mr. H. W. Ward in *The Book of the Peach* (which may be obtained from our publishing department, price 2s. 9d., free by post). It is sometimes stated the roots of these trees will not grow into the drainage formed of this material. But this is an advantage, for it is not desirable that the roots should enter the drainage.

Names of Fruits: *Longman.* 1, Triomphe de Jodoigne; 2, General Todleben; 3, Beurré Dumont; 4, Durondeau; 5, Catillac; 6, Tower of Glamis; 7, Ashmead's Kernel Improved.—*Rex.* Flower of Herts.—*J. L.* Beurré Bosc.—*W. E. C.* 1, Beurré Bosc; 2, Maréchal de Cour (Conseilleur de la Cour); 3, Ribston Pearmain.—*S. V. S.* Comte de Flandre.—*Bunting.* Cox's Pomona.—*Hope.* 1, Beauty of Kent; 2, Cullen; 3, Emperor Alexander; 4, Old Hawthornden; 5, Easter Beurré; 6, Glou Morceau; 7, Durondeau.—*G. W. T.* Pears: 1, Bergamotte Bufo; 2, Beurré Diel; 3, Louise Bonne of Jersey. Apples: 1, Dumelow's Seedling; 2, not recognised; 3, Cellini; 4, Wyken Pippin; 5, Beauty of Kent; 6, Lord Derby; 7, Hoary Morning.—*A. T.* 1, Tom Putt; 2, Winter Quoining; 3, not recognised; 4, Hanwell Souring; 5, Orange Goff; 6, Nanny; 7, Margil.—*J. T. S.* 1, decayed; 2, Sandringham; 3, Manks Codlin; 4, Beauty of Kent; 5, decayed; 6, Lady Henniker.—*W. E.* 1, too small to name; 2, Beurré Hardy; 3, Doyenné Blanche; 5, decayed; 6, Beurré d'Anjou; 7, 8, and 9, decayed.

Spanish Irises: *J. E.* Details on the cultivation of these bulbous plants are given on p. 351 in the weekly Calendar on the flower-garden.

Communications Received.—J. E.—W. W. P.—Zib—W. M. B.—H. W. W.—C. D.—W. A. M.—J. B.—M. E. S.—A. G., Chichester—L.—A. E. T. R.—J. M., Ireland—H. G. S.—C. H. H.—S. & S.—O. T.—A. C. B.—T. B.—I. E., Ceylon—W. I.—C. L. D.—J. G. W.—A. K., Carlisle—H. P. L.—W. B. H.—R. G. W.—F. K., Bath—A. R. L.—W. G. B.—F. C. F., Belfast—H. S. T.—T.—A. E. T.—Rogers—T. Stevenson—H. W. Ward—A. R. A.—J. H.—Hope—Horsley—H. B.—W. B.—D. & W. C.—H. L. C.



THE Gardeners' Chronicle

No. 1,351.—SATURDAY, November 16, 1912.

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THE MARKET FRUIT GARDEN.

After a wet beginning, October gave us favourable weather up to the 19th, subsequent to which date rain fell nearly every day up to the 30th (inclusive), and very heavily on some occasions. My register records rain on 15 days, amounting to 4.43 inches. This heavy rainfall stopped almost all useful work on the land, keeping fruit plantations which had been cultivated by horse power or hand in a muddy condition after the 19th. Excessive rain is especially objectionable when it falls upon soil in a fine state of division, as it is after one of the operations named, because the loose soil holds water like a sponge, and the roots of trees and bushes are kept in a water-logged condition. Besides, all good effect from recent hoeing is prevented, and there is a great deal of washing from the higher to the lower parts of hilly fields. After the orchards have been dug, they withstand a wet period better. In my own case, the wet weather stopped the work of wheeling manure on to the land from the heaps in which it had been left on the headlands. The intention was to get the manure on to the orchard, and to have it spread and dug in as early as possible, and all but the digging had been done on three-fourths of the land; but the deluge of rain prevented a finish, and the digging of the manured portion of the orchard was out of the question while the soil was saturated with water. Even the pruning of trees on arable land was almost impracticable during the wettest period of the month, as the steps used for the work sank into the mud, and had to be dragged out forcibly in shifting them.

Wet Weather, Canker, and Scab.

When the soil of an orchard is waterlogged for any considerable time, there is always the uncomfortable feeling that canker and scab will be promoted among Apple trees. It is certain that scab is most prevalent in wet seasons, and, apparently, the infection of canker is also promoted by wet weather. At any rate, the rotting of bark in canker wounds is increased when it is saturated with water. It seems to me, moreover, that the infection of canker rises with the sap from a diseased spot through the wood of a branch or shoot, and that wet weather, so long as the sap is rising, is likely to increase this spreading of the disease.

Neglect of Summer Pruning.

Where, from lack of time, summer pruning was neglected, the waste of energy among young or comparatively young trees has been enormous. All my Apple trees which had not been planted over four years were summer-pruned, and these now have comparatively few surplus shoots. But the trees of some varieties in orchards planted six or seven years ago, not summer-pruned, are densely covered with shoots, the great majority of which are superfluous. In pruning Domino Apple trees, many cases were found requiring the removal of over 200 shoots to a tree. This variety makes natural spurs so densely that no artificial spurring is desirable. If the superfluous shoots had been cut off cleanly early in the past summer, the shoots left for branches would have been much stouter than they are. These remarks apply equally to Cox's Orange Pippin and Allington Pippin, which have a tendency towards the formation of thickets of side shoots on the main branches. The neglect of the summer pruning of trees six or seven years from the planting was due, in my case, to my reluctance to let anyone but myself train young trees.

Notes on the Kent Fruit Show.

It would have been well to have conducted the numerous adverse critics of English fruit through the Kent Commercial Fruit Show (see report in the issue for November 2). They would have seen there a very large collection of Apples, superior to any from the United States or even from British Columbia—superior in colour, as well as in size, so far as the naturally well-coloured varieties were concerned. I have never seen any imported Apples, culinary or dessert, equal in excellence on all points to a very large proportion of the Maidstone exhibits. Even in grading and packing, many of the exhibitors proved themselves quite equal to their American and Canadian competitors.

The great defect of the splendid show was the exclusion of Apples packed in sieves and half-sieves. If the organisers are confident as to the superiority of the boxing system, they should not be afraid to let baskets compete with boxes. Many of the exhibitors admit that it does not pay, as a rule, to pack culinary Apples in boxes, 6d.—the price of a box—being a serious handicap upon fruit worth as much as 4s. to 5s. a bushel, and a prohibitory expense on Apples worth only 3s. Even when more than 5s. has been made for very choice samples, it has to be borne in mind that the extra careful grading required for boxes makes the proportion of seconds much greater than it would be if the fruit were packed in bushel baskets. A cooking Apple is none the worse for its purpose because of a speck or two upon it, and, as to size, it is doubtful whether a retailer who sells by the pound wants to have every Apple of full size, as a few fruits of three-quarter size are convenient for just turning the scale.

The only conclusive test of the profitableness of the boxing system would be that of taking a number of large lots of Apples, as gathered from the trees, dividing each lot into two equal parts, marketing one part of each lot in boxes and the other part in baskets, and comparing the net returns. My impression is that, so far as culinary Apples are concerned, the baskets would win in nine cases out of ten. As no one appears to advocate the packing of seconds in boxes, however, the trial might allow of these being marketed in baskets or barrels, the firsts only being packed in boxes, comparing the financial results with those of packing both firsts and seconds in baskets.

Methods of Packing in Boxes.

Fruit-growers who are desirous of trying the boxing system, if they are not familiar with it, should obtain a pamphlet on "The Packing of Apples in Boxes," from the secretary of the South-Eastern Agricultural College, Wye, Kent, price 3d. to residents in Kent or Surrey, or 6d. to other counties. Eight methods of placing the fruit were exhibited by the College authorities at the Kent Show, and seven of these are described and illustrated in the pamphlet. One noticeable feature of the show was the generality of packing Apples on their sides, instead of eyes upwards, which has been more common in the past. Another point was that many—if not most—of the 1st prizes were awarded to the straight pack, which is condemned by the boxing authorities as liable to cause bruising in transport. The straight-packed Apples certainly looked most attractive, and as their appearance was so good at the exhibition it must be equally good in the market, if the fruits are not bruised. Many of the boxes of large Apples packed in the diagonal or offset method could not have contained 40 lb., as the loss of space was considerable. Unless box-packers get full weight into their boxes, their method of packing will soon be discredited.

Explosives in Fruit Planting.

Much attention has been attracted to the demonstrations in the breaking-up of soil to a great depth by means of explosives, carried out by Messrs. Curtis and Harvey at the recent show and ploughing match of the Rochester and Gravesend Agricultural Association. One demonstration showed the ease of extraction of great tree stumps by means of gelignite. More novel was the making of holes for fruit trees by an explosive, which loosened the subsoil to a depth of 5 feet 6 inches, and to about the same extent in a horizontal measurement. The cost of the explosive is put at 4½d. to 6d. per hole. But even if it is to be supposed that it would be advantageous to encourage the roots of the trees to penetrate to the depth named, which is questionable in the case of some subsoils, not the holes alone, but the whole of the land should be treated, not only in order to induce the roots of trees to spread laterally, but also for the benefit of small fruit, if grown among the trees. If 300 trees were planted on an acre of land, the cost of exploding for the holes, according to the rates named above, would be £5 12s. 6d. to £7 10s., while the cost of treating all the land is put at £5 10s. per acre. According to the reports of the trial, the subsoil is not thrown up to the surface, but is heaved up with the top soil still above it. This is as it should be; but only experience can show whether the treatment will be beneficial or otherwise. *A Southern Grower.*

HYBRID NOMENCLATURE.

ODONTOGLOSSUM LAMBARDEANUM.

"THIS complex parentage" (see below) "is, after very careful consideration, what I feel almost certain to be the 'modus' by which the present hybrid has been produced." (Mr. de Barri Crawshay, in the *Orchid World*, July, 1912, p. 220.)

I take the above extract—from one of three similar articles by Mr. de Barri Crawshay, in the *Orchid World*—as a fair example of the confusion which is likely to arise from the application of Latin or Latinised names to garden-raised Orchids. The instance just cited shows 14 combinations, in which five species are involved. The intricacies of the origin of this hybrid, whether correctly given or not, are nothing to the confusion which will arise when the millions of cross-bred seedlings (now in all stages of growth) attain maturity and require to be named and provided with pedigrees. These cross-bred plants are florists' flowers none the less because they are Orchids. They are the most beautiful and interesting of all garden flowers, and their names should be such that, in the future, when details of their origin are only obtainable by long research, they may be recognised at once for what they are, namely, garden plants.

THE ROOT OF THE EVIL.

It is a curious fact that the giving of Latin names to garden products was not begun by the raisers of hybrid Orchids, either amateurs or nurserymen, but by scientific botanists, who did not consider sufficiently what the future would bring forth. Occasional natural hybrids received scientific names, and when a few primary hybrids were home-raised, it was considered necessary to name them in a similar way. Hence we have the fine hybrids of early times, raised by Messrs. Veitch, named and described in the same manner as the species by the late Professor Reichenbach. In course of time the Orchid Committee and Council of the Royal Horticultural Society came to perceive that definite rules must be laid down for the nomenclature of garden-raised Orchids, and a sub-Committee was appointed to consider the subject. Among the members of this Committee were Sir Harry J. Veitch, Mr. J. Gurney Fowler, the late Mr. Norman C. Cookson, Mr. de B. Crawshay, and myself. Several meetings took place, and a rule was established that, so far as possible, names in the vernacular should be given to all garden-raised Orchids. An exception had to be made in the case of primary hybrids, on account of so many having already been named in Latin by early raisers, and certificated and recorded by the Royal Horticultural Society; so the Committee, with some reluctance, were compelled to provide that primary hybrids might be named either in Latin or in the vernacular (fancy names).

The Committee were desirous of restricting the use of the Latinised names to the compound forms adopted at the Paris Conference—such as "Digbyano-Mossiæ," &c. —all departures from that method being in the vernacular. After the primary hybrids, all further crosses were to be regarded as horticultural varieties, and were to be given fancy names.

This method worked well at the time. Sir Trevor Lawrence, Bart., K.C.V.O., the President of the Royal Horticultural Society, adopted and retained the system of the bi-nominal and fancy compound name, or the simple name in the vernacular, and he still follows this plan, which is calculated to give the least possible amount of trouble to the botanist of the future. Lieut.-Col. Sir George Holford, whose products are among the best yet raised, always uses brief fancy names; the late Mr. Norman Cookson gave either compound or fancy names; and Mr. de B. Crawshay—until his present lapse—invariably named his Odontoglossums, &c., in the vernacular; and most other raisers followed the same course.

Science, however, once more intervened. The *Orchid Stud Book* was published, in which many compound and fancy names (described and published over and over again, and certificated and recorded by the R.H.S.) were changed for Latinised appellations in a manner which appears to us unwarranted. Since that time, the desire for Latinised names (particularly the names of persons) has steadily increased, until it has given rise to such nomenclature as that illustrated at the foot of this note. At the root of the trouble lies the fact that the Royal Horticultural Society were not content with the recommendations of their own experts, but always referred the question to some other body, who, by the nature of the case, knew far less about the subject. Thus the Vienna Conference, in relation to this question, was more or less barren of result. The Brussels Conference succeeded no better; the decision, which seems only to have been arrived at after a series of compromises between those holding divergent views, was extremely ambiguous.

SOME POINTS TO CONSIDER.

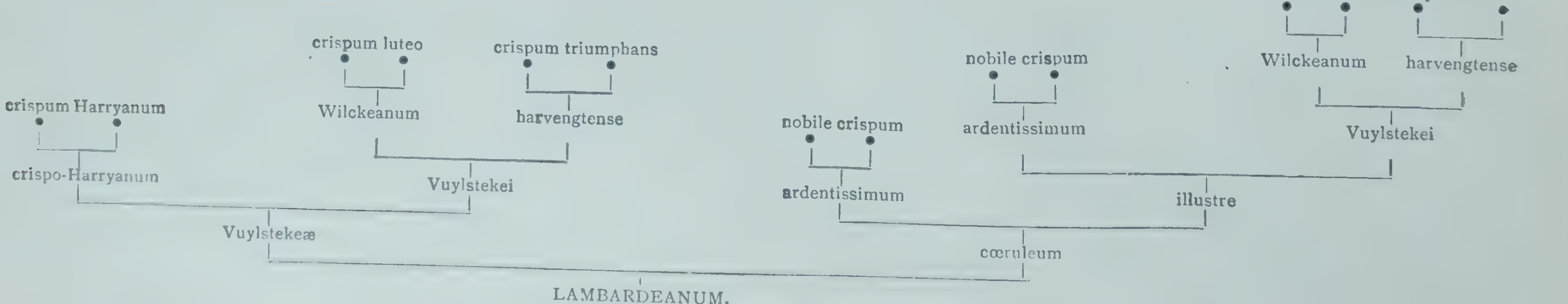
Biological research and speculation tend to cast doubts upon the authenticity of certain species formerly implicitly accepted; and the manner in which inter-crossing of widely separated species and genera is effected seems to lend weight to the suggestion that the different sections have been evolved from a small number of primitive types. For this reason, the questions of what is a species and what is a hybrid are not so easy to determine as would appear at first sight; though we are not at present concerned with natural types.

There is a great deal of misunderstanding in connection with the word "hybrid," in consequence of the indiscriminate manner in which it is applied to all cross-bred plants raised in gardens. The Nomenclature Committee of the Royal Horticultural Society—or, at all events, its earlier members—confined the use of the word "hybrid" to the first generation (crosses between species), and classed all that came after as horticultural varieties, artificially raised. The Brussels Conference seems to have extended the term to ternary hybrids, and classed—or intended to class—all others as horticultural varieties. It is this extended use of the term hybrid (to which, for the sake of convenience, I myself conform) which encourages many growers in the belief that the recommendations permitting the giving of Latinised names under certain conditions to primary hybrids applies to all garden-raised crosses.

At the Botanical Congress held at Madison, U.S.A., it was resolved that all garden-raised plants should be given specific names in the vernacular; and the same decision has been adopted at other American conferences.

For home-raised Orchids there is no other reasonable course to take, and it is the one which will give the least trouble to botanists in the future. I maintain that the rule should be strictly adhered to, the parentage (where known) being given in each case. Where any doubt as to parentage exists, either in the mind of the raiser or in the opinion of the Orchid Committee, it should be entered with the remark "parentage unrecorded"; or in cases where a dominant factor is evident, the name of the species conclusively showing, without completed parentage, as, for example, Odontoglossum Rossii ×. In cases where a varietal name is required, such terms as "superba" and "magnifica" should be prohibited.

These restrictions in the matter of nomenclature would inflict no injustice on the plant or its owner. My experience on the subject of Orchids (extending over 55 years) goes to prove that a really distinct and handsome novelty is in no way affected either as to value or in popularity by its name.



There are other points to which I should like to refer later; but at present, I will only add that, in my opinion, it would be well if the subject were considered by a body of really competent authorities—the Director of the Royal Botanic Gardens, Kew, the Keeper of the Botanical Department of the Natural History Museum at South Kensington, and others. An opinion at first hand from judges such as these would be both interesting and valuable. *Jas. O'Brien.*

NEW OR NOTEWORTHY PLANTS.

VIBURNUM CORIACEUM.

(See fig. on p. 371.)

This handsome and distinct species, which has a wide geographical range in nature, apparently began its garden history at Kew, where seed was received from Saharunpore in 1881. Whether plants of this importation ever reached the flowering stage is doubtful, but Mr. A. Rehder, the author of the latest "Conspectus of the Chinese Species of Viburnum" (Sargent, *Trees and Shrubs*, ii, p. 91, t. 143), states that there is a specimen of it in the Arnold Arboretum herbarium, cultivated at Kew in 1882. Though it is not stated, this could hardly have been a flowering specimen. At all events, it is on record that V. coriaceum was received at Kew from Paris in 1892, and flowered there in 1899. This introduction was of Yunnan origin. In 1910 it appeared in Messrs. James Veitch & Sons' *New Hardy Plants from Western China*, and the specimen in figure 165 was sent to the Editors by Mr. P. D. Williams, who has plants in cultivation at Lanarth, Cornwall. So far as my knowledge extends, the species has not previously been represented from the living plant. Sargent's figure, cited above, gives no idea of the beauty of the subject. V. coriaceum is not closely allied to any other species, and it is easily recognised throughout its wide geographical area; the variation exhibited being chiefly one of dimensions. It is a mountain shrub or tree, ranging from Simla eastward through the Himalayas, at altitudes of 4,000 to 8,000 feet, to Assam, Burma, Western and Central China, and it also occurs in Java. Blume described it under the name of coriaceum, from Javanese material, in 1825, and in the same year Buchanan-Hamilton's name, cylindricum, appeared in Don's *Prodromus Floræ Nepalensis*. On the probably correct assumption that Hamilton's name was published earlier in the year than Blume's, Rehder places coriaceum as a synonym of cylindricum. But as the former name has been generally used in botanical literature, and is the only one known to cultivators for this plant, it seems undesirable to make a change in which there is an element of uncertainty. Collett describes Viburnum coriaceum as a shrub or small tree in the Simla district. In China it varies, according to locality, from a shrub 10 to 15 feet high to a tree 50 feet high. Our figure of Mr. Williams's plant gives a better idea than words can of the quality and appearance of this species, which is still a garden novelty. The leaves are very handsome, thick, with a glossy upper surface, and strong nervation, and attain, in vigorous plants, a length of 9 to 12 inches. The inflorescence and flowers are quite different in aspect from those of the ordinary Viburnum. The cylindrical corolla is the most striking characteristic of the species, and the very long, projecting stamens, with purple, oscillating anthers, add greatly to the beauty of the plant. Viburnum hebanthum (V. zeylanicum), a common shrub in Ceylon at elevations of 5,000 to 7,000 feet, is treated as a variety of V. coriaceum in Hooker's *Flora of British India*. *W. Botting*

ADAIR PLACE.

The Surrey residence of Mrs. Adair is splendidly situated high up at one end of Englefield Green, opposite the entrance to the famous Cooper's Hill College, where for many years students were trained for the Indian forestry service. Just inside the entrance gates of Adair Place there is a tall, stately Sequoia gigantea, which towers above the shelter belt, and the leader has, so far, withstood the winds. On the other side of the carriage drive there are several examples of the Bird Cherry (Prunus Padus), as fine as I have ever seen. There are few more valuable medium-sized deciduous trees suitable for beautifying small parks or lawns, yet this tree is often partly hidden in the background of shrubberies, where its full beauty cannot be seen.

During the time Mrs. Adair has owned the estate she has made important additions to the house, and materially increased and beautified the gardens. At one period Mrs. Adair, who travels largely, and is also the owner of Glenveigh Castle, County Donegal, was unable to give much personal attention to her garden, but since Mr. V. Holder has been in charge the gardens bear the stamp of first-rate supervision and intelligent cultivation. The chief features of the gardens are the extensive and very successful pergolas, which enclose the kitchen garden, and a large rockery, which has recently been made in the lower part of the garden. The broad verandah, which looks over a small sunken Rose garden and away across the wooded valley to Windsor Castle, is a delightful adjunct to the dwelling-house. The inner walls are tastefully draped with silken materials, and between the lounge chairs there are groups of plants. Carnations figure largely in the scheme of plant decoration. To furnish this verandah, which takes the place of the customary conservatory, and for house decoration, fully 3,000 plants are grown, and at the time of my visit Campanula pyramidalis, Francoa ramosa, F. appendiculata, and various Liliums assisted in making it very attractive. On the approach of cold weather, the glass fronts are replaced, so that this pleasant retreat can be used all the year round. Along the broad gravel terrace there are large tubs, with

of waterings with various solutions, persist in bearing pink trusses of bloom—blue Agapanthus, and pink and red flowered Ivy-leaved Pelargoniums, all bearing an abundance of flowers. Sweet-smelling foliage is greatly esteemed, so nearer to the house there are smaller tubs planted with various scented-leaved Pelargoniums, and in the borders around the house several lemon-scented Verbenas (Lippia citriodora) have been planted.

The many climbers which embellish the house include Solanum Wendlandii, Lonicera Henryi, Tecoma grandiflora, with stout racemes just beginning to expand; Choisya ternata, and, climbing on a large Wistaria chinensis, Clematis "Nellie Moser." Although far from the sea breezes, a big bush of Escallonia macrantha is flourishing as well as any in the west country. From the western terrace there is a fine view over the trees on a moderately steep slope to Wraysbury and the distant hills. The small sunken Rose garden, which is enclosed by double hedges of Yew and Sweet Briar, contains too many beds to be effective, but this defect will be remedied. In early September the beds of the varieties Prince de Bulgarie, Lady Roberts, J. B. Clark, Frau Karl Druschki, La Tosca, and Queen of Queens were still in full bloom, and, in a smaller secondary garden down a few grass steps, Rose Lady Ashtown was making a good show.

At the eastern end of the terrace a group of Japanese Maples shows the way to the flower garden, which, although somewhat long and narrow, is very bright and attractive. The design is simple—just a row of square flower-beds alternating with parallelograms in the grass on either side of a broad gravel walk—but when the beds are well filled it makes an exceedingly pleasant promenade. In the boundary hedge the original green Privet has recently been replaced by Yew, which has made very good growth; but the cone-shaped golden Privets, which occur at regular intervals and are a foot taller than the Yew "panels" of the screen, might have also been discarded with advantage. As required by the design, the flower-beds are planted in opposite pairs; one pair, which contain Humea elegans, with tall plumes rising above 2-feet-high Fuchsias (the red and white-flowered variety Mrs. Marshall), with a groundwork of dwarf rose-coloured Petunias, were exceedingly successful,

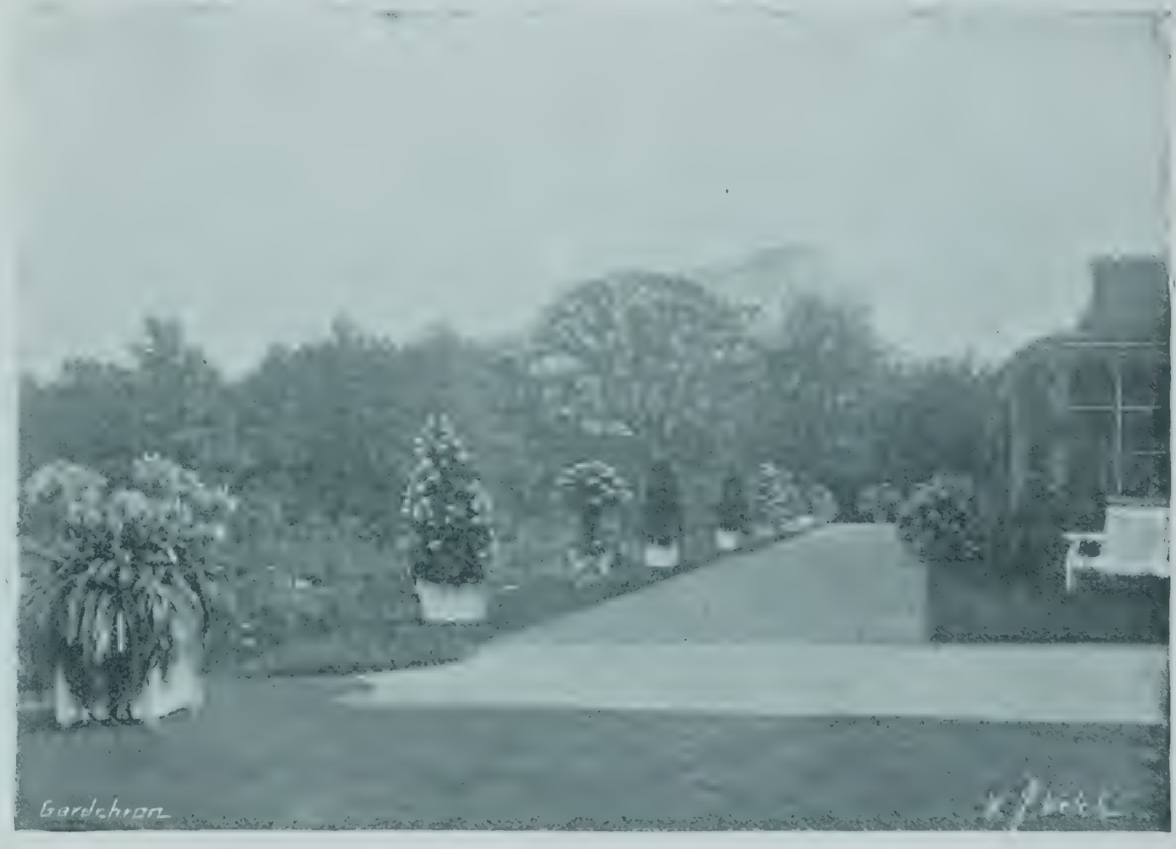


Fig. 161.—Adair Place: the terrace.

as also was a combination of the yellow-foliaged Fuchsia "Golden Regina" and tall plants of Iresine Herbstii magnifica as "dot" plants in a bed of the mauve-coloured Viola "J. B. Riding." Another delightful pair of beds contained large, very floriferous plants of Mrs. Marshall Fuchsia and salmon-coloured Phlox Drummondii.

The Rockery.

A hollow in the side of the low hill provided a splendid site; this, and the skill of the builders in placing the Derbyshire boulders in correct positions, combined to make a very natural-looking rock-garden. Winding paths of easy gradients make the inspection of the many Alpines a very pleasant task. Most of the plants have been arranged in bold masses, and so, in a very short time, have given the rockery an old-established appearance. Arenaria balearica and A. tetraquetra have spread very widely this year, and cover many of the boulders by the sides of the path with rich-green growths. Further away from the paths Cotoneaster humifusa, C. pyrenaica, Muhlenbeckia, and Juniperus procumbens hang over the rocks in charming profusion.

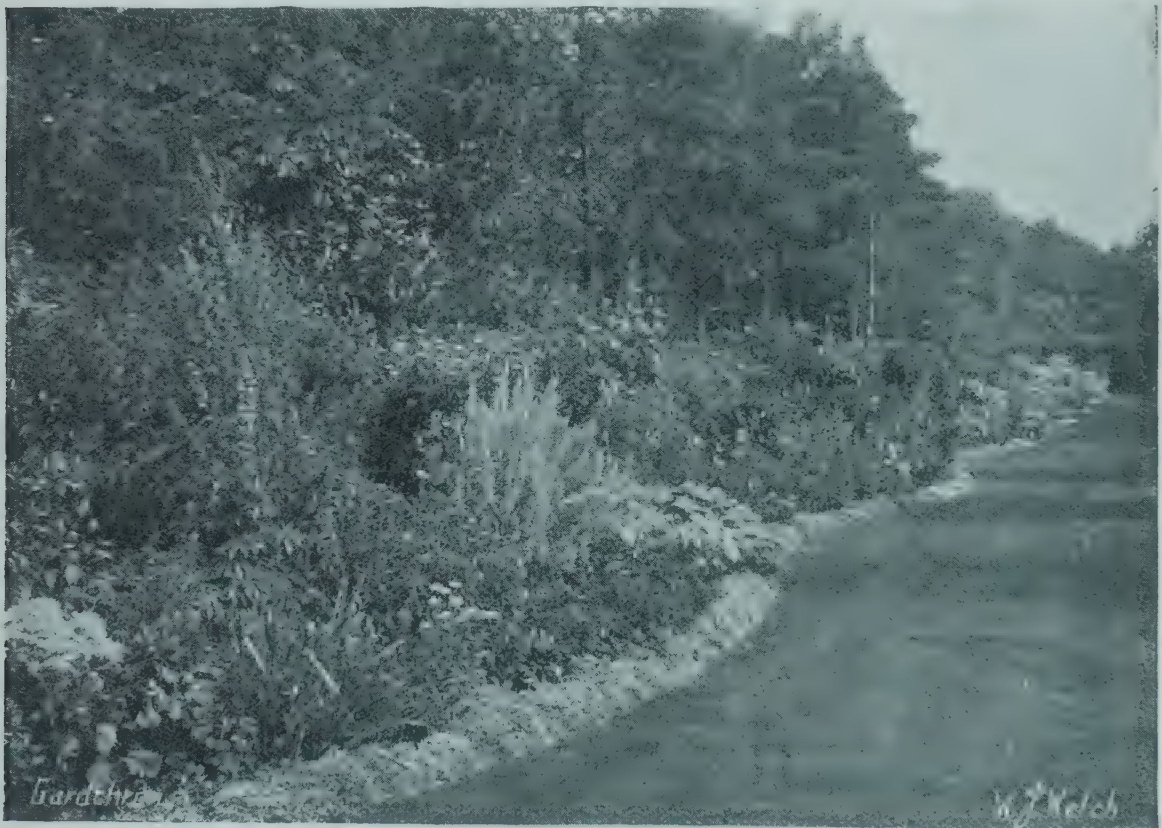


Fig. 162.—Adair Place: the hardy flower border.

Lithospermum prostratum thrives exceedingly well, and the abundant hanging growths bear beautiful blue flowers nearly all the year round. Remembering the discussion of a year ago in the *Gardeners' Chronicle* on the requirements of this plant, I was especially interested to see how well it grew in a soil which lacks lime. The many Heaths and Heathers which grow so freely in the same soil would, if it were necessary, give ample corroboration to Mr. Holder's statement that there is no lime in the soil. Thymus lanuginosa and T. serpyllum albus have also spread freely, and form delightful cushions on which the dew sparkles. Daphne Cneorum, a charming little bush, which is the despair of the owners of some gardens, is here perfectly happy. The uncommon Acera microphylla is represented by a very good tuft, with the characteristic red burr-like capitulums. A colony of Ramondia pyrenaica, planted in a shady nook, is flourishing. Although June and July are the most important months in the gardens at Adair Place, and the rockery was planted with that fact in view, there were still at the time of my visit in autumn a goodly number of plants in bloom; a large tuft of Viola gracilis and a clump of Polygonum vaccinifolium, which was overrunning several boulders, commanded attention. The "Blue Primrose" was also in bloom. At the bottom of the rockery there is the pool, which is anathema to a certain authority when placed in conjunction with a rockery, but, right or wrong, it is very effective, and adds to the beauty of the scene, especially when the glowing scarlet of the falling leaves of a Virginian Creeper, which clothes the trunk of a Scots Pine near its margin, is reflected in its still waters. Above the rockery there is a little plateau, and Prunuses, Rhododendrons, and Spiræas have found a congenial home around the level greensward, from which a path leads down to fascinating woodland walks. On the left of the rockery there has recently been planted a collection of Bamboos, Japanese Roses, and many other shrubs. Ozothamnus rosmarinifolius and Olearia stellata are growing into fine, healthy bushes.

Irises are largely grown in these gardens. At the far end of the shrubbery walk there are large, oval beds of such sorts as Iris Delavayi, I. sibirica, I. Kæmpferi, and I. gigantea, whilst a long grass walk near the house is bordered with a very complete collection of I. germanica varieties. The herbaceous borders are rather extensive, and are arranged with a view to broad colour effects, which are achieved in an exceedingly successful manner. Although they are at their best during the early summer months, when Mrs. Adair is in residence, there still remained sufficient plants in flower to make the borders attractive. The outline is very pleasing, and the borders are sufficiently wide to permit the use of large clumps of each kind of plant. Although often relegated to the wild garden, Lythrum roseum superbum is a very showy border plant, and continues to bloom for a long period. Monarda didyma, Delphinium "Belladonna," Asclepias Curassavica, Pentstemon "Southgate Gem," Galtonia candicans, Lilium tigrinum, Artemesia latifolia, and Campanula pyramidalis are the names of a few of the plants which were flowering well. A broad stretch of mown grass divides the beautiful herbaceous borders from one length of the Rose pergola, which is 165 yards long, 8 feet high, and 8 feet wide. The climbing Roses have made long, stout growths, which promise to furnish as fine a display next summer as there has been this year. The vine pergola is 145 yards long, and is planted with American varieties of the vine. Unfortunately, the names of the varieties were lost before Mr. V. Holder came to Adair Place: this year they are fruiting well, and it has been possible to identify the different varieties. Some of them produce bunches of useful size, with quite large berries, and are very desirable for outdoor culture.

The Glasshouses.

The houses devoted to Carnation culture are filled with splendid, healthy plants, on which not the slightest trace of "rust" or other disease was to be found. Of the 3,000 plants which are grown, the principal variety is Enchantress, but there are also many plants of other varieties of the Perpetual-flowering Carnation, such as Carola, Mrs. C. W. Ward, Britannia, White Perfection, and Rose Dorée. "Malmaison" Carnations are also grown equally well, but in smaller numbers. The other glasshouses and the frames, whether they contained stove plants—graceful, well-coloured Codiæums in small pots for table decoration—or greenhouse plants, or, like a smaller structure which is requisitioned for growing specimen plants of different Lantanas and Centaurea gymnocarpa for next summer's bedding scheme, all showed unmistakable evidences of good cultivation. The Tomato house carried a splendid crop of Veitch's Invicta Tomato.

The "blue garden" in the middle of the kitchen garden surrounds a small ornamental pool. The late-summer display is chiefly obtained from Salvia patens, annual Delphiniums, and Verbenas. Anchusa italica and Sweet Peas of various shades of bluish-purple have flowered abundantly. From the blue garden the cross-walks of the kitchen garden, which radiate to the pergolas, are flanked with flower borders, and from this point of vantage the effect is charming. A small pergola at the higher end of the garden is covered with American Blackberries, which bear enormous crops of sloe-black fruits, twice the size of the finest hedgerow Blackberries. In one of the quarters several rows of Sweet Peas have amply justified Mr. Holder's faith in allowing them abundance of room. The plants were unusually far apart, but the growths had met on all sides, and produced large quantities of first-class blooms.

As with many other estates which enjoy splendid views, the soil at Adair Place is poor and shallow, but, by dint of good cultivation and the judicious addition of manure, the garden produces excellent crops of most vegetables. As I entered the kitchen garden the men were drawing the Onions and laying them with their roots facing the south, to ensure good ripening. The bulbs were as large and firm as anyone could wish to grow, and the other crops have responded equally well. The Apple trees are bearing heavy crops, and in very many instances the fruits have that brilliant colour the conditions for the development of which have been discussed recently in the columns of the *Gardeners' Chronicle*. Pears are not so plentiful; but bush fruits have been very satisfactory. *A. C. B.*

American Crops.—The estimates of this year's crops in the United States of America make more than usually good showing. Thus the Wheat crop, according to a summary of the figures provided by the Agricultural Department at Washington, and published in the *Scientific American*, is estimated at over 700,000 bushels, and should yield the farmers upwards of 1¼ million pounds sterling. The Corn or Maize crop is gauged at 3,000 million bushels, of a farm value of 270 million pounds. The Oat crop, the highest ever recorded, totals 1,290 million bushels, and the total estimated value of farm crops is placed at the stupendous figure of

NEW ROSES.—II.

(Continued from p. 346.)

CONTINUING my remarks on some of the newer Roses, I include, as before, only the varieties introduced since 1908 which I happen to have tried in my own garden with more or less satisfactory results.

MRS. A. R. WADDELL (H.T., Pernet Ducher 1908).—The charm of this Rose lies in its wonderful colour, which is most difficult to describe. I find many different attempts at description. "Coppery-red suffused salmon," says one, and another "rosy scarlet buds and salmon flowers," while the raiser calls it "a slender, well-shaped bud of the deepest apricot opening to a most graceful loose-petaled flower . . . paling to orange-salmon." On the whole the last seems to me best, but there are, no doubt, rosy-red tints in the bud on a general apricot ground. However we describe it the colour is striking and beautiful. The plant is a good grower and an excellent garden plant. The flowers are semi-double and stand the rain better than one would expect. In autumn the colour is much paler, but even then is interesting. I have found it very attractive in pots in the greenhouse for early spring. I may add that the flowers harmonise in a pleasing manner with the coppery-red of its young leaves.

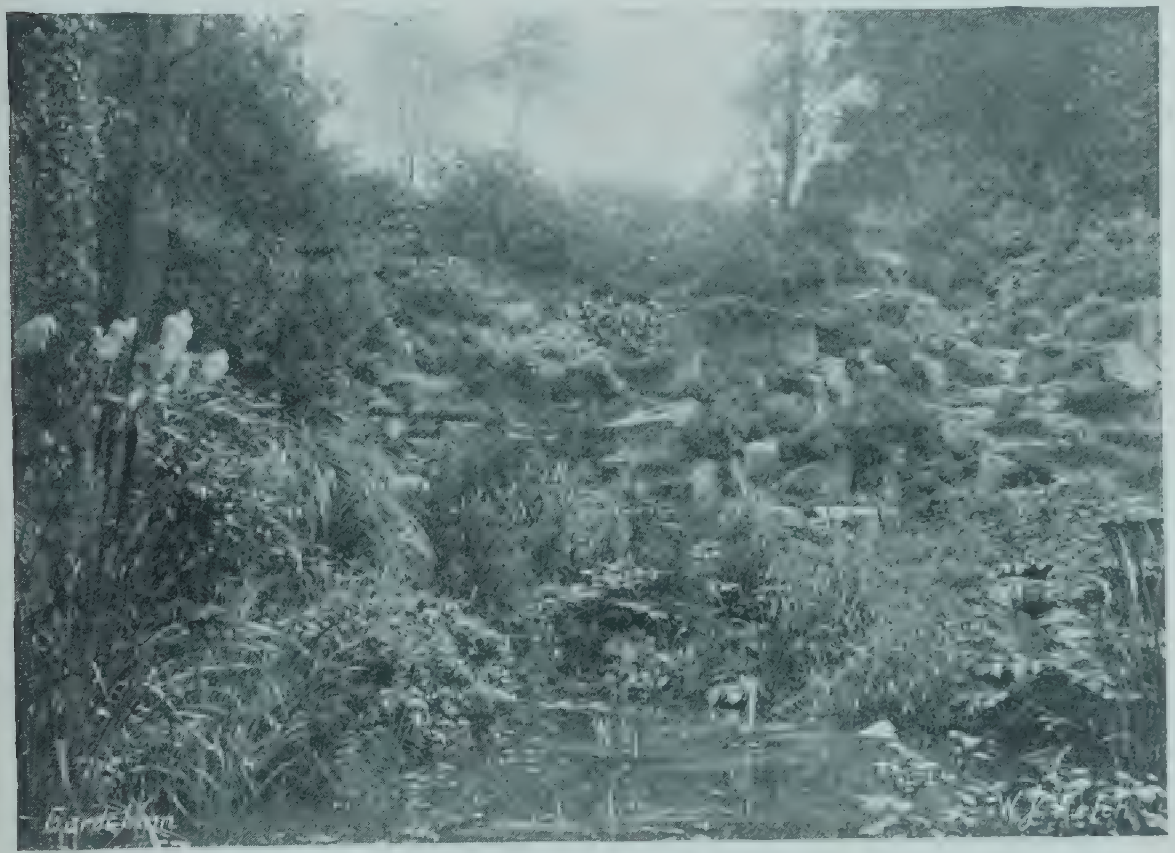


FIG 163.—ADAIR PLACE: VIEW IN THE ROCKERY.
(See p. 364.)

MRS. EDWARD POWELL (H.T., Bernaix, 1910).—This has been one of my greatest successes in the garden during the past year. I planted a small bed of nine plants last autumn and from June to the present time I do not think I have been without a flower. The colour is bright and attractive, the raiser calls it scarlet lake shading to purple garnet, and this is not a bad description. To call it light scarlet crimson with a dash of blue in it would not be far wrong, and while blue in a red rose would seem to carry condemnation with it in most cases, yet this is an exception. It retains its colour wonderfully, even in cold weather. The flower is erect, of moderate size, and of tolerable shape, but not perfect enough for exhibition, for which I should hardly imagine the Rose at all suited. The plant seems a strong and good grower, ripens its wood well, and carries good dark glossy foliage free from disease. Altogether it seems to me a first-class bedder.

MRS. FRED. STRAKER (H.T., A. Dickson & Sons, 1910).—This is a good garden Rose in fine weather. It is very free-flowering and the flowers are well shaped and of medium size. The buds are a deep salmon or orange pink, a colour more or less retained by the reverse of the petals in the open flower, the face of the petals being a pale pinkish fawn colour. I was delighted with this Rose, of which I have a good batch, in the fine weather of the early summer, but since the wet weather came, though the plants have produced quantities of flowers, few have been of much account. It seems therefore to be chiefly valuable as a fine warm weather Rose. If it gets a moderate share of sunshine it is very decorative both on the plants and when picked, the flowers being carried well on long stalks.

MRS. GEORGE SHAWYER (H.T., Lowe & Shawyer, 1911).—This is another well-shaped flower, larger and fuller than the last, with very long pointed buds and deep straight petals of good substance and a bright full rose colour. The plant is of satisfactory growth and carries its flowers erect. The flowers opened during the wet of the past summer better than I expected. Messrs. Mount's beautiful exhibits of this fine Rose have shown of what it is capable when grown under glass, and the couple of plants I have tried in this way myself have shown that it readily accommodates itself to life as a pot plant and is easy to manage when so grown. The flowers can readily be got on long stems, and I think I like it best when cut in the bud stage before the flowers fully expand.

MRS. MAYNARD SINTON (H.T., McGredy & Son, 1910) is another well-shaped flower, large and full. For a Rose with so many petals this has opened well this wet summer. The colour is silvery white suffused pink, with a pink centre, and quite pretty. The flowers are carried singly and erect, rather like those of Mildred Grant. It ought to make a good exhibition Rose, but I am a little afraid that it is too dwarf and stumpy to make a really good garden plant.

MRS. WAKEFIELD CHRISTIE MILLER (H.T., McGredy & Son, 1909).—This is a large loose-petaled flower, and one of the bicolors, that is, the inside of the petals is a soft silvery blush and the outer or reverse side is a brilliant rose colour with a dash of scarlet in it. Now and again it is capable of making an exhibition bloom, and I well remember the magnificent specimen of this variety shown at the Autumn Rose Show about two years ago, but I fancy that, like Betty, it will only produce such a flower at rare intervals. If the weather is at all hot it opens far too quickly, and is best in cool weather. In fact, as a garden plant it is best of all in the autumn, when its brilliantly-coloured flowers look well and very cheerful from distant parts of the garden. The growth of the plant is very sturdy and upright and the flowers are carried erect. I have found it makes a good standard, and, so far as I can judge, has an excellent constitution. Its weakness is a tendency to form rather coarse flowers, which look better at a distance than on close inspection. The centre petals are generally rather loose and somewhat rounded instead of being pointed. It has, however, the merit of continuing in flower very late; if not stopped by unusual frost it will continue well into December, and in the late autumn, when so many of our Roses have had all the colour washed out of them, the brilliant tints of Mrs. W. C. Miller are very grateful. *White Rose.*

(To be continued.)

SOWING PEAS AND BEANS IN AUTUMN.

WITH the raising of the more tender Marrowfat Peas the time-honoured practice of sowing a few rows of a dwarf early variety on a warm border to furnish the earliest pods commenced to fall into desuetude, and at the present time it is only occasionally that the edible Pea is sown out-of-doors in the autumn. Although the place of the old practice has been taken, in part, by the present custom of sowing the seed in pots or in narrow, hollowed turves, placed in a cold frame, yet it had much to recommend it. For one thing, if the winter proves to be exceptionally unkindly and nothing is gained by November sowing, on the other hand, there is but little lost—the value of the labour expended and the seed do not amount to much—and when the seedlings do pass successfully through the winter the pods are ready for gathering earlier than those on spring-sown plants. To be successful with late autumn sowings a warm, sheltered, well-drained border is essential, and the depredations of mice must be guarded against. The seed should be sown more thickly than is the case with the main-crop varieties, and as soon as the seedlings appear above the ground, brushwood should be inserted on each side of the rows, and the soil drawn up, to provide protection against cold winds. At this juncture it is a wise precaution to lightly dust the foliage of the Peas with just sufficient soot or lime to make it unpalatable to the slugs, but not enough to choke the pores of the leaves.

Probably discouraged by one or two failures, the average gardener leaves the forcing of the Pea alone. This is an unfortunate policy, because a dish of green Peas, say, at Easter, would be greatly appreciated in the dining-room, and would be a most agreeable change from the forced Beans with which many growers are so successful. The edible Pea does not lend itself to such hard forcing as the French Bean, the only successful method is to "hasten slowly," and another drawback—but far from being insuperable—is the greater height to which Peas grow, and, consequently the danger of the seedlings being drawn up weakly whilst quite young, at the very time they should be kept as sturdy as possible. To overcome this the seed may be sown in flower pots of 5-inch diameter, and the plants grown in a cold frame near to the glass until the pots are comfortably full of roots, and then planted, without dividing the plants, 2 feet apart, in a brick pit. As abundance of light and air is essential, not only should the glass lights be washed, but the interior of the walls should also be well whitewashed. Under frame culture it will be found that the Pea haulm becomes quite 6 inches taller than would be the case out-of-doors, and sufficient extra headroom must be allowed. The soil should be light, deep and rich, and be trodden as firmly as possible before the planting is done. The after cultivation consists in careful ventilation and watering. Air should be freely admitted whenever the external conditions permit, and water sparingly given until the pods begin to form. During the flowering period moderately dry conditions are essential, and it is an advantage to shake the plants daily so as to disturb the pollen.

The Broad Bean is not amenable to forcing, but if the seed is sown in the open ground in November much earlier supplies are obtained than is the case with February sowing. The Mazagan varieties are the best for autumn sowing, and a strong soil is well suited to their needs. *A. C. B.*

NOTICES OF BOOKS.

THE ROCK GARDEN.*

I SOMETIMES wonder how far the present epidemic and contagious fever of rock-gardening would have spread among the wealthy and in their hands have altered the face of our land had not the appearance of other means of emptying fat purses, such as motorcars, aeroplanes and People's Budgets, synchronised with it. Imitation Dolomites, Mont Blancs or Matterhorns might have covered acres of every large estate, and the geologists of a few æons hence would have been driven to inventing several glacial periods, subsidences or upheavals to account for the disappearance of Snowdon and Ingleborough from their ancient sites, and the distribution of their component rock in certain areas of every county of Britain.

Now arises a new problem. Will "the white mountain limestone of the Craven district" travel thence in railway trucks till it is as universal in every back-yard and garden as coals in the adjoining cellars?

For Mr. Farrer has used his facile pen to teach "the small grower," "the man who has small means and only a small plot of ground to play with," that, to continue quoting his words, "nothing could possibly fill the small garden plot with perennial delight so adequately, cheaply and appropriately as a constellation of rock-plants."

All who are acquainted with Mr. Farrer's beguiling and inspiriting writing will know how, by an occasional candid confession that a plant is a "miff" or "very rare and very ugly," or "of a squawking majenta," he makes us give him our entire confidence (and the nearest nurseryman who offers the plant, our hard-earned pelf) when he lauds some favourite of his in the prismatic glittering galaxy of adjectives of which he is such a master.

One great feature of the Present-day Gardening series is the skill with which the editor selects one of the greatest living exponents of each branch to treat of his special line of knowledge in concise yet sufficiently thorough form, and this volume is no exception. From the able, research-suggesting preface of Dr. Bretland-Farmer to the all-too-sudden terminating counsel of peppering to taste with bulbous plants, there is not a dull page in it.

One would expect this writer to deal especially with the Primula and Saxifrage families, and he has not failed to give, for the size of the book, wonderfully full lists of both genera, with most helpful notes on their appearance and cultivation, most of which bear the hall-mark of personal acquaintance with the plant, both in its native home and in the gardens of its captivity. In addition, the Alpine species of Campanula, Dianthus and Ranunculus are also monographed in miniature with equal cunning.

It is a valuable handbook, not only for the beginner, but also for the lover of Alpine plants of long experience, and should have a marked influence in bettering the cultivation of many of the more difficult plants.

I rejoice to see that Mr. Farrer gives a much-needed warning in the words "I write from an Alpine climate." Ever since I saw Primula farinosa and Cystopteris fragilis growing wild on the confines of his garden, I have taken the liberty of translating all his directions for the cultivation of difficult plants into terms better suited to my lowland level and arid atmosphere, and the reader will do well to ponder his advice on this point on p. 30.

The coloured plates in this series are surprisingly beautiful, considering how small a sum is asked for each volume. It is greatly to be wished, however, that the publisher would devise some better means of fixing them in the volume; at present they are deciduous.

I admire the consistency with which the correct pronunciation of names terminating in "oides" is enforced, and the care taken to procure such correct spelling and use of capitals, etc., in all the names. I have hunted sedulously for any slips, but, excepting on p. 46, where I imagine "peacockeyed" is intended to be applied to seedlings of Dianthus zonatus and not of D. Caryophyllus, and the use of "single stems" apparently for a single-flowered stem in the description of the glories of Anemone alpina, I have found none. *E. A. Bowles, Myddleton House, Waltham Cross.*

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

THE HALF HOLIDAY.—We are very glad to see on p. 353 of your last issue that Messrs. Dobbie & Co. have for the last 20 years granted their nurseries to be closed at 2 p.m. and now 1 p.m. on Saturdays. It is to be much regretted that there is so little of the "Dobbie" spirit in the western counties, and as we "nursery employees" have no union we trust that the note you have published will have a good effect here. Perhaps our northern friends can scarcely credit that we are still plodding away from 6 a.m. to 6 p.m. with only one hour less on Saturdays. *Nursery Employee.*

RICHARD BRADLEY AND HIS PUBLISHER.—Owing to absence from home I have not been able to reply earlier to Mr. Brotherston's letter (see p. 160) upon my remarks on *The Seedsman's Calendar* and its author (see p. 132). I am surprised that his remarks are simply a negation of Bradley's authorship without any attempt to name another author for the work. In respect to Mr. Brotherston advising me to refer to *The Dunciad*, it is regrettable that he should have done so, as the Editors would not be likely to grant me sufficient space to treat the subject exhaustively, nor would it be of horticultural interest. I hope it will suffice to admit the statement therein, but the merits of Pope may be considered, and these are ably given by Professor Minto in the *Encyclopædia Britannica*, where Pope is violently denounced as little better than a common swindler. Johnson's judgment of his character is as follows: "The man who played the politician about Cabbages and Turnips and hardly drank tea without a stratagem was not likely to be straightforward in a matter in which his ruling passion was concerned, besides altering his own title pages and blaming others for doing so." Mears published many books of merit for great authors, as may be found at the end of Bradley's works, and such as I have seen are well printed and many are illustrated with copper plates. So far as the testimonial from *The Dunciad* concerns him, I would just as soon appeal to *Gulliver's Travels* for support on a political subject as to these humorous satires. The mention of Mr. Bradley's name in the body of the calendar is quite in accordance with the presumption at the time of the first edition under Townsend's name, and it is just possible that he may have contributed a portion as they were evidently on friendly terms, and Bradley refers to him in another work. As to the internal variations on the Mushroom, that of *An Appendix* as follows: "I have mentioned indeed a way of making Mushroom beds, but I have since seen and considered those excellent ones in France which produce Mushrooms all the year about, and am therefore at present more capable of giving instructions upon that head than I was before." I have now given all my available data and admissions by the publisher that Bradley was the author of *The Seedsman's Calendar*. *J. Murison.*

THE PARENTAGE OF CARNATION PRINCESS JULIANA.—I have only just had my attention called to Mr. Allwood's letter (see p. 331). I should not have made my statement unless I had proof that what I said was correct. The variety Princess Juliana originated as a sport from one of the late Mr. Hopper's numerous seedlings. Now, the parent stock of this was sold in the year of the Royal Show at Lincoln, namely, 1907. If Mr. Allwood can explain how to pollinate a flower, raise seed, and work up a stock of a variety in the short time that he was employed at Bush Hill Park prior to June, 1907, many would be interested to hear! As it is well known, a sport often "reverts" to the original, and this is just what Princess Juliana has done. In his letter to you he states that the parentage of Princess Juliana is recorded in the "breeding book," as he calls it, and under H.M. 22. This is not the case, and Mr. Allwood should know that this is not so. I will deposit £5 with an arbitrator if he will do the same, under the conditions that the one who has made the incorrect statement shall forfeit this sum, which shall be divided equally between Dr. Barnardo's Homes and the Fresh Air Fund. Mr. Allwood is perfectly aware that I know of the origin of the American Carnation, because circumstances caused him to read my book *Perpetual Carnations*, published early in 1912. I quite agree with another correspondent when he said "Honour to whom honour is due," and I say especially to those that are dead. Princess Juliana is one of many Carnations raised by the late Mr. E. F. Hopper. *Laurence J. Cook.*

MANURING ALPINE PLANTS.—The notes by Dr. Farmer, Mr. Davies and Mr. Jenkins on the subject (see p.p. 318, 330) are all interesting. The subject of manuring Alpine plants has engaged my attention for several years, and certain experiments have met with considerable success. I engaged in considerable correspondence on the question a few years ago, when I learned that several others who had experimented likewise had obtained successful results. My first trials were restricted to fine ground bones or bone-dust. This I found specially good for Campanulas, such as C. pusilla or pumila, C. G. F. Wilson, C. abietina, &c. In every case increased vigour and larger flowers followed its application. In the case of the tufted Campanulas, I worked it well among the foliage, and then watered the plants freely overhead. I have also found powdered cow manure very suitable for Primulas and Campanulas, though I think the latter are apt to grow too strong in wet seasons if this manure is used. Dr. Hugo Mueller gave me an excellent recipe for a fertiliser to be applied in liquid form. It consists of phosphate of potash, nitrate of potash, sulphate of magnesia, and nitrate of lime, dissolved in a large quantity of water. I have the recipe, but I would not give it in detail without Dr. Mueller's consent. It proved a capital invigoriser for Alpines which were showing signs of having exhausted the soil. Some of the artificial fertilisers have the fault of exhausting the soil in the end, although their beneficial effects are seen for a time. I have found ground bones one of the most satisfactory materials to use on my soil, also for plants in pots filled with the ordinary compost used for Alpines. I use this bone-dust for most of the plants with white leaves, and for a number of the Saxifrages and Campanulas. One may add a word of caution, and this is that the Alpines which grow too vigorously in a moist climate are much more liable to injury in winter. If we can make them more floriferous and brighter-coloured the greater vigour is hardly to be desired, except in those which are liable to become weak and dwindle away. Dr. Farmer has done a distinct service in studying the question in a practical way, and we may hope that he will continue his trials and give us the benefit of his further

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* *The Rock Garden*, by Reginald Farrer (PRESENT-DAY GARDENING SERIES) (T. C. & E. C. Jack). Price 1s. 6d. net.

Nephrolepis Todeoides.—I enclose a photograph of a large plant of Nephrolepis Todeoides. The Fern has been in my possession for nearly four years. When I obtained it there were only three small fronds, and it was growing in a 2½-inch pot. The specimen is now more than 4 feet 6 inches in diameter and has hundreds of large fronds. *J. Jones, Torre Mount, Torquay.* [The photograph shows a remarkably fine specimen of this beautiful Fern.—Eds.]

Artemisia lactiflora (see p. 351.)—A border in these gardens planted with clumps of Artemisia lactiflora 5 feet apart, the intervening spaces in front furnished with Lobelia cardinalis "var. Firefly," produced a splendid effect this summer. Artemisia lactiflora grows well in heavy loam mixed with plenty of well-rotted manure, and requires frequent waterings in dry weather. I find it best to take up the plants in November, divide the clumps and place them in a cold frame until April. Slugs must be guarded against after planting. *W. Turner, Winthorpe House Gardens, Newark-on-Trent.*

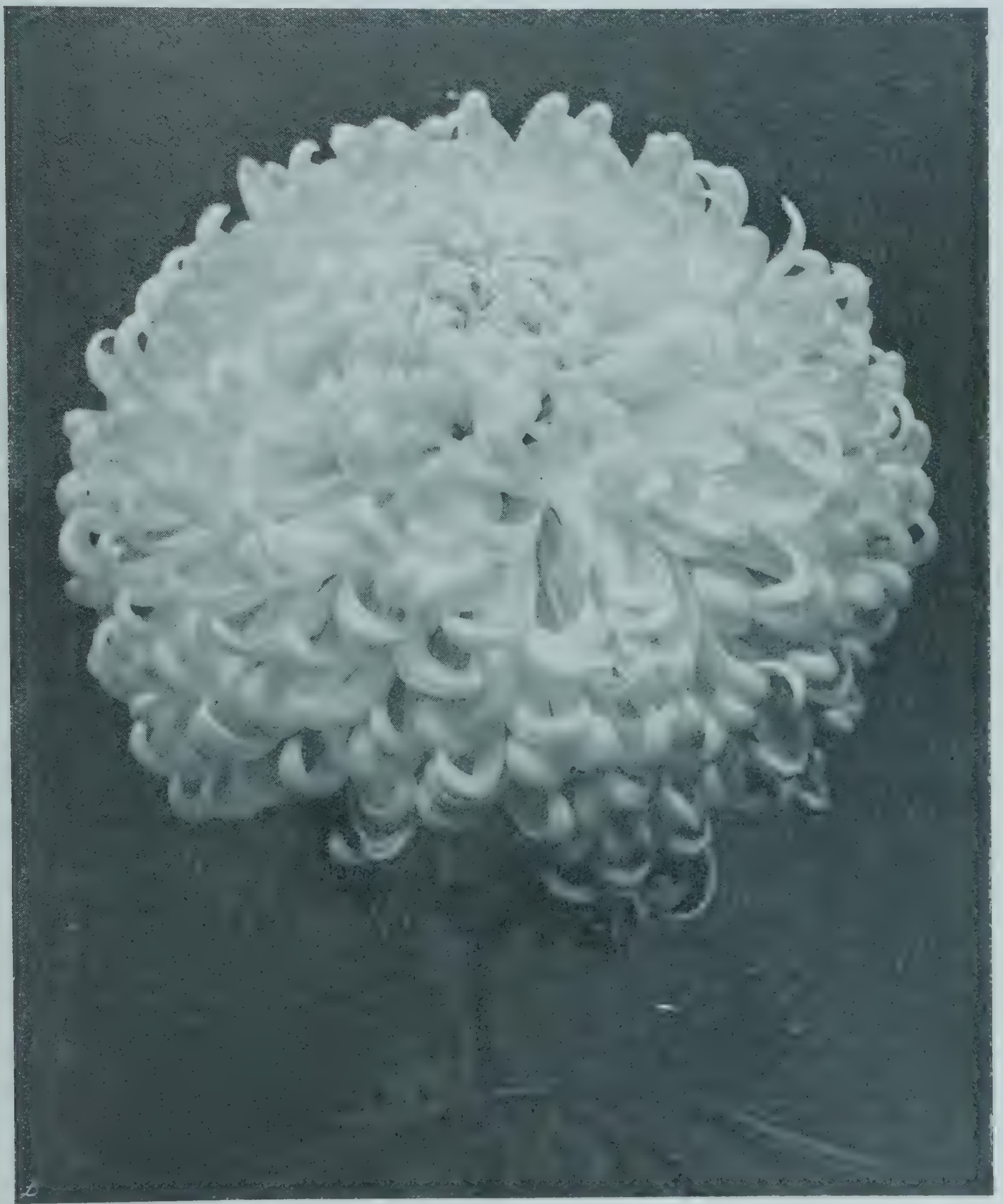

Fig. 164.—Chrysanthemum Queen Mary: a white Japanese variety (much reduced).

The Irish Spiranth (Spiranthes Romanzoviana).—Not many years ago this Orchid had but one known station in Europe—a little meadow at Bantry Bay in the south of Ireland, and from which specimens were sent to me by the late Mr. Gumbleton. Now three other stations are reported, all in Ireland, one in the extreme north, from which a specimen has been forwarded to me. It is a sweet little plant, 3 or 4 inches high, with yellowish-white, deliciously fragrant-scented flowers. I have attempted its [illegible] failed, though the nearly-allied S. æstevalis (the Summer Spiranth) has become quite established on a dampish rockery. This also is a rare plant, being only reported from three counties, though a new station near Chislehurst has lately been discovered. *A. D. Webster.*

Blue Tits and Sweet Peas (see pp. 318 330, 349).—There is not the least occasion for your correspondents to shoot that most useful friend of the farmer, the gull, in order to prevent tits approaching their Sweet Peas. Moreover, by doing so in close time, they become liable to a fine of 20s. A bird-shaped kite suspended on the string will answer as well, or better. The gull is not a natural enemy of the tit, and the kite can be made to move in a lighter breeze. But in indicating the reason why simple precautions of the kind are so commonly neglected, Mr. A. J. Elgar hits the nail on the head. He says they mean "endless bother." "I canna be fashed" has a good deal to do with the damage for which birds are blamed. *L. Gardiner, Secretary, Royal Society for the Protection of Birds.*

Late Peas (see p. 349).—Mr. Staddon may be interested to know that we also have been picking Peas up to the present week. In several years I have gathered Peas continuously from June till the middle of November; my latest recorded date is November 19. At the present time we have a fine row of the variety "Latest of All" in full vigour and bloom, the plants being very robust. This row, should the weather prove favourable, will doubtless supply good pods well into December, but such a result is scarcely to be expected. *Wilmot H. Yates, Rotherfield Park Gardens, Hants., November 8.*

FLORISTS' FLOWERS.

PERPETUAL-FLOWERING CARNATIONS.

I will endeavour to point out certain good old varieties of Perpetual-flowering Carnations which have been supplanted by good new ones. Those I do not mention have, generally speaking, proved a failure in this country, although they may be grown with some measure of success in certain districts. I shall not mention the 1912 novelties; their turn will come later.

In white varieties, Queen Louise, Lilian Pond, Mrs. S. J. Brooks, The Belle, Lady Bountiful, White Lawson, and even White Perfection cannot be compared with such a specimen of its type as White Wonder, or a selected strain of White Enchantress.

Taking scarlet varieties, compare G. H. Crane, Cardinal, Flamingo, Victory or Robert Craig with Scarlet Glow, now recognised as the best red variety. Beacon and Britannia are also very good sorts.

Enchantress has stood pre-eminent for so long that we almost forget its contemporaries, such as Alpine Glow, and Mrs. Chas. Knopf or Admiration; these could never be compared with it.

May Day is perhaps the best all-round Perpetual-flowering Carnation to-day, and is rapidly replacing Mrs. H. Burnett. Although not quite the same shade of colour, in productiveness it is far superior, while Regina and Rex will never survive, and old Fair Maid, which was a great Carnation in its time, must be discarded.

In the dark pinks, or those of a cerise shade, competition has always been keen, and we find Mrs. C. W. Ward outdistancing that grand old Carnation Mrs. T. W. Lawson. Nelson Fisher, Afterglow, Aristocrat, Alvina, Pink Imperial, and Ethel Croker have all lived their day, but the new Rosette should have no difficulty in proving itself superior to any other variety of a similar shade, and Mrs. C. W. Ward may have to join the ranks of those that have gone before.

Gloriosa and R. F. Felton rival each other for premier place in the true pink class, of which Floriana was for so long the best variety. The market growers favour Gloriosa, which was partly spoilt in America through over-propagation. R. F. Felton is a prime favourite in private establishments on account of making a larger plant, but it is not so productive. It is also more subject to disease, and therefore must be cultivated under glass during the summer. Lady Alington stands alone in the rose-salmon pink class, and is a great favourite. It lacks, however, strength in stem and calyx, and does not last well when cut, but is undoubtedly a great Carnation.

In crimson varieties there is little competition. Carola, on account of its size and colour, is a great favourite, but those who seek quantity will favour the new variety Triumph, which should leave old Harry Fenn, Gov. Roosevelt, Harlowarden, Black Chief, Havard, and Waneka far behind.

In the popular heliotrope shade, Mikado is the sole well-known variety, but the new varieties Fairmount and Geisha are of similar shade.

In white flaked varieties, M. A. Patten, Bay State, Jessica, Glendale, &c., must stand aside to allow Wivelsfield Wonder and Benora to fight for the premier place. The Royal Horticultural Society has, however, voted for the former variety by giving it an Award of Merit and ignoring Benora, which has been set before it twice; other fancy varieties are purely a matter of taste, each being distinct. *A.*

CHRYSANTHEMUM QUEEN MARY.

This fine new white Japanese Chrysanthemum was shown exceptionally well by Mr. Thomas Stevenson in the class for 43 blooms of Japanese varieties at the National Chrysanthemum Society's Exhibition at the Crystal Palace on the 29th ult. Messrs. W. Wells & Co. at the same show had several excellent blooms in their fine non-competitive group, and this firm also exhibited the variety at the meeting of the Royal Horticultural Society on the 5th inst., when the Floral Committee granted it an Award of Merit. The flower is very large, with a somewhat flattish top, and, as will be seen on reference to fig. 164, the florets are pleasingly incurved at the tips. It ranks at once as one of the finest late white Japanese varieties for exhibition purposes, and is the best new white Chrysanthemum of the season.

PLANT NOTES.

IXORA COCCINEA.

Difficulty is experienced sometimes in the cultivation of Ixora coccinea, and even where other Ixoras grow to perfection this species is a failure. This may be explained to a great extent by the fact that I. coccinea requires a higher temperature than any other species, with the possible exception of I. Duffii. During the winter months the minimum temperature should be 65°, rising in the daytime to 70° or even 75°, but during the summer months it is almost impossible to give the plants too much heat, provided, of course, that a sufficient supply of moisture be forthcoming. During the summer the atmospheric temperature at night should not fall below 75°, and it should rise to 80° during even dull days, while on bright days the temperature may rise to 95°, or even more than that; great care must be taken that the house is kept thoroughly moist by damping and by syringing overhead at least three times a day during bright weather.

In pruning these plants the grower must be guided by the time at which he requires them to flower; the flowers will be produced from four to six months after pruning, according to the period of the year in which the operation is carried out, that is to say, plants cut back in the winter will take longer to produce their flowers than plants pruned during the spring months. For example, plants required to flower in May should be pruned in November, or if required to flower in August they must be pruned in March or April. Ixoras will bear a free use of the knife, and they may be even reduced to half their size if required.

Potting is best carried out in September or October, and nothing but good fibrous peat must be used, except a liberal addition of silver sand; the plants must have good drainage and be potted fairly hard. Cuttings will root freely at any period of the year, but perhaps those inserted in the spring are most satisfactory; they should be potted singly into small pots and placed in a propagating frame on gentle bottom heat, when they will root within a few weeks. Ixora coccinea is often used as the stock on which to graft other varieties, but in this respect it is not to be compared to I. Duffii, a plant with a much more robust constitution. During the growing season the plants may be assisted by the application of some good artificial manure, such as a guano or Clay's fertiliser, but they are not gross feeders, the secret of success undoubtedly being abundance of heat and atmospheric moisture. *Ralph E. Arnold, Cheltenham.*

BEGONIA RICINIFOLIA ROSEA GRANDIFLORA.

The *Revue d'Horticulture Belge* (October 15) contains an illustrated description of a new Begonia which bears the above name. It is known more briefly as "Gerbe Rose." The plant is stated to have been produced by crossing Begonia ricinifolia and B. Gloire de Lorraine. It has the general aspect of the former species, but is of more compact growth, with leaves of lighter green. The plant is very floriferous, and its blossoms are at least three times larger than those of B. ricinifolia and are brilliant rose, or white with a rosy flush. The new form does well in the open. Potted and brought into a cool greenhouse in September it begins to blossom at the end of November, and continues in flower till January or February.

DOUBLE PETUNIA.

According to a brief notice in the *Florists' Exchange* a new double seed-producing Petunia of the grandiflora type has been raised by the Theodoria B. Shepherd Co., of U.S.A. The doubles may be had in all colours, and are free

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Pruning.—Most of the trees are bare of leaves, and pruning may be commenced, for it is much pleasanter to do this work in mild weather than in winter. The pruning of Apples, Pears and other top fruits may follow the pruning of bush fruits. No hard-and-fast rules can be laid down as to how the pruning of the different varieties should be done, for the work requires extensive knowledge. Young trees require a rather severe pruning for the first few years to form well-shaped specimens, whilst such varieties of Apples as Lady Sudeley and Beauty of Bath, and Pears Jargonelle and Marie Louise, which fruit on the ends of short branches, must be treated accordingly. Such shoots as fruited last year may be removed. If my advice on pinching the shoots in summer has been followed, young trees will require little pruning beyond shortening the leading shoots to 12 inches or 18 inches, according to the variety, and cutting back the side shoots to two or three buds. After the pruning is completed, gather up the prunings and other rubbish and burn them. Next attend to the training of the trees. Stakes about 3 feet or more in length should be driven into the ground and the branches secured to them. The young shoots of old trees that have filled their allotted space should be cut back to from two to four buds, according to the variety. It is generally safe to prune strong-growing varieties to four buds, and weakly or medium-growing sorts to two buds. Old trees are often crowded with branches and fruit spurs, and, in consequence, sunlight and air are excluded from the interior branches, so that fruit is produced only on the outside of the trees. Some of the spurs, and a few of the useless branches, should be removed annually, and young shoots trained in from the base. If scale or other insect pests are present on the trees, the latter should be sprayed with a winter wash; although I do not recommend the washing of clean trees at this season.

Plums.—These trees succeed in most districts, and in any suitable soil. Cooking varieties are best grown as standards or half-standards. The choicer varieties may be planted as wall trees, for when grown as pyramids few of them compensate for the trouble occasioned by root-pruning and other measures necessary to induce them to bear freely. Damsons are best grown as standards, and may be planted as shelter for other fruit trees. Good varieties are King of Damsons, Cluster, Farleigh Prolific and Damascene.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Protecting the Crops.—The mild, damp weather during the early part of November suited the crops of late-planted green vegetables. We have obtained excellent salads from plants in skeleton frames merely protected at night-time with mats, but there is a danger now from frost, and plenty of material, such as mats, straw litter, or bracken Fern should be got in readiness to protect the frames. But whenever the weather is favourable give an abundance of fresh air to crops in frames, and keep the plants clear of decaying leaves and rubbish, also stir the soil on the surface.

Spinach.—Autumn-sown Spinach is looking remarkably well. If the ground is sufficiently dry to enable the work being done, stir the soil between the rows with a Dutch hoe. Do not thin the plants of the latest sowing too severely, but at the same time avoid overcrowding. Remove by hand any weeds that have come up in the rows.

Jerusalem Artichokes.—The stems of these plants may be cut off, and either burnt or put in a heap with other decaying refuse for use in the bottom of trenches: decaying vegetable matter is very valuable for incorporating with heavy soils, as it promotes a more porous

and the largest and best tubers stored in sand or ashes. But the bulk of the tubers may remain in the ground, the same as Parsnips, to be dug as required. The variety New White is much better than the old purple sort, for not only are the tubers a better shape, but also better-flavoured, and have a more appetising appearance when cooked.

Broccoli.—The plants are none too hardy this year, and before the end of the present month it will be advisable to place at least a portion of them on their sides to enable them to withstand frost. This may be accomplished by taking out a trench next to the end row, and turning over the plants, so that their heads face north. The second row should be treated similarly, covering the stems of the first row with the soil taken out from the second trench. Make the plants quite firm in the ground, as they are very tender at the collars. Do not disturb the roots more than is necessary to avoid too severe a check. Some covering material may be necessary during very cold weather, and this should be used as dry as possible; it should be removed directly the weather is mild again.

Salads.—Preparations must be made for the supply of winter salads in suitable houses and pits. The three principal crops are Lettuce, Endive and Chicory. The last-named is one of the easiest to grow, as it will do well on almost any soil, and may be forced without much trouble. If the whole of this crop has not been lifted, sufficient roots for forcing should be placed handy in case the frost makes the ground too hard to lift them. There are several varieties of Lettuce suitable for growing in winter. The seeds should be sown in shallow boxes, and grown in a light frame or pit. The plants may be set closely together, and cut when quite small, somewhat like Mustard and Cress. Lettuces may also be grown in the cool orchard or other houses where space permits. Endive should be blanched by either tying up the leaves or covering them with inverted pots.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Odontoglossum.—Plants of O. citrosmum that are nearing the completion of their season's growth should be suspended or staged near to the roof-glass in the cooler part of the Cattleya or intermediate house. The supply of water at the roots should be reduced gradually until, after the new pseudo-bulbs are thoroughly developed, moisture should be withheld for longer periods, affording only sufficient to prevent the pseudo-bulbs from shrivelling. This treatment should be continued through the winter months, and until the flower-spikes are seen to be pushing from the centre of the young growths. Plants of O. grande and O. Schlieperianum that have passed out of bloom should be placed on a dry shelf near to the roof-glass in the cool house and rested. O. Insleayii and its variety Leopardinum are producing their flower-spikes, and should be liberally supplied with water until after the flowers fade, when they should be rested.

Cattleya, Lælia and Lælio-Cattleya.—Autumn-flowering Cattleyas, Lælias, and Lælio-Cattleyas, such as Cattleya labiata and its many varieties; C. Bowringiana, C. Dowiana and its variety aurea, C. Fabia, C. Iris, C. Mantinii, C. Portia, C. Hardyana, Lælia præstans, L. Perrinii, Lælio-Cattleya luminosa, L.-C. Ophir, and L.-C. Epicasta are in bloom. The flowers will remain in a good condition for some weeks if the roots are kept on the dry side, and the amount of atmospheric moisture reduced. Care must be taken that the flowering does not exhaust the energies of the plants, therefore the spikes should be cut directly the pseudo-bulbs show signs of undue shrivelling. After the plants have passed out of flower the old spikes and succulent flower-sheaths should be removed, severing them as near as possible to the top of the pseudo-bulb. If these remain moisture sometimes accumulates at the base of the flower-sheath, and sets up decay in the leaves and new pseudo-bulbs. The plants at that stage should be afforded a period of rest in the coolest and best ventilated part of the Cattleya house. The roots should receive only roots, but premature top-growth should be prevented. Weakly specimens should have their flower-spikes removed as soon as they appear through the sheath in order to throw all the energies into growth.

Cattleya.—Plants of C. Trianæ that have completed their growths should be carefully watered; they need only sufficient moisture to keep the roots damp, but the supply may be increased slightly when the flower-spikes are seen to be pushing from the base of the sheaths. C. Lawrenceana makes its growth during the winter months, and is, in consequence, a difficult plant to cultivate successfully for many years. During the winter months it should be grown in the warmer part in the Cattleya house, and placed near to the roof-glass, so that it may obtain plenty of light. The compost should be allowed to become quite dry between each watering, when the water should be poured around the outer edges of the compost. From now onwards during the winter discretion should be exercised in applying water to the roots of all Cattleyas and Lælias, for it is far better to keep the plants on the dry side than to allow the compost to become saturated.

Cypripedium.—C. concolor, C. niveum, C. Godefroyæ and its variety leucochilum, C. bellatulum and the many hybrids of these plants should receive very careful treatment during the dull winter months. Having thick, fleshy leaves the plants do not require so much moisture at the roots as other Cypripediums, and the compost may become quite dry before water is applied, when the receptacle may be immersed nearly to the rim, or the water may be poured around the outer edges of the compost, the object being to prevent moisture lodging in the axils of the leaves. Take care that water dripping from the roof does not come in contact with the foliage. In removing the flower-scapes cut them clean to the base, for if a portion of the stalk is left it sometimes sets up decay which soon proves fatal to the plant.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Bedding Plants in Frames.—Cuttings of summer bedding plants inserted early in the autumn are well rooted, and the frames should be ventilated freely in mild weather, to promote a stocky growth. Plants such as Pentstemons, Calceolarias, Violas, and Veronicas, in cold frames, should be grown as hardy as possible; remove the lights entirely when the weather is mild. Pelargoniums intended as bedding plants should be kept in a moderately dry atmosphere, and dry at the roots, as they should not grow too freely during the winter. All decaying leaves should be removed at frequent intervals, as the decay may set up damping in the plants.

Violets in Frames.—The plants should be kept scrupulously clean, and if the soil shows a tendency to become caked or hard the surface should be stirred lightly. Whenever water is necessary, it should be afforded on bright, dry days, as a healthy Violet plant requires an abundance of moisture at the roots; the watering should be thorough. Ventilate the frame freely during the warmer parts of the day, reducing the amount of fresh air before the temperature drops in the afternoon. Have ready mats or canvas covers for use during times of severe frost, in order to avoid using fire-heat, which should not be resorted to except when severe frosts occur.

Planting Bamboos.—Bamboos should be transplanted before severe weather sets in. These plants are usually sold by the nurserymen in pots, unless very large specimens are required for producing an immediate effect. If it is intended to plant large clumps, the sites should be prepared in advance, so that they may be set in the ground directly they are received. The Bamboo will thrive in almost any good ordinary soil, but heavy land should have plenty of leaf-soil and turfy loam incorporated with it. In all cases the ground should be trenched, and a quantity of rich, fine soil scattered amongst the roots. If the weather is dry at the time of planting, the roots should be watered freely and a mulch of leaf-mould applied. Many believe that Bamboos will not thrive except in very favoured localities, but this is erroneous. The greatest damage is not caused by frost, but by cold winds, therefore sheltered from the north and east winds. A loose, rich soil is a great advantage. If these two points are considered, there need be no fear of failure with most kinds of Bamboos. In the calendar for May 11 a fairly comprehensive list of the hardier varieties was given. Arundinaria Falconeri, A. insignis, A. falcata, and A. nobilis should not be planted out-of-doors, except under very favourable conditions, but they are beautiful objects in a large conservatory or winter garden. It is a popular error that Bamboos like swampy ground. Although they require plenty of water in the summer, badly-drained or marshy ground must be avoided.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Begonia Gloire de Sceaux.—This Begonia is one of the most beautiful of indoor flowering plants during the winter and early spring, and is generally afforded similar treatment to Gloire de Lorraine. This latter sort is in full bloom, and requires a somewhat cool treatment now, but Gloire de Sceaux should still be grown in a warm house with plenty of atmospheric moisture. The plants are developing their foliage, and those in pots of a moderate size require liberal feeding. The foliage is easily broken, therefore the plants should be afforded as much room as possible, so that there will be no danger of injury from the watercan. Do not spray the plants overhead, but damp the spaces between the pots once or twice daily. Should aphis or thrips be detected, the plants should be fumigated lightly.

Cuttings.—Plants of Acalypha hispida (syn. Sanderiana) and A. musaica raised from cuttings inserted some weeks ago are well rooted, and require larger pots. Most other subjects propagated in the autumn will grow well in the cutting pots all through the winter. They should be placed in a light position near to the roof glass, but the watering should be done carefully, as the soil is usually filled with roots, and a shelf in a greenhouse is a very dry place.

Eucharis grandiflora.—After a short rest these plants are growing freely again, and should be afforded one or two good soakings of liquid manure made from cow dung. The blooms are somewhat slow in opening at this season, and, with a little care, the plants may be had in flower up to Christmas, when the flowers will be greatly appreciated. The Eucharis is very subject to attacks of mealy bug, and as there is not much potting to be done just now, time may be afforded to eradicate this pest by sponging. It is several years since I was troubled with mealy bug in the plant houses, but I have had plenty of experience with this pest earlier in my career, and there is no better insecticide for the purpose than paraffin and soft soap emulsion. Sponging or spraying the plants two or three times with this mixture will usually destroy any mealy bug that may be present.

Chrysanthemums.—The plants when cut down should be sorted over, retaining those that have produced the best flowers for purposes of stock. The stools should be placed in a light, cool house, where they will develop short-jointed growths suitable for making cuttings. It is a good practice to retain one stock plant for every six or eight cuttings required, and this will be a good guide to the number of stools to save. In turning the main batch of plants out of their pots save the old potting soil, as it will be useful for a variety of purposes. It should be stored in a dry place, where it will become sweetened by the air.

Potting Loam.—No time should be lost in obtaining a stock of good turfy loam for potting purposes. In many districts the turves are drier now than they were earlier in the season, and this is an advantage. If they are wet stack them together as lightly as possible, leaving plenty of spaces for the air to circulate. This precaution is more necessary in the case of loam of a heavy texture, for there is usually no fear of light soils becoming sour through being stacked wet. If the loam is of poor quality manure should be mixed with it at the time it is stacked, and this is better than adding manure at the time of potting; short horse-dung or a little bone-meal, soot, and wood-ashes will tend to make it more fertile. Peat is found on many estates, and this also may moist it will be better to place it under cov There is not so much of the material used formerly, for in many establishments the cultu of stove plants is largely discontinued. Le mould is another valuable material for potti purposes, and the gardener should endeavour make a good heap or pitful of clean Oak or Bee leaves. The present offers a favourable time f securing the leaves. On large estates, whe there are woods and numerous park trees, t leaves swept up in the garden may be utilis for hot-beds, as those obtained from the gri and dykes in the woods make much better a sweeter leaf-mould.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Locking House, Wantage, Berkshire.

Early Peaches and Nectarines.—To c tain ripe Peaches very early in the seas preparations for forcing should be made once. Pot trees are very useful for t purpose, and if a suitable house is ava able a good crop of excellent fruit ma be assured. If the shoots are matured pe fectly they may be pruned and the trees cleans and placed under glass at once. Should a speci glasshouse be not available for the present t trees may be placed temporarily in a vinery which the vines have just been started; the co ditions in the vinery will be suitable until t trees flower. Shorten the extra strong growth and thin out the weak, useless shoots. The is a danger of these small trees becoming crowd with growth, and this must be avoided or the will quickly become bare of growth at their bas Their constitution also will be impaired if the are allowed to make too much useless growt Cleanse the branches thoroughly and careful as the buds are easily damaged. If scale insec are present take care that every insect destroyed, as this pest multiples quickly whe the trees are placed in a warm house. A sol tion of soft-soap and sulphur applied with a we worn paint brush will destroy all insect pest The trees may afterwards be placed on the sides and syringed vigorously with the san specific. Fire-heat need not be employed for t first two or three weeks unless severe fros occur; the temperature must not drop belo 45°. The trees will require very little water the roots till growth is active; when water afforded see that sufficient is given to soak t soil right through. Syringe the trees once twice each day when the weather is bright, an damp the walls and paths frequently to promo a moist atmosphere. Admit air freely whenev the weather is favourable, and leave the t ventilators open a little at night when it is n cold.

Late and Mid-season Peaches.—Push fo ward the work of pruning, training and clean ing the trees as quickly as possible so that ever thing may be completed by the end of the yea as there is not so much danger of damaging t buds now as later. Old trees which have giv unsatisfactory results should be attended to. nearly all cases of failure the trouble will found at the roots; if the work of renovation accomplished before the turn of the year t trees will have time to recover from the che before they start into growth. Old trees wi plenty of young shoots may have some of t older branches removed to make room for you fruiting wood. A few old branches remov every year will keep the trees furnished wi healthy fruiting wood. After the pruning finished tie the shoots into bundles and wash t house thoroughly, and finally wash the shoo with the specific recommended above. In trai ing the shoots it may be found that there is st too many of them and a few more should be c away. It is a great mistake to overcrowd t young shoots. When the training is finish remove the surface soil from the borders wi a fork and apply a top-dressing of loam mix with plenty of lime-rubble and wood-ashes. the case of old trees a small quantity of crush bones and artificial manure should be mixed wi the soil. It is important to allow the trees a lo period of rest before starting them again in growth, therefore the houses should be thro wide open during the time when growth is do mant. See that the trees do not suffer for wa of moisture, especially in the case of th

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Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS.

MONDAY, NOVEMBER 18—
Nat. Chrys. Soc. Executive Com. meet.

TUESDAY, NOVEMBER 19—
Royal Hort. Soc. Norwich Chrys. Sh. (3 days).

WEDNESDAY, NOVEMBER 20—
Nat. Chrys. Soc. Exh. and Conference at Essex Hall. Newcastle Chrys. Sh. (2 days). Royal Met. Soc. meet. N. of Eng. Hort. Soc. meet at Hull (2 days). Bristol Chrys. Sh. (2 days).

THURSDAY, NOVEMBER 21—Linnean Soc. meet.

FRIDAY, NOVEMBER 22—
Aberdeen Chrys. Sh. (2 days). Dunfermline Chrys. Sh. (2 days).

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—42·2.

ACTUAL TEMPERATURES:—

LONDON.—*Wednesday, November 13* (6 P.M.) Max. 43° Min. 37°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, November 14* (10 A.M.): Bar. 29·5°; Temp. 45°; *Weather*—Overcast.

PROVINCES.—*Wednesday, November 13:* Max. 44° Lancaster; Min. 49° England, E Coast.

SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY—
Dutch Bulbs at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.

MONDAY, WEDNESDAY AND THURSDAY—
Rose Trees, Azaleas, Shrubs, Bulbs and Liliums, at Stevens' Rooms, 38, King Streef, Covent Garden, London, W.C., at 12.30.

TUESDAY—
Sale of well-grown Nursery Stock at Nuneham's Nursery, Caterham, by Protheroe & Morris, at 12.

WEDNESDAY—
Trade Sale, Bulbs and Roots, at 11; 2719 cases Japanese Liliums, at 2.30; Palms and Plants, at 5, at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

THURSDAY—
Roses, at Protheroe & Morris' Rooms, at 12.30.
Nursery Stock at The Nurseries, Leamington, by Protheroe & Morris, at 12.

FRIDAY—
Orchids at Protheroe & Morris' Rooms, at 12.45.

Ills that Potato Flesh is Heir To. We do not know the arguments which justify the adage with respect to the cat and its nine lives; but anyone conversant with the vicissitudes suffered by a Potato in the course of its apparently uneventful life would be well within the bounds of veracity in ascribing nine lives to the "noble tuber." For it is known to be subject to the attack of no fewer than nine different kinds of fungi and bacteria, and of these nine diseases most are deadly in their effects. From its early youth to its matured tubered state, this alien of South American origin is beset by fungous and bacterial foes. The van of this incessant attack is led by the fungus Alternaria solani, which produces early blight. Following close on Alternaria is Cercospora concors, the parasitic fungus which induces leaf blotch. Escaping or recovering from early blight and blotch, the Potato may fall a victim to the untimely attention of bacteria. Bacillus solanacearum may invade the tissues of its stem and tubers, and turn them brown with brown rot, so that the stems and leaves wilt and die. Though fate grant immunity from B. solanacearum, a yet worse foe in Bacillus phytophthorus must be avoided or resisted. This is the redoubtable begetter of black leg, an unkind name for a widespread and fatal state characterised by a rotting at the base of the collar, and a soft rot of the tuber.

Besides these mortal maladies, the stem blight or rosette ascribed to the fungus Rhizoctinia (Corticum vagum) must be considered as a mere ailment. But more and worse pathological adventures are in store for the Potato. The dry rot fungus, Fusarium oxysporum, may gain entrance through the roots, cause a certain amount of wilting and blackening, and, lying ensconced in the tubers, play havoc with the stored Potatos, mummifying them till wizened and wrinkled, as though by premature old age, they become unfit for food or propagation. A passing episode, and one which results only in a certain disfigurement, is scab, the outward sign of a visitation by another fungus, Oospora scabies.

Nor is the tale of tribulation told. Black scab, or wart disease, may cut the thread of the troubled life of the Potato, and late blight may turn to nought the promise of a fruitful harvest. The former disease is the work of a fungus-like micro-organism, Chrysophlyctis endobiotica, the latter, which is a classic among diseases, is caused by the fungus Phytophthora infestans. As we contemplate the shapely, clean-skinned and spotless Potatos on the exhibition table, we know not which to admire most, the nursing skill of the cultivator or the strange eventful history of the tuber. For the more we learn of the nature of disease, the more certain it appears that escape from attack is no mere chance, but is due first to the provision by the grower of the best conditions for growth, and second, to the possession on the part of the plant of specific powers of resistance, which enable it to prevail over or repel the attacks with which it is beset from all sides. Evidence of the existence of such natural immunity is plentiful, and not to be gainsaid. We have published such evidence of immunity from black scab, and on an early occasion we shall describe experiments which show that a similar power of resistance to late blight is exhibited in different degrees by the commercial varieties of Potato.

Sewage-Sick Soils. An investigation by Messrs. Russell and Golding (*Journal of Agric. Sci.*, October, 1912) into the sickness of sewage soils has led the authors to the conclusion that the causes which produce this state are, in the main, identical with those which bring about sickness in ordinary soils.

As the result of previous investigations by Russell and Hutchinson, it is suggested that even in an ordinary soil the community of soil micro-organisms is not working at its maximum efficiency as measured by the rate at which plant food is being produced.

If such imperfectly efficient soils be partially sterilised, the crops taken on them are larger than those obtained from untreated soil. Hence the agent which is lowering the fertility of the soil is a vital agent. Various considerations point to the unicellular animals (protozoa) of the soil as the cause of reduced fertility, and it is suggested that in ordinary soils these animals prey upon soil bacteria, reduce their numbers, and hence their activity in producing nitrogenous plant food.

By partial sterilisation, the protozoa are killed, but certain of the bacteria are not. Free from their hereditary foes the surviving bacteria increase, multiply and manufacture more vigorously than in either normal or sick soils.

The essential conclusion reached by Russell and Golding with respect to sewage-sick soils is similar to that just outlined. Such soils will stand no more sewage. If further additions be made the material fails to percolate through the soil, crops are injured and even killed. Partial sterilisation of the soil restores its "health."

Hence, if a practical method can be devised whereby sick soil may be sterilised partially and cheaply, a definite advance will have been made in the problem of sewage treatment; for the sewage farm may then serve for an indefinite period for the successful cultivation of crops.

Coloured Plate.—The subject of the coloured plate to be published with the next issue is Prunus nana rubra.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Committees will take place on Tuesday next in the Society's Hall, Vincent Square, Westminster. At the 3 o'clock meeting of the Fellows an address on "Some Gardens in and around Bournemouth" will be delivered by Dr. G. G. HAMILTON, F.R.C.S.

HORTICULTURAL EDUCATION ASSOCIATION.—We are informed that the Horticultural Education Association has recently acquired a considerable accession of membership. Messrs. JOHN WEATHERS, JAMES UDALE, HARRY L. FOSTER, J. CLARKE WALLACE, G. W. PYMAN, K. D. SCOTT, and B. P. PERRY are the latest to join. The hon. secretary is Mr. W. P. WRIGHT, Lyminge, Folkestone.

ROYAL SOCIETY OF ARTS.—The 159th Session of the Royal Society of Arts will be opened on Wednesday, the 20th inst., by Lord SANDERSON, G.C.B., K.C.M.G., Chairman of the Council, who will deliver an address and distribute the medals awarded last session. Amongst the papers announced for the session are "The Manufacture of Sugar from Wood, and its Economic Importance," by Mr. A. ZIMMERMANN, on December 4; and "Synthetic Rubber," by Dr. F. MOLLWO PERKIN, on December 11. In the Colonial Section, Professor W. H. WARREN will describe "The Hardwood Timbers of New South Wales," on November 26, when Sir GEORGE HOUSTON REID will take the chair.

PRESENTATION TO A GARDENER.—Mr. JAMES WATSON, who has occupied the position of head gardener at the Hall gardens, Easton, for the past 22 years, and during the whole of that period has filled the office of Secretary to the Easton Hall Horticultural Society, has been presented by the members of the society and friends with a purse of gold on the occasion of his leaving the district.

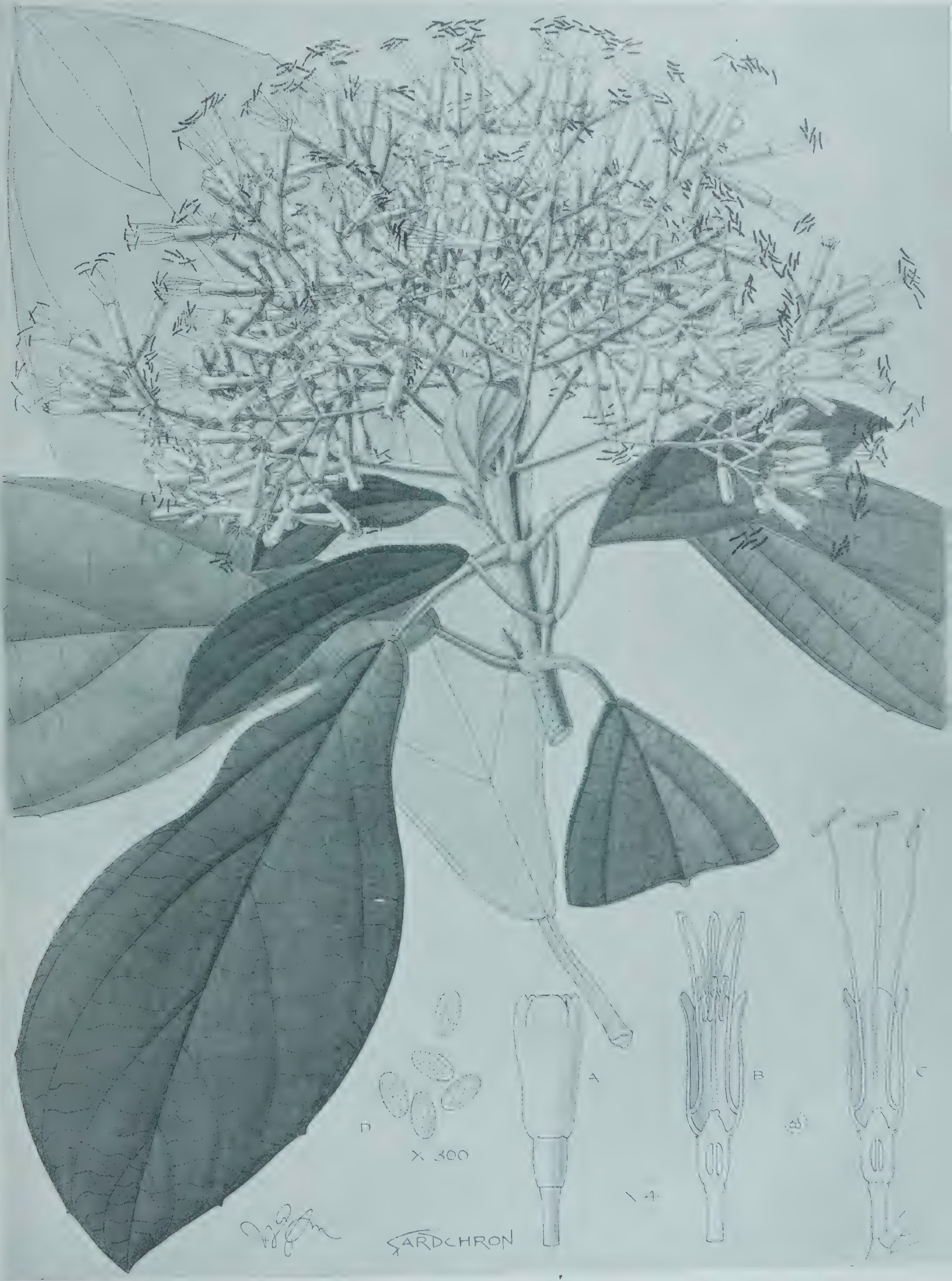


FIG. 165.—VIBURNUM CORIACEUM (V. CYLINDRICUM); FLOWERS, CREAM-WHITE WITH PURPLE ANTHERS; FRUIT, SMALL, BLACK.
A, partially expanded flower; B, section of a flower showing exserted but still inflexed staminal filaments; C, a similar section showing the fully-
erect stamens; D, pollen.

The Dispute at Southampton.—In respect to the dispute between Messrs. Toogood & Sons, Southampton, and some of their employées, referred to in our issue of October 26, Messrs. Toogood inform us that they have cancelled the agreement-form which constituted the point of difference between the firm and a small proportion of its Chapel Store staff. They state that the existing agreement has been in use for nearly 20 years, but that the firm attached so little importance to it that it has in some cases been permitted to fall into desuetude. The immediate object in desiring to have it signed in this particular case was to ascertain, in view of the early removal of the firm's stores to Millbrook, which of the Chapel Store staff wished to continue in the firm's service at the new stores.

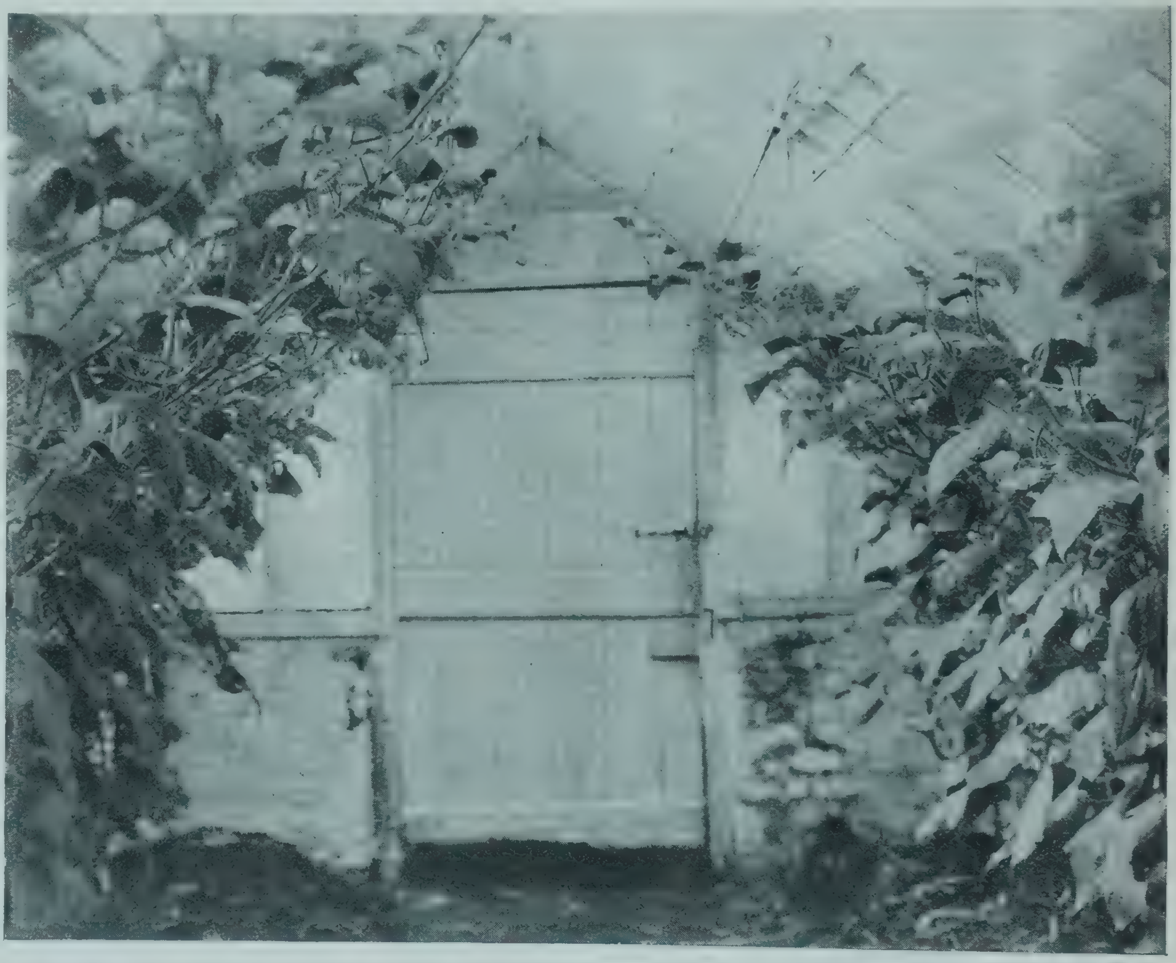
Wheat and Rainfall. — The *Agricultural Gazette of New South Wales* publishes an interesting article by John B. Trivett, Government Statistician, on "Wheat Growing in Relation to Rainfall." Although many factors contribute to the limitation of the Wheat crop, the chief determiner of successful Wheat production is the amount of rainfall during the growing period. The normal amount of rain which suffices in New South Wales is 10 inches between April to October. The map which accompanies the article is instructive in showing the extent to which Wheat growing has increased since 1904, and also in indicating that, in spite of this increase, the boundary of the Wheat region still lies, for the most part, a considerable distance to the western wet-side of the 10-inch rainfall line. Since 1904 an area of some 13 million acres has been added to the Wheat belt in New South Wales, and of this area only 858,000 acres are outside the western limit of the 10-inch line.

Hybridisation of Apples.—Interesting results obtained by crossing the Apples Joseph de Brichy and Bismarck are described in an article in *La Tribune Horticole* (October 29). The former variety was used as the seed parent and Bismarck as the pollen parent. The characters of the varieties are:—Joseph de Brichy: Fruit fairly large, clear yellow, regular rounded-conical in shape, first quality, ripening from the beginning of winter onwards. Bismarck: Fruit fairly large, white and yellowish, with bright-red flesh, good quality, ripening in winter. Sixteen seeds (from two Apples) of the cross were sown in February, 1907, and produced 14 plants. After replanting under glass, the seedlings were planted out in May. Monsieur Koulin, who carried out the experiment, grafted the young plants in January, 1908, on pyramids of Reinette Grise, Empereur Alexandre, and other varieties. The grafts flowered last year, and bore fruits of the following descriptions. That from a seed numbered 2, large or fairly large, green-yellow, pitted with red, of good quality by October, and keeping till spring. No. 7: Very large, yellow-whitish, with carmine streaks, first quality, flesh soft and yellow, ripe in October. Others gave fruits also of distinct and valuable quality. No. 7 is interesting inasmuch as, when a seedling, it came near being discarded, because, although it was extraordinarily vigorous, it was very spiny, and had the general appearance of a wilding. The event appears to show that an Apple of good quality may exhibit in its seedling stage characters such as those of spininess, which belong to the wild type. Of the hybrids, five are distinct and of first quality, eight have not yet borne fruit. All are characterised by vigorous, upright habit of growth. It is to be hoped that, encouraged by this success, some of our gardeners who have the facilities and the leisure will undertake similar experiments in the growing of Apples.

Mr. Ernest Hemming.—We learn from our contemporary, *The National Nurseryman*, U.S.A., that the editorship of that journal, rendered vacant by the death of Professor John Craig, has been filled by Mr. George Hemming, formerly a member of the garden staff at Kew. After leaving the Royal Botanic Gardens, Mr. Hemming settled in America, and for the past 15 years has been engaged with the firm of Messrs. Thomas Meehan & Sons.

Joseph Priestley.—The name of Joseph Priestley is honoured not only by the chemist but also by the scientific student of horticulture, for Priestley, in discovering oxygen, not only made one of the greatest contributions to chemical knowledge, but also laid the foundations of our understanding of the mode of life of plants. Indeed, as is well known, Priestley, who was above all a great experimenter, was the first to show that green plants, in sunlight, liberate oxygen; and, although the full significance of this great discovery was left to others to demonstrate, Priestley's pioneer work deserves honour and wide recognition. A strenuous man, not particularly happy in the regard of his contemporaries, Priestley left this country at the age of 62, and emigrated to the United States. But posterity has repaired the wrong of his contemporaries. His zeal for social and religious reform, which aroused the fury of the mob in Birmingham, has not obscured in that city the memory of Priestley's greatness. There, as also at Warrington and Leeds, memorials to the great chemist have been erected, and now Birstall, in the West Riding, has erected yet another statue to commemorate the fact that it was in Yorkshire (in 1733) that Priestley was born. The ceremony of unveiling the statue was performed by Sir Edward Thorpe, who declared, in the course of his appreciation, that, great as was Priestley as an experimentalist, he has yet a greater claim on our regard as a champion of liberty. Greatest claim of all of this "hero of the 18th century" lies in the fact that persecution and insult, though they drove him from his native land, failed to sour or even disturb his serene and genial temper—a trait which is appreciated by none more than by the people of the West Riding of Yorkshire.

Sickness in Greenhouse Soils.—Reference is made on another page to some recent investigations on sewage-sick soils. It is interesting to observe that similar symptoms of lessened fertility are exhibited by greenhouse soils, particularly in the rich composts used by growers of Cucumbers and similar crops. In partial sterilisation, either by heat or antiseptics, Messrs. Russell & Hutchinson have discovered a method whereby the fertility of such soils may be restored. Recent experiments by Messrs. Russell & Petheybridge have been directed to a search for an inexpensive and efficient sterilising agent. Of the various materials used, the authors report (*Journ. of Agric. Sci.*, October 12) that formalin (formaldehyde) gives good results, and that certain tar oils are very promising. There can be no doubt that if the authors succeed in discovering a suitable and cheap antiseptic they will confer a great boon on growers of crops such as Cucumbers and Tomatos, for the annual soils and manures bill is a most serious item in commercial growing, and the fact that the soils used in forcing houses become sick very quickly means that they have to be discarded before the full manurial value has been extracted from them. Fig. 166, which we owe to the courtesy of Dr. Russell and the Cambridge University Press, illustrates in striking manner the superiority of the growth made by Tomatos planted in partially-sterilised soil as compared with that of plants grown in sick soil.



(Partially sterilised.) (Unsterilised soil.)

Fig. 166.—Tomatos growing in partially-sterilised and in unsterilised soil.

Poa sibirica Rosher.—The *Bulletin* of the Imperial Botanical Garden of St. Petersburg (vol. 12, part 4, 1912) contains a description (in Russian) of a new species of Poa—P. sibirica—which is of wide distribution and of distinct character.

Royal Meteorological Society.—A meeting of this society will be held at the Surveyors' Institution, Great George Street, Westminster, on Wednesday, the 20th inst. Papers will be read on (1) "The Unprecedented East Anglian Rainfall of August 26, 1912," by Dr. Hugh Robert Mill; and (2) "A Three-year Period in Rainfall," by Mr. Arthur Pearse Jenkin.

The Arthur Balfour Professorship of Genetics.—Mr. Arthur Balfour, in a letter to the Vice-Chancellor, announces the appointment of Mr. R. C. Punnett to the Arthur Balfour Professorship of Genetics at the University of Cambridge. As announced previously, the new professorship is due to the generosity of an anonymous donor, and the selection of the first occupant of the chair was entrusted to the Prime Minister and Mr. Arthur Balfour. Professor Punnett is well known to students of Genetics, and the importance of his contributions to this branch of science thoroughly justifies his appointment to the new post. As readers of Professor Punnett's book on Mendelism are aware, he combines in rare measure the power of investigation with the art of expression.

Birmingham Public Parks. — The most recent addition to the Birmingham parks and open spaces is the "Garrison Lane" or "Callow Fields" recreation ground. It is situated in a densely-populated district, on a site which held about 400 squalid dwellings. The Parks Committee deserve well of the community for seizing this opportunity to introduce greensward, with such trees and shrubs as the conditions permit into this district. The transformation is great, and provision is made for a children's playground. Gymnasia, consisting of swings, &c., are provided, and powerful electric lights will enable the little ones to take full advantage during the long winter evenings of these amusements, to their own benefit and the relief of the congested adjacent streets. Mr. W. H. Morter, Chief Officer of the Birmingham parks, who is responsible for the arrangements generally, has the satisfaction of knowing that the public, no less than the City Council, appreciate the successful work accomplished, and the Parks Committee have placed a record on their minutes of their appreciation.

Fruit Sales by Sample.—It having been decided in a recent test case, states *The Western Mail*, that wholesale buyers have no claim under the special sales conditions of the brokers when the bulk does not equal sample, a representative and largely-attended meeting convened through the South Wales and Monmouthshire Fruit Buyers' Association took place at the Colonial Buildings, Cardiff, on the 29th ult., to consider the position. Mr. Weaver (Messrs. Sutton & Weaver) presided, and said that while they as wholesale buyers did not want to be on antagonistic terms with the brokers, the time had arrived when they must consider their own interests. It was only by organising themselves into a strong association that they could hope to get the present sales conditions altered, and by so organising they would be improving the port of Cardiff as a fruit-distributing centre. Mr. Fred Edmunds (Cardiff), solicitor to the association, having explained legal decisions given in test cases, it was decided by a large majority to support the association by membership and also in any action that might be decided upon.

"Adulterated" Grapes.—The perverse ingenuity of the adulterator has never exceeded that exhibited by certain vendors of Grapes. According to the *British Medical Journal*, the bloom of the Grape is now imitated by a fine powder sprayed or spread on the fruit by a special apparatus. The presence of the fraud may, it is said, be detected by means of the tongue.

THE APPLICATION OF GENETICS TO ORCHID BREEDING.*

Orchids are truly regarded as the aristocrats of the plant world, and the results achieved by Orchid breeders during the past 20 years constitute one of the seven wonders of the world of horticulture. No other natural order of cultivated plants has yielded so many beautiful hybrids in so short a time as the Orchidaceae. A reference to the *Orchid Stud-Book* shows that at least 40 genera and 300 distinct species have been already utilised by Orchid breeders in the making of their hybrids. About 2000 of these are primary hybrids, while no fewer than 300 are generic hybrids. Besides these botanical hybrids there are on record some thousands of horticultural secondary, tertiary and multiple hybrids, to say nothing of multitudinous varietal and individual forms which no man can number.

When one remembers that most of these remarkable results have been achieved in less than a generation (one might almost say, since the last Orchid conference was held here), and that the raising of such delicate exotics from seed, under purely artificial conditions, is by no means an easy matter even for the expert, one cannot but admire the practical genius of British and Continential Orchid breeders that has brought about such a consummation. Those who had the good fortune to see the remarkable display of Orchids at the International Exhibition at Chelsea last May, must have been impressed by the leading part played by hand-raised hybrids in the various groups.

In face of such an imposing array of beautiful hybrids, it may seem presumptuous on the part of a student of genetics to offer to the Orchid breeder any suggestions as to the advantages that might be derived from an application of the science of genetics to Orchid breeding, for where practical Orchid breeding has been so successful the application of genetics might naturally be regarded as superfluous. But those behind the scenes know better. The wonderful hybrids that appear in public represent only one side of the picture.

Orchid breeders of experience know too well that in order to secure a really first-class hybrid it is necessary to raise large numbers of others. Many are called, but few are chosen. Some crosses naturally yield more good forms than others, but generally speaking first-class hybrids are few and far between, and the moderate and poor forms are far too numerous. In secondary and more complex hybrids especially, the numbers of misfits and unwanted weeds that turn up time after time is rather disconcerting, and the question often arises as to whether many of these crosses are worth making at all from the economic point of view, though from the scientific standpoint they are naturally most instructive.

Old and New Methods.

From this it is evident that chance plays a great part in modern Orchid breeding, and that there is really very little certainty in the game as played by the leading exponents. Now, if the modern science of genetics teaches anything, it is that there are *certainties* to be found in breeding. A careful study of recent work in genetics points unmistakably to the important fact that law and order may be perceived in breeding. From the economic point of view it costs just as much to raise a poor form as it does a good one, the time, trouble and expense involved being the same, and the practical problem that faces the Orchid breeder is how to manage his matings so as to reduce the numbers of worthless forms to a minimum.

This is where the application of genetics to Orchid breeding should come in to help the breeder. Of course, in the early stages of the application it cannot be expected that all Orchid breeding will be reduced to a certainty—that would be too much to expect, nor would it be altogether desirable, for in such a case Orchid breeding would be divested of much of its charm. Already a few certainties in Orchid breeding are known, thanks mainly to the application of Mendelian principles, and that many certainties await discovery there can be no doubt.

One important point however should be noted, and that is, that under present conditions Orchid breeders must very largely discover these certainties for themselves by the application of the principles of genetics. In this respect, Orchid breeding differs much from ordinary plant breeding. The Orchid field is so wide, the conditions so difficult, and the complications so numerous, that only a practical expert can carry out the necessary experiments, and even he must have considerable resources of capital and experience at his command.

In order to apply genetics to Orchid breeding it will be necessary for the Orchid breeder to make himself familiar with the first principles. These principles are now universally accepted by all serious students of heredity who have experimented for themselves, and they can be applied equally to all kinds of plants and animals, including man himself. From the practical point of view it will not be necessary for the Orchid breeder, at the outset at all events, to venture much beyond these first principles. His own experiments, if based on these principles and carefully carried out, will soon yield a harvest of valuable data that will lead him on to more advanced work and to a deeper insight into the possibilities and certainties of Orchid breeding.

First Principles of Genetics.

Each plant or animal is composed of many characters, most of which are heritable.

Each heritable character is represented in the germ-cells by one or more factors.

In the fertilised cell, or zygote, each factor is present either in a double state or a single state.

When a double dose of the factor is present the plant or animal is called homozygous, or pure, in regard to that factor.

When a single dose of the factor is present the plant or animal is called heterozygous, or impure, in regard to that factor.

When a factor is altogether absent, the plant or animal may be called zerozygous, or wanting, in regard to that factor.

Previous to fertilisation the germ-cells divide and segregation takes place in regard to each factor.

Each cell with a double dose of the factor becomes two fertilising cells or gametes, each with a single dose of the factor.

Each cell with a single dose of the factor becomes two fertilising cells or gametes, one of which has a single dose of the factor and the other has none.

Fertilisation consists in the union of two fertilising cells or gametes, a pollen or sperm-cell from the male uniting with an egg-cell from the female.

If both paternal and maternal gametes have a single dose of the factor, a zygote is formed with a double dose of the factor, and the plant or animal is homozygous, or pure, in regard to that factor.

If, however, one of the gametes has a single dose of the factor and the other has none, a zygote is formed with a single dose of the factor, and the plant or animal is heterozygous, or impure, in regard to that factor.

If neither of the gametes has the factor at all, it is, of course, absent from the zygote, and the plant is zerozygous, or wanting, in regard to that factor.

Practical Consequences.

The practical consequences of these first principles of genetics are that, as regards any one heritable character represented by a factor, there are three distinct kinds of individual plants: (1) homozygous or pure; (2) heterozygous or impure, and (3) zerozygous or wanting. Each of these three kinds of individuals will give a different result when bred from. With regard to outward appearance No. 3 will, usually, be easily distinguishable from Nos. 1 and 2, representing as it does the hypostatic or recessive form from which the epistatic or dominant character is absent.

If, as sometimes happens, a single dose of the dominant factor produces the same effect in the zygote as a double dose, we get the phenomenon of complete dominance, and in such cases Nos. 1 and 2 are indistinguishable in outward appearance, and their homozygous or heterozygous nature can only be determined by breeding from them.

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* Abstract from the Paper read at the Orchid Conference by Major C. C. Hurst, Director of the Burbage Experiment Station.

If, however, as often happens in Orchids, a single dose of the dominant factor produces a different effect in the zygote from a double dose, we get the phenomenon of incomplete dominance; in such cases Nos. 1 and 2 are distinguishable in outward appearance, and their homozygous or heterozygous nature is determined at sight without breeding from them.

The apparent blending of characters observed in many Orchid hybrids is, no doubt, due to the effect of the single dose of one factor reacting on the effect of a single dose of another factor, resulting in a mosaic.

When more than one heritable character is involved in the breeding problem, as usually happens in Orchids, the different kinds of individual plants become exceedingly numerous. One plant, for instance, may be homozygous for one character, heterozygous for another, and zerozygous for a third character, and so on. Each individual plant, however, has a definite germinal or gametic constitution which can be ascertained by cross-breeding it with other plants. In this way a factorial analysis of the plant can be made, and as regards each heritable character the plant will be found to be either homozygous, heterozygous or zerozygous, and as such it will behave when bred from. Once the factorial analysis of a plant has been made, all future breeding from that plant is reduced practically to a certainty.

Colour and Albinism.

Recent results show that in certain cases an apparently simple heritable character is due to the presence of more than one distinct factor. For instance, in Orchids we have already one case of that description, and no doubt there are many more yet undiscovered. From evidence collected by the writer some years ago, there can be no doubt that the rosy-purple colour present in the flowers and leaves of the various species of Cattleya and Cypripedium is due to the simultaneous presence of two complementary colour factors which we call C and R. If one or both of these factors is absent, the result is a true albino, with no trace of purple sap in the flowers and leaves. This purple colour can only be produced when the two factors C and R are both present.

Now, as we have just seen, the colour factors C and R may be present in a double state, CC and RR; or in a single state, Cc and Rr; or they may be absent altogether, cc and rr; consequently no fewer than five different kinds of albinos may exist, as follow:—

(1), CCrr; (2), Ccrr; (3), ccRR; (4), ccRr; (5), ccrr.

For the sake of convenience, it is usual in genetics to represent the presence of a factor by a capital letter, and its absence by a small one.

These five albinos may be absolutely identical in appearance and outward characters, yet each has a different germinal constitution, and consequently will give different results in breeding. Each of these five albinos will breed true to albinism when selfed, but when they are crossed *inter se* different results will be obtained. Thus, out of the 15 possible matings 11 will give all albinos; 2 will give on the average equal numbers of albinos and coloured forms: 1 will give one coloured form to three albinos: and 1 will give all coloured forms.

Table 1 gives the factorial details of these 15 matings, showing how the above calculations have been made.

Identification of Individual Stud Plants.

The practical consequences of these first principles are important and far reaching from the Orchid breeder's point of view.

If each individual plant grown from a seed has a definite germinal constitution which determines its breeding powers and potentialities, then it is necessary that each individual plant used as a parent should have an identification mark. Whether this identification mark consists of an individual name, a stud number, or anything else, is simply a matter of convenience, so long as the identity of each stud individual is maintained for future use. In 1909 the writer suggested that identification might be assured by putting the name of the importer or raiser in brackets after the ordinary name, together with a number showing the order of its appearance, e.g., Cypripedium callosum Sanderæ (Sander 1), (Low 1), (Cookson 1), (Statter 1), and so forth. The first was imported in 1894, the second in 1904, and the third and fourth were raised by hand presumably from the first. All divisions of the original plant would, of course, have the same germinal constitution, and would consequently bear the same identification mark.

There is no doubt that in course of time certain individual plants would acquire a stud reputation much in the same way as a noted sire or brood mare does in thoroughbred horses, and the propagation of such an individual Orchid by division, and its distribution, would become a valuable economic asset.

Having secured the identification of the individual stud plants, the next step is to ascertain their germinal constitution by breeding from them. The original Mendelian method was to self them, but recent results show that this method alone is not sufficient to give a complete analysis of the germinal constitution of a plant. In order to do this it is necessary to cross-breed them, and in cases like albinism, for instance, this is the only method possible. From this it is evident that the ordinary experiments in hybridisation and cross-breeding made by Orchid breeders are precisely what we require in order to ascertain the germinal constitution of individual plants, provided that each individual plant used as a parent is carefully identified for future reference and use.

As we have seen, cross-breeding is a far more effective method of analysis than selfing, even from the point of view of genetics. The crux of the whole problem, however, lies in the identification of individual plants. Unless this is done all the rest is vain. Unfortunately, with a few brilliant exceptions, our multitudinous Orchid records and labels are almost useless for this purpose. Some of these brilliant exceptions consist of certain unique hybrids to which their owners gave a distinctive name, proudly refusing to conform to the technical rules laid down by the authorities in nomenclature (and by the irony of fate the writer happened to be one of the latter). Many of these names can be traced in the *Orchid Stud Book* as synonyms, and it is possible that the natural conservatism of Orchid breeders has caused them to retain many of these old names on their labels. If such is the case, the identification of some of our best stud individuals may not be so difficult after all.

In most cases, however, the adoption of genetic methods will necessitate the making over again of the best hybrids, using as parents the best individuals of the best varieties of the best species of the best genera. The primary hybrids thus obtained would be pedigree hybrids, and the best individuals of these might be further utilised in accordance with the particular aims that the breeder may have in view. In this way the Orchid breeder would be able to build up a pedigree strain made up of superior individuals, and the reversions and recombinations that he would obtain among the secondary hybrids would also tend to be superior to those bred in the ordinary way.

Table 1.—Albino Matings.

Parents.	Offspring.	Result.
(1) CCrr × (1) CCrr	All CCrr	All albinos.
(1) CCrr × (2) Ccrr	1 CCrr : 1 Ccrr	All albinos.
(1) CCrr × (3) ccRR	All CcRr	All coloured.
(1) CCrr × (4) ccRr	1 CcRr : 1 Ccrr	1 coloured : 1 albino.
(1) CCrr × (5) ccrr	All Ccrr	All albinos.
(2) Ccrr × (2) Ccrr	1 CCrr : 2 Ccrr : 1 ccrr	All albinos.
(2) Ccrr × (3) ccRR	1 CcRr : 1 ccRr	1 coloured : 1 albino.
(2) Ccrr × (4) ccRr	1 CcRr : 1 ccRr : 1 Ccrr : 1 ccrr	1 coloured : 3 albinos.
(2) Ccrr × (5) ccrr	1 Ccrr : 1 ccrr	All albinos.
(3) ccRR × (3) ccRR	All ccRR	All albinos.
(3) ccRR × (4) ccRr	1 ccRR : 1 ccRr	All albinos.
(3) ccRR × (5) ccrr	All ccRr	All albinos.
(4) ccRr × (4) ccRr	1 ccRR : 2 ccRr : 1 ccrr	All albinos.
(4) ccRr × (5) ccrr	1 ccRr : 1 ccrr	All albinos.
(5) ccrr × (5) ccrr	All ccrr	All albinos.

In breeding on these lines the Orchid breeder will soon discover for himself that while a few stud individuals are homozygous or pure for the good qualities required, the majority will be heterozygous or impure for those particular characters. For stud purposes these heterozygous or impure forms should be discarded at once, no matter how good looking they may be, and only the homozygous or pure forms should be used for future breeding. Should the homozygous or pure forms not turn up quickly enough for his purpose, the breeder can always make them from the heterozygous or impure forms in the ordinary Mendelian way. In many cases no doubt this will be well worth doing.

This rigorous elimination of the heterozygous plants that throw unwanted forms may sometimes require considerable courage on the part of the Orchid breeder, involving, as it does, the sacrifice of certain prejudices and predilections, especially when it comes to the point of discarding for stud purposes a much-prized plant that has perhaps won the classic F.C.C. at the R.H.S. The science of genetics tells us plainly that things are not always what they seem, and a good-looking plant is not always a good plant to breed from. Only a few Derby winners are successful at the stud, everything depends on their germinal constitution. From the genetic point of view it would be a far sounder proposition to use for breeding an individual Orchid that had *bred* an F.C.C. winner, than to use an actual winner of the F.C.C. with a bad breeding record.

The F.C.C. awarded by the Orchid Committee of the R.H.S. is universally acknowledged to be the highest prize in the Orchid world, and winners of this prize may be regarded as classic Orchids. From the point of view of genetics, the individual parents of these classic winners deserve special recognition as stud Orchids.

A reference to the records shows that during the past three years 118 F.C.C.s have been awarded by the Orchid Committee of the R.H.S. Of these F.C.C. winners 87 appear to be hand-raised hybrids. Of the 174 parents of these hybrids, only 31 can be identified from the records as individual plants, and it is quite possible that a few of these names even may be represented in collections by more than one seedling individual.

May I venture to suggest that special groups made up of these stud Orchids and their progeny would provide an exhibit at the R.H.S. shows that would not only be interesting to Orchid growers generally, but would be particularly useful to Orchid breeders as a demonstration of the germinal constitution of these stud Orchids. Competitive classes might even be arranged for these progeny tests, to decide which individual Orchids are best for stud purposes.

The result would be to create a special demand for high-priced stud Orchids that does not exist to-day. In view of the increasing numbers of Orchid growers all over the world, it is hardly likely that such a demand would be confined to the British Isles, and there is no reason why this country should not in the future provide the world with stud Orchids as it does today with thoroughbred horses and pedigree animals generally.

So far we have dealt with the general application of the principles of genetics to Orchid breeding. It may be useful now to put the matter into a somewhat more concrete form, by suggesting briefly a few special possibilities of the practical application of genetics to Orchid breeding.

The Breeding of Albinos.

The beauty and value of albino Orchids are generally recognised, and the Orchid breeder naturally wishes to raise new and improved forms by hybridisation. In other words, he wishes to vary the shape and size of the flower while retaining the chaste beauty of the true albino. So far as we know, all albino Orchids breed true to albinism when selfed, but no remarkable improvement in shape, size and distinctness can be obtained in this way. On the other hand, as we have already seen, when different species of albinos are crossed, they do not always breed true to albinism, but often give coloured forms which are not wanted by the Orchid breeder.

The science of genetics has provided a reasonable explanation of these interesting results. Experiments are yet wanting to provide breeders with a complete analysis of the germinal constitution of all the well-known albinos, and this cannot be satisfactorily accomplished until we can be quite certain as to the identification of individual albino plants, and, more important still, that the albinos concerned are true albinos.

Subject to the above reservations, however, the following list of 22 well-known albinos is given, with their presumed germinal constitutions, so far as ascertained :—

Cypripedium callosum Sanderæ ...	ccRR
C. Lawrenceanum Hyeanum ...	ccRR
C. Maudiæ	ccRR
C. insigne Sanderianum	ccRR
C. Rosettii	ccRR
C. bellatulum album	CCrr
Cattleya Mossiæ Wageneri	ccRR
C. Gaskelliana alba	ccRR
C. Hyeæ	ccRR
C. Hyeæ Suzanne	ccRR
C. Hyeæ Jungfrau	ccRR
C. intermedia alba	ccRR
C. labiata alba	ccRR
C. Mackayi Dusseldorfei	ccRR
C. Mackayi Undine	ccRR
C. Mackayi "Westonbirt variety"	ccRR
C. Brenda	ccRR
C. Peetersiæ Myra	ccRr
C. Harrisoniana alba	CCrr
C. Mendelii alba	CCrr
C. Schröderæ	CCrr
C. Warneri alba	Ccrr

These albinos may be divided into two classes, C albinos and R albinos. To secure all albino offspring, C albinos must be mated with C albinos and R albinos with R albinos. If C albinos are mated with R albinos coloured forms are bound to arise. The above list may serve a useful purpose as a provisional one for breeders to work upon, and no doubt further results in the near future will enable us to considerably extend the analysis, and also to confirm or otherwise the above tentative germinal constitutions.

In working with albinos, Orchid breeders must be careful to distinguish between true albinos and false albinos. True albinos have pure-white flowers and green leaves, without a trace of purple sap-colour, though green and yellow plastids are usually present in the flowers. As we have seen one or both of the colour factors C and R are absent in the germ-cells of these forms. On the other hand, false albinos, like Cypripedium insigne Sanderæ, C. Lawrenceanum Gratrixianum, Cattleya Mossiæ Reineckiana, and others, have a certain amount of purple sap-colour in the flowers and leaves, and are not true albinos, though, for practical purposes, they are usually called "albinos," and, in many cases, are quite as beautiful and as much sought after as the true albinos. In these false albinos both the colour factors C and R are present in the germ cells, and they give quite different results in breeding from the true albinos. These false albinos are really dilute-coloured forms, and the fact that they usually behave as Mendelian recessives in breeding shows that their condition is due to the absence of a factor for dense or full coloration, which factor is present in the typical coloured form.

The different kinds of dilution found in most species suggest that more than one factor is concerned in the typical dense form. This application of genetics to Orchid breeding explains a good many apparent mysteries. For instance, it explains why the false albino Cypripedium insigne Sanderæ breeds true to its special dilute form or throws true albinos when selfed, and yet behaves as if it were an ordinary C. insigne when crossed with the true albinos C. Maudiæ, C. Lawrenceanum Hyeanum, and C. callosum Sanderæ. These true albinos arose originally by the loss of a colour factor (C), but the factor for dense coloration (D) would still be present in those albinos though not manifested on account of the albinism. When this factor for dense coloration (D) is brought in by the cross it naturally causes the parent C. insigne Sanderæ to behave as if it were an ordinary C. insigne.

If these so-called "reversionary" forms were to be self-fertilised or crossed *inter se*, both the recessive dilute coloration (dd) and the albinism (cc) would appear in certain individuals. On the average, the dilute forms would be expected to appear in three out of sixteen plants, and the albino forms in four out of sixteen plants. The recent cases reported in which the true albino Cypripedium Lawrenceanum Hyeanum crossed with the false albino C. niveum gave typical coloured plants of C. Aphrodite, and in which the false albino C. niveum crossed with the false albino C. Lawrenceanum Gratrixianum gave the false albino C. Antigone album, are, of course, easily explained in the same way. To the student of genetics such cases as these present no difficulty.

Economics and Eugenics.

The application of the principle of genetics to Orchid breeding brings out an economic point of considerable importance, the appreciation of which should save the breeder a considerable amount of time, trouble and expense. From what we have shown, it is evident that no useful purpose can be served by the indiscriminate matings of complex hybrids, which are far too common in Orchid breeding. From the economic point of view, it is extremely doubtful whether it is really necessary to go beyond the mating of primary hybrids in Orchid breeding. We have seen that any two good qualities can be combined in this way in the second generation, in a single experiment, with two, three, or four species or genera.

If more than this be required, other parallel experiments can be carried out at the same time, and the respective results of the separate experiments can, if really necessary, be combined afterwards. For instance, experiment (1) might be carried out to make a Dark Scarlet Cattleya from Sophronitis grandiflora, while experiment (2) might be carried out at the same time to make an Orange Scarlet Cattleya from Lælia harpophylla. When these two shades of the Scarlet Cattleya are obtained in the second generation, they might be mated together in order to produce in the third generation a Scarlet Cattleya superior to both.

Another great advantage in the adoption of the method of parallel experiments will be that the special secondary hybrids obtained in this way will of necessity have a double dose of each of the two good qualities bred for, consequently they will be equally valuable for use as stud Orchids; being homozygous to the desired characters, they will breed true to themselves when selfed, and will give more definite and less variable results when crossed with one another.

The application of the principles of genetics to Orchid breeding leads one to conclude that, from the economic and eugenic point of view, the only sound method to adopt in Orchid breeding is to make a fresh start, by selecting a choice stud of the best individuals of the best varieties of the best species of the best genera, due preference being given to those stud individuals that have already bred a winner of the F.C.C. at the R.H.S., and have also proved themselves to be homozygous in their good qualities. These selected stud Orchids should be combined by crossing in every possible way, in order to make superior primary stud hybrids. Finally, these superior stud hybrids can be combined in any way that the breeder may think fit, in accordance with the particular objects he may have in view.

In the discussion which followed, Mr. de Barri Crawshay congratulated Major Hurst on his paper, and particularly on the pertinacity with which he insisted on the application of Genetics to Orchid breeding. Mr. de Barri Crawshay pointed out that the seedling mortality among Orchids is extraordinarily high, and introduces of necessity considerable disturbance in the numerical estimation of results.

Mr. O'Brien said that the elaborate and instructive paper given by Major Hurst raised subjects of great interest to Orchid raisers. One is the extreme variability and tendency to degenerate (for florists' uses) in complex hybrids. It is well known that, in many cases, the plants raised between two cross-breds of fine quality may be either bad, or only occasionally may a really fine novelty appear among them. It is this fact which excuses the raiser in asking a good price for a unique plant. With regard to the degenerates, he thought that it might be explained by Nature working in its own way. The showy development of the perianth was of secondary importance to the plant, the primary object of which is to exist, and the structural base is the essential condition for existence. In wide crosses, if one considers the great structural differences both in plant and flower between the two parents, it is not difficult to see that, in forming another being between them, a new base is required, and the energies are devoted to that purpose. The resultant plants have to make a fresh start.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

November 5.—*Present:* E. A. Bowles, M.A., F.L.S., Esq. (in the Chair); Sir H. Veitch, Prof. W. Bateson; Messrs. A. Rolfe, J. O'Brien, G. Gordon, R. Hooper Pearson, W. Hales, A. Worsley, and F. J. Chittenden (hon. sec.).

Horse-chestnut with twin petioles.—Mr. Bowles showed petioles of Horse-chestnut in pairs springing from a connate base, from his garden at Waltham Cross. Only two such specimens were found and the leaf-blades borne by them were quite normal.

Apples with more than normal seeds.—Mr. Chittenden drew attention to the production in some varieties of Apple of more than the normal number of seeds. The usual number of ovules produced by the Apple is two in each cell, and this is regarded as one of the chief characters separating Pyrus from Cydonia in which there are usually more than two. He had found in Frogmore Prolific Apple a large number of fruits containing more than two seeds in a cell, and the same in fruits of Duchess's Favourite. Prof. W. Somerville had first drawn his attention to the phenomenon some years ago in American Apples, but Mr. Chittenden had not hitherto seen it in British Apples. The seeds were borne in two series of two, one on each carpel margin.

Variations in wild flowers.—Mr. T. H. Dipnall sent the following list of variations which he had noticed in the form and coloration of British wild flowers:—*(Double flowers)* Ranunculus acris, Papaver Rhæas (one flower and another with all flowers semi-double), Cardamine pratensis, Saponaria officinalis, Silene noctiflora, Primula vulgaris, Sagittaria sagittifolia, Knautia arvensis (like a large lavender Thrift). Colour Variations: *(White)* Viola odorata (common and red also), V. canina, Lychnis Flos-cuculi, L. diurna, Geranium molle, G. lucidum, Ononis arvensis, Vicia sepium, Campanula rotundifolia, C. Trachelium, Myosotis sylvatica, Ajuga reptans, Lamium purpureum, Primula vulgaris, Orchis mascula, O. maculata, O. Morio, Gymnadenia conopsea, Ophrys apifera, Agraphis nutans, Fritillaria Meleagris, Adoxa moschatellina, Cnicus palustris, Centaurea nigra, Symphytum officinale. *(Pale yellow)* Ranunculus acris, Scrophularia nodosa, Sarothamnus (Genista) scoparius. *(Dull purple)* Papaver Rhæas. *(Pink)* Cratægus oxyacanthus, Calystegia sepium, Primula vulgaris, Lychnis vespertina, Erica cinerea (very pale), Veronica chamædrys, Centaurea nigra (very pale), Orchis Morio, Agraphis nutans. *(Blue)* Anagallis arvensis. *(Pale blue)* Agraphis nutans, Campanula Trachelium. *(Salmon pink)* Papaver Rhæas.

Catasetum macrocarpum, female flower.—Mr. G. Rae Fraser, Letchmore Heath, Herts, sent an inflorescence of Catasetum macrocarpum bearing five female flowers, from the same plant as the one exhibited on October 8, 1910. He remarked that the plant has made three futile attempts to flower since then, and at the fourth had produced the present spike. Mr. R. A. Rolfe reported that it agreed with the plant figured as Monacanthus viridis, by Lindley, in the *Botanical Register* (t. 1752), from a plant which flowered with Lord Fitzwilliam, at Wentworth, which is now known as the female of Catasetum macrocarpum, Rich. It is not, however, the original Monacanthus viridis, Lindl., which is the female of another species.

HORTICULTURAL CLUB.

November 5.—On this date, at the Hotel Windsor, the Horticultural Club held its monthly house dinner, under the chairmanship of Sir Harry J. Veitch, and there were present 35 members. Following the dinner Mr. F. Kingdon Ward, B.A., delivered a most interesting lecture, entitled "A Naturalist in Western China and Tibet," and illustrated by a large number of very beautiful lantern slides from photographs taken by the lecturer.

Mr. Ward, who will shortly return to China on another botanical expedition, accompanied the exhibition of the slides by explanatory remarks concerning the nature of the mountainous region which he traversed and the varied character of the plant life which all but pervaded it, the exceptions being considerable areas of arid waste which alternated curiously with adjacent regions where heavy rains fell for six months in the year.

The lecture was peculiarly interesting in the light it threw upon the reasons of this variation. A range of mountains 18,000 to 20,000 feet in height would, for instance, act as a rain screen by intercepting the rain-bearing winds from another range but a few miles distant, the result being that on the windward side the rainfall would be enormous but on the leeward extremely small. This, in its turn, greatly affected the character of the vegetation, as did also the winds engendered by different conditions and accentuated by the geographical contour of the land, tree-growth being suppressed or encouraged so that while one side of a valley was only clothed with scrub or dwarfed Rhododendrons, the other side might be densely wooded. The difference in shelter thus induced also altered the plants of smaller growth, which, however, in the shape of Alpine flora, particularly of the Saxifrage, Androsace, and Meconopsis or Poppy tribe, constituted a general and particularly rich field for research and a source, it is hoped, of many new additions to our collections. Some slides showing specimens of plants growing *in situ* evoked particular interest.

Views of the great River Yangtse Kiang and some of its affluents showed some magnificent gorges through which they had eroded their way, between cliffs of several thousand feet elevation. Happily, despite rumours of dissension between the various sections of the inhabitants of the widely-extended region traversed, and even of English invasion, Mr. Ward found hospitality of its rough kind to prevail throughout his travels, and met with no serious adventures.

In the subsequent discussion, however, in which Sir Harry J. Veitch and Messrs. Barr, Bilney, Druery, Hooper Pearson, and others participated, some very gruesome accounts of sights seen and perils encountered by other explorers, including Mr. W. Purdom, in the same regions were quite sufficient to demonstrate that the plant-hunter there practically takes his life in his hand, and has need to possess plenty of pluck and diplomacy in addition to the all-essential botanical knowledge required in such pursuits.

The next house dinner will take place on December 3, when Mr. Arthur W. Sutton, F.L.S., will lecture on "My Desert Camping Tour to Mount Sinai"; the lecture will be illustrated with 100 limelight views from original photographs taken by the lecturer.

CROYDON CHRYSANTHEMUM.

October 30, 31.—The 25th annual show of this society took place on these dates in the Central Baths Hall. The large building was well filled with exhibits.

A challenge cup, valued at 12 guineas, was offered in the open class for 18 Japanese blooms. There were only two exhibits, and the 1st prize was awarded to Wickham Noakes, Esq., Selsdon Park (gr. Mr. W. Howarth), whose flowers were Maud Jefferies, John Peed, Henry Poulton, Rev. R. D. Eves, Pockett's Crimson, Mrs. L. Thorn, Sir A. Rollit, Rose Pockett, Evangeline, F. S. Vallis, Splendour, Valeria Grant, Sir F. Crisp, Lady Talbot, Shanklin, White Queen, Mary Poulton, and Reginald Vallis. 2nd, G. A. Allen, Esq., Wynnston, Limpsfield, Surrey (gr. Mr. W. Fleet).

The President's cup, valued at five guineas, was offered in a class for 15 cut blooms of Japanese flowers in three or more varieties, open to growers living in a radius of five miles of Croydon Town Hall. There were eight exhibits. That shown by A. Gosheron, Esq., Tennison's Road, South Norwood (gr. Mr. R. Gladwell), was placed 1st, followed by Mr. Noakes and Dr. T. Jackson, Thornton Heath (gr. Mr. W. Paulley), in this order.

The Epps Challenge Cup was offered for 10 Japanese blooms, shown by amateurs residing within the five-mile radius. It was won by Mr. L. White, Braemar Avenue, Norbury. 2nd, Mr. C. C. Hunt, South Norwood. 3rd, Mr. F. M. Parris, Croydon.

The premier Japanese bloom in any exhibit was the variety Hon. Mrs. Lopes, shown by C. Lazenby, Esq., Eden Park (gr. Mr. G. Fisher), whilst the premier incurved bloom was Romance, shown by Mr. W. Paulley.

In the open class for 10 blooms of incurved Chrysanthemums in two or more varieties, Mr. G. H. Fisher, Downs View, Purley (gr. Mr. T. Finch), was awarded the 1st prize for the varieties Buttercup and Mrs. G. Denyer. 2nd, Mr. W. Paulley.

Single varieties were well shown by Mr. G. Fisher, who won the 1st prize for three vases of any varieties arranged with any foliage. 2nd, Mr. T. Finch.

For six plants of winter-flowering Begonias Mr. G. Fisher was placed 1st of five competitors.

The 1st prize in the class for nine foliage plants suitable for table decoration was won by Sir Walpole Greenwell (gr. Mr. W. Lintott), and this exhibitor excelled in the classes for two bunches of Grapes and a collection of nine kinds of vegetables.

Trade Exhibits.—The Burnham Nurseries, Ltd., were awarded a Gold Medal for a collection of Apples. Messrs. W. Wells & Co., Merstham, exhibited varieties of Chrysanthemums. Messrs. E. W. T. Rogers, of Croydon, showed bulb bowls and bulbs growing in moss-fibre, also a new late Potato named "Vitality." Messrs. W. Wood & Sons, Wood Green, showed horticultural sundries. Messrs. E. A. White, Ltd., exhibited Abol syringes and insecticides. Messrs. Pascall & Sons, South Norwood, displayed flowerpots, whilst Mr. T. Butcher, Croydon and South Norwood, had a collection of floral designs.

PORTSMOUTH CHRYSANTHEMUM.

October 30, 31.—This annual exhibition was held in the Town Hall, Portsmouth, on these dates. Competition was keen, and the quality of the exhibits in the various sections was quite up to the average of former years.

In the cut bloom section the leading class was for 36 Japanese blooms, in which eight competed. Captain Dalgety, Lockerley Hall, Romsey (gr. Mr. W. Baxter), won the 1st prize easily with large, well-staged flowers Prominent varieties were: the Hon. Mrs. Lopes, G. Hemming, Mme. G. Rivol, Eclipse, William Turner, F. S. Vallis, and Col. Lawrence. Sir Randolf Baker, Ranston, Blandford (gr. Mr. A. E. Usher), was placed 2nd with smaller blooms.

Mr. Martin Silsbury, Shanklin, Isle of Wight, the well-known raiser of new varieties, won the 1st prize in the class for 24 Japanese blooms; his finest varieties were Fred Green (a rich velvety-purple colour), Thos. Lunt (crimson), Queenie Chandler (soft primrose), Mrs. Gilbert Drabble (white), Queen Mary (white with a flush of pink), and Japan (yellow and orange); 2nd, Pantia Ralli, Esq., Ashtead Park, Epsom (gr. Mr. G. Hunt).

For 12 Japanese blooms, distinct, five competed. M. Hodgson, Esq., Moreton House, Winchester (gr. Mr. A. J. Marsh), was easily 1st with splendid blooms of Frances Jolliffe, Maud Williamson, the Hon. Mrs. Lopes, and others; 2nd, W. Garton, Sarisbury Court, Southampton (gr. Mr. Edwards).

The class for Japanese and incurved varieties mixed, 12 blooms of each type, was keenly contested. Mr. Garton, who excelled, showed flowers of excellent quality.

Incurved blooms were not numerous, owing to the early date of the show. Pantia Ralli, Esq., excelled for 24 blooms with shapely specimens of Romance, Calypso, Triomphe de Montbrun, Buttercup, C. H. Curtis, Mrs. Percy Wiseman, and other well-known varieties.

M. Hodgson, Esq., won the 1st prize for 12 incurved blooms, distinct, with specimens which were too large to show the best characteristics of the varieties; W. Garton, Esq., was 2nd, and showed flowers of great refinement.

M. Hodgson, Esq., showed the best six bunches of single Chrysanthemums, distinct, having well-developed flowers of popular sorts; Mr. C. Johnson, Garner Street, Southsea, was placed 2nd.

Pompons were well displayed by Mr. H. Snook, 52, Fitzroy Street, Portsmouth, who included many old favourites in his 1st prize collection.

In the group classes Mr. R. Burridge, florist, Portsmouth, won the premier prize for an exhibit occupying 60 square feet; his plants were dwarf, but the flowers were on the small side. Mr. J. Jeffreys, Southsea, who was awarded the 2nd prize, had finer blooms, but the front of the exhibit was badly arranged.

Mr. Rapley, Warblington, Havant, showed the best dinner-table arrangement, utilising bronze and yellow Chrysanthemums with suitable foliage.

Exhibits in the fruit and vegetable sections were good. Captain Dalgety had the best Grapes, Muscat of Alexandria. W. H. Myers, Esq., Swanmore Park, Bishop's Waltham (gr. Mr. Ellwood), showed the best six dishes of Apples, and he also secured all the 1st prizes in the vegetable classes with one exception—Messrs. Toogood & Son's class—where he was placed 2nd to Mr. Hoare, Havant.

Non-competitive Exhibits.—Messrs. Sutton & Sons, Reading, staged 80 dishes of well-grown vegetables; the collection was much admired, and included Tomatos, Potatos, Cucumbers, Celery, Cauliflowers, Leeks, Beet, and Carrots.

The Barnham Nursery Co., Barnham, staged three dozen dishes of well-coloured Apples of popular sorts.

PUTNEY, WANDSWORTH AND DISTRICT CHRYSANTHEMUM.

November 6, 7.—The 35th annual exhibition of the above society, held in the Baths, High Street, Wandsworth, on these dates, was the most successful for many years past. Practically every class was well filled, and competition was keen. In the group class, plants of single and decorative Chrysanthemums were admitted for the first time, and this condition made it somewhat easier for competitors, so that a stronger competition resulted. The 1st prize, a silver cup and 20s., given by the tradesmen of Wandsworth, was won by Dr. Lacroze, Roehampton (gr. Mr. F. Cresswell); 2nd, Mr. R. H. Vincent, Wimbledon; 3rd, F. Faulkner, Esq. (gr. Mr. G. Cook). The class for a group of miscellaneous plants was also well contested, and the 1st prize was awarded to Mrs. Brown, Wimbledon Park (gr. Mr. J. H. Payne); 2nd, Lord Rathmore (gr. Mr. A. Scarlett). The most successful exhibitor in the classes for cut blooms was Mme. Thunder, The Convent, Roehampton (gr. Mr. A. Smith), who was successful in the classes for (1) eight vases of Chrysanthemums, three blooms in each vase; (2) 24 blooms shown on boards; and (3) 12 blooms, six whites and six of any other colour. The Dowager Countess of Kintore (gr. Mr. D. Anderson), J. F. Schwann, Esq. (gr. Mr. W. Gill), and G. G. Anderson, Esq. (gr. Mr. H. Barrett), were other prominent exhibitors in the classes for cut blooms. The class for vases of single Chrysanthemums attracted a large number of competitors. M. S. Napier, Esq. (gr. Mr. S. Mynett), won the 1st prize in the section for disbudded flowers, and Dr. Hoffmann (gr. Mr. T. Dolley) in the class for flowers with the other buds present.

The Dowager Countess of Kintore excelled in the class for a collection of six kinds of vegetables, and Dr. Lacroze in Messrs. Jas. Veitch & Sons' class for four dishes. Choice Apples and Pears were shown by Mme. Thunder and J. F. Schwann, Esq. Extra prizes were awarded in these classes, there being so many fine exhibits. The best plants of Begonia Gloire de Lorraine were shown by M. S. Napier, Esq. Sir W. J. Lancaster (gr. Mr. F. H. Goddard) was placed 1st for six table plants, and also for two bunches of black Grapes. J. F. Schwann, Esq., showed the best white Grapes.

Non-competitive Exhibits.—Messrs. Jas. Veitch & Sons staged a splendid group of flowering and foliage plants; Mr. L. Russell, Richmond, put up a fine group of variegated shrubs; whilst Messrs. J. Mahood & Son and Mr. W. R. Mann, both Putney florists, exhibited floral designs.

TORQUAY DISTRICT GARDENERS'.

OCTOBER 31.—The annual autumn show of the above society was held in the large room of the Bath Saloons on this date.

The entries were above the average, and the competition was very keen in most of the classes. The 1st prizes in the classes for (1) a group of Chrysanthemums arranged in the form of a semicircle; (2) a circular group of single Chrysanthemums; (3) six trained Chrysanthemums; and (4) three single trained plants were won by Mrs. LYON with very fine plants.

Col. CARY won the 1st prize in the class for six table plants in flower, whilst the 1st prize for six foliage table plants was won by Dr. QUICK, who also excelled for three flowering table plants.

The Chrysanthemum blooms were much superior to those of recent years. The premier collection of 24 Japanese blooms was shown by Mrs. LYON, who also won the prize for the best bloom in the show. This lady won 1st prizes in the classes for 18 Japanese blooms, 12 Japanese blooms in vases, six Japanese blooms distinct, 12 Japanese blooms in four varieties, six Japanese blooms of a yellow variety, six blooms of any colour, and six vases of single Chrysanthemums.

In the vegetable classes almost all the 1st prizes were won by Col. CARY, and in the fruit section the 1st prizes were shared between Col. CARY and Mr. P. P. ALEXANDER.

The nurserymen's exhibits added much to the attractions of the show. The DEVON ROSERY Co., Torquay, contributed a stand of floral arrangements of various flowering and foliage plants and about 50 varieties of Apples. Messrs. ROBERT VEITCH & SON, Exeter, had a fine collection of Carnations and other plants. Mr. W. B. SMALE, Torquay, staged two new Chrysanthemums, Henry Wood (deep red) and Mrs. M. Brockman (bright pink), and also showed greenhouse plants. Mr. R. W. HODDER, Torquay, exhibited some fine Cyclamen, Messrs BURRIDGE & SONS, Torquay, showed Chrysanthemums, Spiræas, Ericas and Lilium speciosum roseum.

SOUTHAMPTON CHRYSANTHEMUM.

NOVEMBER 5, 6.—This annual autumn show was held in the Coliseum, Southampton, and, although not quite so large as in former years, was a success.

PLANTS.—In the class for six distinct plants, each with not fewer than five blooms, suitable for conservatory decoration, J. C. E. D'ESTERRE, Esq., Elmfield, Southampton (gr. Mr. C. Hosey), won the 1st prize easily. Mr. F. G. BEALING, The Nurseries, Bassett, Southampton, was placed 2nd Single varieties were well displayed. The best exhibit of three was shown by an amateur, Mr. ALLAN COOPER, 115, Hill Lane, Southampton, who succeeded in beating Mr. BEALING. The varieties were Ceddie Mason, Mrs. Tresham Gilbey, Peter Plant, Tennyson, Sylvia Slade, and Polar Star. J. C. D'ESTERRE, Esq., had the best of three exhibits in the class for four bush plants grown naturally. In the amateurs' section for six plants of Japanese or Incurved varieties, Mr. C. JOYNER, 31, Cracknore Road, Freemantle, was awarded the 1st prize.

CUT BLOOMS.—In the important class for eight Japanese varieties, three blooms of each sort, shown in vases, there were three exhibits. Major CHICHESTER, Embley Park, Romsey (gr. Mr. W. Hall), was awarded the 1st prize for fine flowers of Frances Jolliffe, Mrs. L. Thorn, Master James, F. S. Vallis, and W. Turner. 2nd, J. C. D'ESTERRE, Esq. Major CHICHESTER was also 1st in the classes for two white-flowered varieties, three blooms of each, and two vases of a coloured variety.

Mr. BEALING was placed 1st for blooms other than single varieties arranged for effect.

Decorative varieties were also shown well by Mr. BEALING, who had the best collection of five: he also excelled in the class for six single varieties, disbudded in bunches. For six vases of single varieties not disbudded Mr. C. DYMOTT, Freemantle Nurseries, Southampton, was placed 1st.

Several classes were provided for blooms exhibited on boards. In the class for 24 Japanese blooms four entered. Captain DALGETY, Lockerley Hall, Romsey (gr. Mr. W. Baxter), won easily with handsome flowers well staged. 2nd, Major CHICHESTER.

W. GARTON, Esq., Salisbury Court, Southampton (gr. Mr. D. Edwards), had the best exhibit of 12 Japanese blooms distinct.

Incurved varieties were not numerous. M. HODGSON, Esq., Moreton House, Winchester (gr. Mr. A. J. Marsh), won the 1st prize in this section. 2nd, W. GARTON, Esq.

The premier Japanese bloom was the flower of W. Turner in Major CHICHESTER's 1st prize collection in the vase class. The premier Incurved flower was C. H. Curtis, shown by Mr. HODGSON.

Table decorations were tastefully arranged. The 1st prize was won by Miss M. SNELLGROVE, Southampton, who employed bronze-coloured Chrysanthemums and suitable foliage.

FRUIT.—The best black Grapes were bunches of Appley Towers, shown by Major CHICHESTER, while Captain DALGETY contributed the finest white Grapes in well-ripened bunches of Muscat of Alexandria. ELLEN Lady SWAYTHLING excelled in the class for dessert Apples, whilst W. GARTON, Esq., was 1st in the similar class for culinary Apples. Major CHICHESTER was successful in the class for four dishes of Pears.

W. H. MYERS, Esq., Swanmore Park, Bishop's Waltham (gr. Mr. G. Ellwood), won the leading prizes in the vegetable classes with superior produce arranged in good style.

Messrs. J. CARTER & Co., Raynes Park, exhibited a number of excellent vegetables, representing their many good strains of leading varieties.

Messrs. TOOGOOD & SONS, Southampton, had a smaller exhibit of vegetables.

CARDIFF CHRYSANTHEMUM.

NOVEMBER 6, 7.—The 26th exhibition of this society was held in the Skating Rink, Cardiff, on these dates. The show was an excellent one, for, although there had been more exhibits on some previous occasions, the quality all round was excellent, whilst the non-competitive exhibits were the finest ever staged. Chrysanthemums were, in most instances, excellent, and vegetables also were shown well, but fruit was rather disappointing.

In the Chrysanthemum classes there were two exhibits of 24 blooms of 12 Japanese and 12 incurved varieties, and the 1st prize was won by the Marquess of BUTE, Cardiff Castle (gr. Mr. Farmer). The 1st prize included the "Bell Harrison" Challenge Cup. The other exhibitor, Sir E. G. PHILLIPS (gr. Mr. Evans) was awarded the 2nd prize. Mr. H. A. ALLEN, Penarth, led in the class for 24 Japanese blooms in not fewer than 12 varieties, thus winning the "Courtes" Challenge Cup; 2nd, G. L. CLARK, Esq. (gr. Mr. J. E. Davies). There were several exhibits in the class for 12 Japanese blooms distinct; the 1st prize was again won by the Marquess of BUTE; Mr. ALLEN followed closely. Another good competition was seen in the class for 12 blooms, in not fewer than six varieties. The 1st prize was awarded to Mr. H. SKAMP, Penarth; 2nd, Mr. S. J. T. GRINTER. The "Empire" Challenge Cup, offered in the class for 12 blooms in not fewer than four varieties, was won by Mr. ALLEN with splendid flowers, including the varieties Mrs. A. T. Miller, Master James, F. S. Vallis, Bessie Godfrey, and F. Jolliffe; 2nd, Mr. H. EDWARDS, who was 1st in the class for six blooms.

INCURVED VARIETIES.—There were two fine exhibits in the class for 12 incurved blooms, distinct. The Marquess of BUTE showed the finer specimens; his blooms of G. F. Evans, J. Agate, Buttercup and Boccace were particularly fine; 2nd, Mr. EVANS.

BLOOMS SHOWN IN VASES.—In these classes were some of the best blooms in the show. The society offered a challenge cup in the class for eight vases, three blooms in each, and this was won by Mr. FARMER. The varieties included G. C. Kelly (a specimen of this variety was adjudged the best bloom in the show and was awarded the N.C.S. Certificate), Bessie Godfrey, William Turner, F. Mew, Lady Talbot, and White Australia. Mr. H. A. ALLEN was placed 2nd for a fine exhibit. 3rd, Mr. JOYS, Courtyrala Gardens. Mr. S. J. T. GRINTER won the Vivian Challenge Cup in the class for six vases with well-coloured, solid blooms of W. Gee, Lady Talbot, Master James, F. S. Vallis, and F. Jolliffe; 2nd, Mr. ALLEN. For a vase of five blooms of any white variety four exhibitors staged Mrs. A. T. Miller in fine condition, and the prizes were awarded to Messrs. L. E. TREHERNE, S. J. T. GRINTON, and H. EDWARDS in this order. Messrs. TREHERNE, H. EDWARDS, and H. A. ALLEN were successful respectively in the class for five blooms of a coloured variety. Beautiful flowers were staged in a class for one vase of single varieties, the finest by Mr. G. SCREEN, Penarth.

GROUPS OF PLANTS.—The class for a group of miscellaneous plants arranged in a space of 40 square feet attracted two exhibitors. Lady HILL, Rookwood, Llandaff (gr. Mr. Macintyre), showed the finer exhibit. Messrs. W. TRESEDER, LTD., Cardiff, were the only exhibitors in the class for single and large-flowering Chrysanthemums arranged with ornamental foliage plants in a space of 60 square feet. Mr. A. BROWN, Grove House Gardens, was the only exhibitor in the class for a group of Chrysanthemums arranged in a space of 50 square feet. Mr. S. J. T. GRINTER had no competitor in the class for single-flowered Chrysanthemums in a space of 40 square feet, and Mr. W. HATHERDALE was alone in the class for a group of Chrysanthemums in a space measuring 32 square feet. The 1st prize was awarded in each case. There were eight decorated dinner tables. Mrs. H. A. GERHOLD, Penarth, won the 1st prize with a tasteful arrangement, in which Carnations were chiefly employed. Mr. MACINTYRE showed the best 12 plants suitable for table decoration, and also the best six table plants. Mr. G. N. GERMAN won the 1st prize for six Orchids.

FRUIT.—In the class for six bunches of Grapes, in not fewer than two varieties, Sir JOHN GUNN, St. Mellons (gr. Mr. Dobbs), excelled with the varieties Muscat of Alexandria, Mrs. Pearson, Gros Colman, and Black Alicante; 2nd, L. E. TREHERNE, Esq. (gr. Mr. G. H. Brown). This gentleman led in the class for two bunches of Black Grapes. Mr. DOBBS was successful for six dishes of culinary Apples, whilst Mr. MACINTYRE excelled for six dishes of dessert Apples. For six dishes of Pears Mr. GERMAN secured the 1st prize.

Messrs. DOBBS, A. E. COLLIER, SHOULD and HASSY were prominent exhibitors in the vegetable classes.

NON-COMPETITIVE EXHIBITS.—The Earl of PLYMOUTH, St. Fagans Castle (gr. Mr. Hugh A. Pettigrew), staged a fine group of Begonia Gloire de Lorraine, which was awarded a Certificate of Merit. Messrs. S. TRESEDER & SON, Cardiff, were awarded the National Chrysanthemum Society's Silver-gilt Medal for floral designs, &c. Mr. P. THOMAS, Cardiff, showed floral designs, for which a Silver Medal was awarded. Messrs. WILLIAM TRESEDER, LTD., exhibited floral designs, Roses, Conifers and other plants (Gold Medal). Messrs. CLIBRAN & SONS, Cheltenham, were awarded a Silver Medal for an exhibit of Orchids. Both Mr. G. W. DRAKE, Cardiff, and Messrs. C. WILLIAMS & SON, Cardiff, received Certificates of Merit for exhibits of Chrysanthemums.

BRIGHTON AND SUSSEX CHRYSANTHEMUM.

NOVEMBER 5, 6.—The 30th exhibition of this society was held in the Dome and Corn Exchange on these dates. The exhibition was an excellent one, despite the fact that the classes for groups were not well contested. Fruit was well shown, whilst the vegetables were the finest on record. Trade exhibits, as usual, added greatly to the success of the show.

The 1st prize for a circular group of Chrysanthemums arranged for effect in a circle 8 feet 6 inches was won by Dr. TULK-HART.

For a similar group, to include Ferns and other foliage plants, the premier award, which included a silver cup and the Society's silver medal, was won by S. C. WHITING, Esq.

In the class for 12 bush plants of Pompons only, P. H. BAYER, Esq., won the silver cup and the society's silver medal offered as the 1st prize.

The cut-flower classes constituted the principal attraction. In the class for 36 Japanese blooms, in not fewer than 24 varieties, the 1st prize, which included a silver bowl and the society's silver medal, was won by G. L. WIGGS, Esq., Merstham, who showed excellent blooms of Master James, F. S. Vallis, Willie Rawlings, Purity, W. Mease, Mrs. Gilbert Drabble, F. Jolliffe, Frank Payne, and Mrs. L. Thorn. Colonel C. P. HENTY, Arundel, was placed 2nd; Mrs. L. C. Goad, Worthing, 3rd; and the Rev. F. S. Sclater 4th.

The 1st prize in the class for 25 Japanese blooms was awarded to H. Ramsbottom, Esq., Crowborough. His varieties included Thorpe Beauty, Mary Poulton, Mme. Rivol, Mrs. Chas. Beckett, Mrs. G. C. Totty, and George Mileham (1908); 2nd, Messrs. J. Stredwick & Son, St. Leonard's-on-Sea.

For six large, Incurved blooms, distinct, Colonel C. P. Henty was placed 1st.

Colonel Henty also excelled in the class for six blooms of an Incurved variety with the variety Clara Wells; whilst for six Japanese blooms of one variety G. L. Wiggs, Esq., secured the premier award with Frances Jolliffe.

In the amateur classes Mr. F. West, Brighton, won the 1st prize easily in the class for a group of Chrysanthemums arranged in a space 8 feet by 4 feet; 2nd, Mr. G. Funnell.

For 12 Japanese blooms of any variety Mr. C. Fox, Tunbridge Wells, excelled; 2nd, Mr. J. E. Johnson.

WOOLTON CHRYSANTHEMUM.

November 6.—The 14th show of this society was held in the Church Hall, Woolton, on this date. The entries were somewhat fewer than usual, due partly to the early date of the exhibition and partly to the fact that certain exhibitors of former years have removed from the district.

The exhibits of cut blooms were excellent. In the principal class for 24 Japanese blooms, distinct, Sir W. H. Tate, Bart. (gr. Mr. G. Haigh), won the 1st prize with a very fine exhibit. Mrs. Clarke, Allerton Hall (gr. Mr. J. Clark), was successful for 18 varieties, and Mrs. Schintz, Childwall Hall (gr. Mr. R. Hitchman), showed the best dozen blooms of Japanese varieties. In the class for 18 Incurved varieties, Col. J. B. Gaskill, Roseleigh, Woolton (gr. Mr. J. Stoney), was awarded the first prize, and Col. J. P. Reynolds, Dove Park (gr. Mr. G. Lowe), was the winner in the class for 12 varieties.

For nine vases of single varieties, nine blooms in each vase, A. S. Mather, Esq., Beechwood, Woolton (gr. Mr. H. Howard), was successful; whilst for six vases of decorative varieties, Mr. G. Haigh secured the 1st award. This exhibitor proved successful in the classes for four vases of incurved varieties and ten Japanese blooms in a large vase, and he was also awarded the N.C.S. certificate for his blooms of Buttercup and Hon. Mrs. Lopes. For vases of single blooms the 1st prize was awarded to D. Cunningham, Esq., Gorsey Cop, Gateacre (gr. Mr. W. Wilson). Interesting collections of bouquets, sprays and button-holes were staged; the chief prize-winners in this section were Mr. W. H. Richardson, Camp Hill, and Mr. J. Barker, Highfield.

In the fruit section Grapes were excellent. Mr. W. Wilson won the 1st prize in the class for Black Alicante, and Mr. J. Honey showed the best Muscat of Alexandria Grapes.

Vegetables were excellent. The finest exhibit for a collection shown by a professional gardener was staged by Mr. R. Hitchman.

DEVON AND EXETER HORTICULTURAL.

November 7, 8.—The 212th exhibition of the above society was held at Exeter on these dates. Although the attendance was more satisfactory than last season, the exhibition did not attract so many visitors as formerly. The entries numbered 544, but here again there was a falling off; several of those who previously contributed exhibits have moved from the district, whilst the excellent exhibits from the late Rev. T. Sheepshanks, of Stokelake, were greatly missed. The outstanding feature of the exhibition was seen in the class for single Chrysanthemums, in which the President, Mr. P. C. M. Veitch, offered a silver cup. The trophy was won by Mrs. Gidley, Hoopern House (gr. Mr. W. R. Baker). A silver challenge cup was also offered by the Member for Exeter, Mr. E. H. Duke, K.C., and this was again won by Mrs. W. J. Pring, Spreytonway, who, having won the cup three times, now retains it as her property.

Chrysanthemums. — Mrs. Gidley was awarded the 1st prize for 12 blooms, and Mr. H. St. Maur, Stover Park, was successful for 18 blooms of Japanese varieties. The other prize-winners in the cut bloom classes were Mr. W. Brock, Mr. J. W. Hussey, Mrs. Hearn, The Countess of Egmont, and Captain Radcliffe.

The class for single Chrysanthemums in pots, in which the President's silver cup was offered, produced the finest group in the show. The trophy, as stated above, was won by Mrs. Gidley. The varieties included Sandown, Radiance, Peter Plant, Mensa, Charles Kingsley, Sylvia Slade, Cannell's King, Margaret Gray, Mrs. J. Hill, Leo, Mary Pope, Ceddie Mason, Metta, and Mrs. F. C. Hunter. 2nd, Mrs. H. H. Wippell, Ivy Bank (gr. Mr. Gould).

For a group of decorative Chrysanthemums arranged with foliage plants, Mrs. W. J. Pring (gr. Mr. J. Webber) was placed 1st, and thus won the "Duke" challenge cup for the third and final time. 2nd, Mr. W. Brock.

Fruit.—Captain Morrison Bell, M.P. (gr. Mr. W. Worth), was the chief prize-winner in the Grape classes; he was awarded the 1st prize for Black Alicante, 2nd for White Muscat, and 1st for "any other variety," while he also staged the finest exhibit in the class for a collection of fruit. Mr. F. R. Rodd was placed 1st for White Muscat and 2nd for "any other variety" he was also placed 2nd in the class for a collection of fruit.

In the class for 24 dishes of Apples H. St. Maur, Esq., Stover Park, was successful; 2nd, the Countess of Egmont (gr. Mr. T. Ley).

Captain Morrison Bell, M.P., excelled in the class for a collection of nine varieties of Pears; 2nd, Dr. Samiways (gr. Mr. A. C. Williams); 3rd, Mr. F. R. Rodd.

Dr. Samiways showed a very fine dessert Pear under the name of President Roosevelt, of a blushing cream colour, very large, and almost citron-shaped.

Vegetables.—These classes were strongly represented, some grand produce being staged. Mrs. Gidley secured the 1st prize in the society's class for a collection, and in Messrs. Robert Veitch & Son's class for a collection. A. Lythall, Esq., and Dr. Samiways also won prizes in the vegetable classes. There were good exhibits in the special classes of Messrs. Sutton & Sons, Carter & Co., and Toogood & Sons.

Trade Exhibits.—Messrs. Robert Veitch & Son, Exeter, filled one end of the large Victoria Hall with a display of Orchids, Carnations, single Chrysanthemums, ornamental and flowering shrubs, and a collection of fruit of the best exhibition varieties.

Messrs. Saunders & Biss showed models of their dry method of glazing. Exhibits were also staged by the Devon Rosery Co., Torquay; Messrs. Toogood & Sons, Southampton; Messrs. Sutton & Sons,. Reading; and Messrs. Jarman & Co., Chard.

STIRLING CHRYSANTHEMUM.

November 7, 8.—The 23rd annual show of the above society was held in the Albert Hall, Stirling, on these dates. The entries showed a slight decrease, but there were more competitors than usual.

The principal class for cut blooms was that for six vases, distinct, three blooms in each vase. Mr. Small, Norwood, Alloa, secured the premier award, namely, the cup offered by Captain Stirling, the Hon. President, with clean, well-finished blooms of good size; 2nd, Mr. A. S. Watt, Whiting Bay Hotel, Arran. Mr. Small also led in the classes for 12 blooms shown on boards, and six blooms, distinct. Mr. Watt won the 1st prize for (1) six white and (2) six yellow blooms; the latter were specially fine.

The specimen plants of Japanese and single-flowered varieties were not up to their usual standard, the one notable exception being the exhibits of Mr. Henry Gray, Park Terrace, Stirling, whose plants have never been excelled at any previous show. Supplementary plant classes were well filled, Mr. J. K. Meston, Springbank, Stirling, being most successful. Messrs. Chas. Palmer, Alloa, and Dan. Carmichael, Stirling, also occupied leading places.

Excellent Grapes were shown by Mr. Mitchell, Airthrey Castle, Bridge of Allan, his bunches of Muscat of Alexandria being amongst the best exhibited in Scotland this year. Mr. Mitchell led in three classes for fruit, whilst Messrs. R. McDonald, Stirling, and Wm. Smith, Menstrie, each won a 1st prize in this section. Mr. Mitchell showed excellent Pears, whilst Mr. J. Blacklock, Blair Drummond, exhibited splendid Apples.

Vegetables made a meritorious display. Mr. J. K. Meston led in the class for a collection; Messrs. J. Macdonald, Touch, Jas. Birrell, Braco Castle, and D. Macfarlane, Gargunnock, all showed well-grown produce.

The most successful amongst the amateurs were: Bailie Macintosh, Stirling, and Jas. Stevenson, Bannockburn (plants); Geo. Watson, Kippen, and M. Carrighan, Gargunnock (vegetables).

Honorary exhibits were staged by Messrs. Drummond & Sons, Stirling, who showed a large collection of Apples and Pears; Mr. John Craig, Stirling, who arranged a table of flowering and foliage plants, and Mrs. Tasker, Stirling, who contributed early-flowering Chrysanthemums and Roses.

WINDSOR CHRYSANTHEMUM.

November 8.—The 21st autumn show of the above society was held in the Royal Albert Institute, Windsor, on this date.

Single Chrysanthemums are always excellent at these shows, and this year was no exception. A handsome challenge cup is offered by His Majesty the King for large Japanese blooms shown in vases, and this class attracted five competitors. Several classes were provided for Carnations.

The chief competition in the plant section was for a group of decorative Chrysanthemums arranged in a semi-circle. Three handsome groups were exhibited, and as they each reached to a height of 10 feet against the wall, the effect was very fine. F. Ricardo, Esq. (gr. Mr. G. West), won the premier award with grandly-flowered plants of such varieties as Ceddie Mason, Sylvia Slade, Bessie Pagram, Mensa, and Mary Richardson. Mrs. Gerald Goodlake (gr. Mr. H. Hearn), who was placed 2nd, had finer flowers, but the arrangement was not good.

Cut Blooms.—In the "King's" Cup class for eight varieties, three blooms of each in vases, the 1st prize was won by J. B. Fortescue, Esq., Dropmore, Maidenhead (gr. Mr. C. Page), with grandly-developed specimens of F. S. Vallis, Lady Talbot, Col. H. E. Converse, P. C. Kelly, Alice Lemon, and T. Mew. Mrs. Gerald Gooodlake followed closely, whilst Colonel Cox (gr. Mr. J. Orton) was placed 3rd.

A class was provided for 18 blooms, distinct, to demonstrate how the larger Japanese blooms may be utilised for decoration when cut with long stems and employed with foliage plants in small groups. Mrs. Gerald Goodlake was placed 1st with much the finer specimens, but the group was not so well arranged as that shown by Mrs. Adair, Adair Place (gr. Mr. W. Holder).

The best Incurved blooms were shown by Mr. Fortescue, who won in the classes for 12 varieties, distinct, and six blooms of any one variety.

For six vases of single varieties not disbudded, F. Ricardo, Esq., was 1st, staging popular varieties, each spray carrying about seven fully-developed flowers. 2nd, Mrs. E. B. Foster, Clewer Manor (gr. Mr. W. Cole).

Mrs. Adair won the 1st prize in a class for 12 Japanese blooms on long stems arranged in a vase with any natural foliage with a mass of Frances Jolliffe arranged with scarlet Oak and trails of Asparagus plumosus. 2nd, Mrs. Gerald Goodlake.

In the local classes the best 12 Japanese blooms were contributed by Sir E. Durning-Lawrence (gr. Mr. W. Lane), whose bloom of His Majesty was of sterling merit, being the best of the bright coloured varieties.

In the Carnation classes F. Ricardo, Esq., was placed 1st for six plants and for three varieties, six blooms of each in a vase. This exhibitor also excelled in Mr. Dutton's class for six varieties.

T. Plowright, Esq., exhibited the best 12 blooms in one vase.

FRUIT AND VEGETABLES.—Lord HILLINGDON, Uxbridge (gr. Mr. A. Allan), won in the classes for White Grapes and six dishes of Pears, whilst L. H. HANBURY, Esq. (gr. Mr. C. Frost), was placed 1st for six dishes Apples.

Col. Cox secured the premier place in both Messrs. Sutton's and Messrs. Carter's classes for six vegetables, with excellent Celery, Onions, Cauliflowers, Leeks, and Potatos.

NON-COMPETITIVE EXHIBITS.—Mr. CHARLES TURNER, Slough, showed 60 dishes of Apples and Pears, for which a Gold Medal was awarded.

Messrs. TITT & SON, 24, Thames Street, Windsor, staged wreaths, bouquets, and other floral designs.

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending November 9, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—Much cloud was experienced over the whole Kingdom, and during the earlier days of the week rain was very general. Subsequently, however, little rain fell except in the north and west of Scotland.

The *temperature* was above the average, the excess being more than 4° in Ireland, and more than 3° in the north-west of England and the west of Scotland. The highest of the maxima occurred at most stations on the 7th or 8th, and ranged from 64° in Ireland to 57° in Scotland W. and England N.E., and to 53° in Scotland N. The lowest of the minima, which were recorded on the 3rd or 4th, varied from 22° in Scotland E., and 24° in England S.E. to 33° in England S.W. and Ireland S., and to 40° in the English Channel. During the greater part of the week the minima were high for the time of year. The lowest glass readings were 13° at Birmingham, 16° at Hampstead, and 17° at Kew. In various parts of the Kingdom the temperature of the earth 1 foot below the surface was rather higher than the normal, but at 4 feet it was below it at all stations except Clacton-on-Sea and Canterbury.

The *mean temperature of the sea* did not differ greatly from the normal generally, but at Aberdeen and Cleggan it was nearly 2° above it, and at Newquay nearly 2° below it. In most places the water was a little warmer than during the corresponding week of last year. The mean values ranged from 54° at Plymouth to about 45·5° at Burnmouth and Kirkwall.

The *rainfall* exceeded the average in Scotland N. and W. and Ireland N., and very slightly, in England N.W. Elsewhere it was below. More than an inch fell over a large area in the north-west on the 4th; the largest amounts reported being 1·4 in. at Douglas and 1·7 in. at Lancaster.

The *bright sunshine* was much below the normal. The percentage of the possible duration ranged from 16 in the English Channel, and 15 in England S.W. to ·5 in the Midland Counties, and to less than 0.5 in Ireland N. In all districts except Scotland E., England S.W. and the English Channel the mean daily duration was less than an hour. At West Linton and Armagh the week was sunless.

THE WEATHER IN WEST HERTS.

Week ending November 13.

A falling temperature throughout.—Since the 8th inst. the day temperatures have been gradually declining. On that day the highest reading in the thermometer screen was 56°, whereas to day it is only 40°, or 16° colder. The night temperatures, on the other hand, although also declining, have been, as a rule, warm for the time of year. The ground is at the present time 1° colder at 2 feet deep, and 2° colder at 1 foot deep, than is seasonable, and 7° colder than it was at the latter depth four days ago. Rain fell on the last three days, but to the total depth of only a quarter-of-an-inch. A few flakes of snow were noticed on the afternoon of the 12th. There has been some percolation each day during the week through both the soil gauges, but the amounts have been small. The sun shone on an average for only 32 minutes a day, which is 1½ hour a day short of the average duration for the same period in November. Two days were altogether sunless, and on three other days the sun was shining brightly for less than half-an-hour. The winds have been, as a rule, high, and on the 11th the mean velocity in the windiest hour reached 20 miles—direction W. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by 4 per cent. *E. M., Berkhamsted, November 13, 1912.*

GARDENING APPOINTMENT.

Mr. DUKES, for 5 years Gardener to H. S. CHARRINGTON, Esq., Dover Cliff, Burton-on-Trent, as Gardener to Mrs. STEPHENSON, Burton House, near Stafford. (Thanks for donation of 2s. for R.G.O.F. box.—EDS.)

TRADE NOTICE.

MR. A. H. JOHNSON, of Erdington, Birmingham, a well-known member of the horticultural and agricultural seed trade, has joined the staff of Messrs. Hurst and Son, Houndsditch.

SCHEDULE RECEIVED.

Darlington Horticultural Society.—The autumn show of this society will be held in the Corn Exchange, Darlington, on Wednesday, November 20. Secretary, Mr. A. H. Harrow, Priestgate House, Darlington.

MARKETS.

COVENT GARDEN, November 13.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Arums (Richardias)	2 6- 4 0	Lilium speciosum rubrum, per dz.:	
Azalea, per dozen bunches ...	4 0- 5 0	— long	1 6- 1 9
Bouvardia, per dz. bunches ...	6 0- 7 0	— short	1 0- 1 3
Camellias, white, per dozen ...	2 0- 2 6	Lily of the Valley, pr. dz. bnchs.:	
Carnations, per dozen blooms, best American varieties ...	1 6- 2 6	— extra special ...	12 0-15 0
— smaller, per doz. blooms ...	12 0-15 0	Lily of the Valley. pr. dz. bnchs.:	
— Carola (crimson), extra large	3 0- 4 0	— special... ...	9 0-10 0
— Malmaison, p. doz. blooms:		— ordinary ...	6 0- 8 0
— — pink ...	8 0-15 0	Mignonette, per doz. bunches...	3 0- 4 0
Chrysanthemums, per dozen:		Orchids, Cattleya, per doz. ...	10 0-12 0
— white	1 6- 3 0	— Cattleya Harrisonæ, p. doz.	6 0 —
— pink	1 0- 2 6	— Cypripedium	2 6 —
— yellow	1 3- 3 0	— Odontoglossum crispum ...	3 0- 4 0
— bronze... ...	1 0- 2 6	Pelargoniums, p. doz. bunches	4 0- 5 0
— white, per doz. bunches ...	6 0- 9 0	— Double Scarlet	6 0- 8 0
— coloured ...	4 0- 8 0	Roses, 12 blooms:	
— Singles in variety, per doz. bunches ...	15 0-21 0	— Mrs. Ward ...	2 6 —
Daisies (Michaelmas), various	3 0- 4 0	— Bridesmaid,	1 6- 2 0
Eucharis, per dozen	2 6- 3 0	— C. Mermet ...	1 6- 2 0
Gardenias, per box of 15 and 18 blooms ...	3 0- 4 0	— Liberty ...	2 6- 4 0
Gerbera Hybrid, p. doz.	1 3 —	— Madame A. Chatenay ...	2 6- 4 0
Honesty, per bunch	1 0- 1 6	— Niphetos ...	1 6- 2 0
Hyacinth Roman, per dz. bnchs.	12 0-15 0	— Richmond ...	2 6- 4 0
Lapagerias, white, per dozen ...	2 6 —	— Sunburst ...	4 0- 5 0
Lilium auratum, per bunch ...	4 0- 5 0	— Sunrise ...	2 0- 2 6
— longiflorum, per doz., long	2 6- 3 0	— Lady Roberts	1 0- 1 6
— — short ...	2 0- 2 6	— Lady Hillingdon	1 6- 2 0
— lancifolium alba, long ...	1 6- 1 9	— Franz Deegen	1 6- 2 0
— — short ...	1 6- 1 9	— Kaiserine ...	2 0- 3 0
		Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
		Stephanotis (72 pips)	3 6- 4 0
		Stock, p. d. bnchs:	
		— white	5 0- 6 0
		Tuberose, p. doz. blooms, long...	0 6- 0 8
		— — short ...	0 3- 0 4
		Violets, per dozen bunches ...	1 6- 4 0
		— double, pr. dz. bunches ...	3 0- 5 0

French Flowers: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Anemone, double pink, per doz.	2 6- 3 0	Narcissus, Soleil d'Or, per doz.	3 0- 3 6
Lilac, white, per bunch	3 6- 4 0	Ranunculus, dble scarlet, per dz. bunches ...	8 0- 9 0
Marguerite, yellow, per doz. bunches	1 6- 1 9	Violets, per pad of 48 and 60 bunches ...	4 0- 5 0
Mimosa, pr. bunch	0 9- 1 0	— Parma, large bunches, each ...	2 6- 3 0
Narcissus, Paper White, pr. pad, 48 bunches ...	9 0-12 0		

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches ...	6 0- 7 0	Carnation foliage, doz. bunches...	3 0 —
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0	Croton foliage, various, dz. bchs.	12 0-15 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0	Cycas leaves, artificial, per doz.	3 0-12 0
— medium, doz. bunches ...	12 0-18 0	Eulalia japonica, per bunch ...	1 0- 1 6
— Sprengeri ...	10 0 12 0	Moss, gross bnchs.	6 0 —
Berberis, (natural, per doz. bunches	3 0- 4 0	Myrtle, dz. bchs. (English), small-leaved ...	6 0 —
		— French ...	1 0 —
		Smilax, per bunch of 6 trails ...	1 0- 1 8

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0	Croton, per dozen	18 0-30 0
Araucaria excelsa, per dozen ...	18 0-21 0	Cyclamens, 48's ...	10 0-12 0
Asparagus plumosus nanus, per dozen... ...	10 0-12 0	Cyperus alternifolius, per dozen	5 0- 6 0
— Sprengeri ...	8 0- 9 0	— laxus, per doz.	4 0- 5 0
Aspidistra, p. dz., green	21 0-30 0	Dracæna, green, per dozen ...	10 0-12 0
— variegated ...	30 0-60 0	Erica hyemalis ...	15 0-18 0
Begonia Gloire de Lorraine, 48's, per dozen ...	9 0-12 0	— nivalis	15 0-18 0
Chrysanthemums, 48's	6 0-12 0	— — 60's ...	6 0- 8 0
Cocos Weddeliana, per dozen:		— — 72's	3 0- 4 0
— 60's	6 0-12 0	— gracilis, 48's ...	12 0-15 0
— larger, each ...	2 6-10 6	Ferns, in thumbs, per 100... ...	8 0-12 0
		— in small and large 60's ...	12 0-20 0
		— in 48's, per doz.	6 0 —

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.		s.d. s.d.
Ferns, choicer sorts, per doz. ...	8 0-12 0	Lilium lancifolium alba, in pts., dz.	18 0-21 0
— in 32's, per dozen	10 0-18 0	— longiflorum, p. dozen	18 0-24 0
Ficus elastica, per dozen	9 0-12 0	Lily of the Valley	18 0-21 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0	Marguerites, in 48's, per doz., white	8 0-10 0
— larger, each ...	2 6- 7 6	Pandanus Veitchii, per dozen ...	36 0-48 0
Kentia Belmoreana, per dozen	5 0-42 0	Pelargonium (Geranium), double scarlet, 48's ...	4 0- 5 0
— Fosteriana, 60's, per dozen	4 0- 6 0	— other varieties	5 0- 6 0
— — larger, per dozen	18 0-63 0	Phœnix rupicola, each	2 6-21 0
Latania borbonica, per dozen ...	12 0-30 0	Solanum, 48's, per dozen	10 0-12 0
Lilium lancifolium rubrum in pts., per dozen ..	18 0-21 0	Spiræa japonica, per dozen pots	10 0-12 0
		— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Apples:		Medlars, per crate	4 0 —
— Dessert, English, ½ bushel	2 6- 5 0	Melons (Guernsey)	1 9- 3 0
— Cox's Orange, ½ bushel ...	4 0- 6 0	Melons (English)...	1 9- 3 0
— Cooking, per bushel	2 0- 4 0	Nuts, Almonds, per bag	52 6 —
— American, brls.	18 0-20 0	— Brazils, cwt....	43 0 —
— Californian Newtowns, case	9 0-10 0	— Spanish, per sack	40 0-42 0
— Nova Scotian, per barrel ...	13 6-17 0	— Barcelona, per bag	35 6-36 6
Bananas, bunch:		— Cocoanuts, 100	18 0-23 0
— Doubles ...	10 0-12 0	— English Cobs per lb.... ...	0 2½-0 3
— No. 1	7 0- 8 0	— Walnuts per dozen lbs.	2 6—6 0
— Extra	8 6-10 0	— — French, per bag ...	7 0- 8 0
— Giant	12 0-14 0	— English doubles per dozen lbs.	6 0-10 0
— Loose, per dozen	0 6- 1 0	Oranges:	
— Red coloured...	4 6- 5 6	— Jamaica, case	10 0-13 0
— Jamaica, per ton	£10-£12	Peaches	
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0	— Canadian, per box	2 6- 3 6
Blackberries, peck	2 6- 3 0	— Californian, p. tray	4 0 —
Dates, per dozen...	7 0 —	Pears:	
Figs (Italian), bxs.	0 6- 1 0	— French, pr. box	3 0 —
Cranberries, p. case	9 0-12 0	— — per crate ...	6 0- 8 0
Grape Fruit, case:		— English, ½ bus.	1 0- 3 0
— 96's ... ... — 80's ... ... — 64's ... ... — 54's	15 0 16 0	— Doyenné du Comice, dozen	2 0- 4 0
— per dozen ...	6 0 —	— Dessert, per ½ bushel	3 6- 6 6
Grapes (English), per lb.:		— Californian, p. case	7 0-12 0
— Canon Hall ...	2 0- 5 0	— Doyenné du Comice, p. case	12 0 —
— Muscats ...	2 0- 5 0	— Dutch Catalac, ½ bushel ..	3 6 —
— Gros Colman	0 8- 2 0	— per barrel ...	7 0- 8 0
— Black Alicante	0 6- 1 6	Pineapples, St. Michael ...	2 0- 4 0
— Gros Maroc ...	1 0- 1 6	Plums:	
— Almeria, barrel	12 0-18 0	— (Californian), crate	12 6-15 0
— Lisbon, case...	7 0- 8 6	Pomegranates, per case ...	7 0- 8 0
Lemons, per case:		— per box ..	2 6 —
— Malaga ...	22 0 —	Quinces, ½ bushel	5 0- 8 0
— Messina, case	10 6-18 0		
Lemons, per case:			
— Naples ...	28 0 —		
Lychees, per box...	1 6 —		

Vegetables: Average Wholesale Prices.

	s.d. s.d.		s.d. s.d.
Asparagus, Paris green	3 9- 4 3	Lettuce, French, p. doz.	1 3 —
Artichokes (Globe), per dozen ...	1 9- 2 6	Mint, p. dz. bnchs.	3 0 —
— English ...	0 6- 1 0	Mushrooms, cultivated, per lb.	1 0- 2 0
— ground, ½ bus.	1 6 —	Mustard and Cress, p. dz. punnets	0 10 —
— Batavia, p. dz.	0 6- 1 6	Onions (English) per bag ...	3 6 —
Beans:		— per bushel ...	2 0- 3 0
— French, per lb.	0 6- 0 9	— Picklers, p. bag	4 0 —
— Madeira, per handle	2 6 —	— (Spring), per doz. bunches	4 0 —
Beetroot, per bushel ...	1 0- 2 0	— (Spanish). case	5 0- 7 6
Cabbages, p. tally	2 6 —	— Dutch, bags ...	3 0- 3 6
— boxes	1 0- 2 0	Parsley, per doz. bunches ...	2 0 —
— Red, per dozen	1 6 —	Parsnips, per bag	2 6- 3 0
Carrots (English), pr. doz. bun....	2 6 —	— per bushel ...	1 6- 2 0
— dirty, per bag...	2 6 —	Radishes (English) per dozen ...	0 10- 1 0
— washed, bag ...	3 0 —	Sage, per dozen ...	1 6 —
Cauliflowers per — tally	4 0-10 0	Seakale, punnets...	1 6- 2 0
Celery, per dozen	12 0-15 0	Spinach, ½ bushel	1 0- 1 6
— dirty	6 0-12 0	Sprouts, ½ bushel...	1 0 —
Celeriac, per doz.	2 0- 3 0	— per bushel ...	1 6 —
Cucumbers, per flat	5 0- 6 0	— bags	1 6- 2 0
Endive, per dozen	0 6- 1 0	Tomatos, per doz. lbs.:	
— French p. doz.	1 6 —	— (Guernsey), ...	2 6- 3 6
Greens, per bushel	1 0 —	— (English) ...	2 6- 3 6
— bags	1 3 —	— seconds ...	1 0- 1 3
Herbs (sweet), packets., per gross	7 0 —	— (Canary) per bundle... ...	10 0-12 0
Horseradish, 12 bundles ...	12 0 —	Turnips (English), per dz. bunches	1 3- 2 6
Leeks, per doz. ..	2 0 —	— per bag	2 0- 2 6
Lettuce (English), Cos, per box ...	1 0 —	— unwashed, bag	2 0 —
Cabbage, per box	1 6 —	Turnip tops, bushel	1 0 —
		Watercress, p. dz. bunches ..	0 4- 0 6

REMARKS.—The following varieties of English Apples are obtainable: Dumelow's Seedling (Wellington), Bramley's Seedling, Lane's Prince Albert, Newton Wonder, Cox's Orange Pippin, Allington Pippin, Warner's King, and Blenheim Pippin. Apples are arriving from Nova Scotia, Wenatchee, and California in large quantities packed in barrels and boxes. Many of the fruits are very showy and particularly well graded. Pears from home growers and the Channel Islands are a limited supply; shipments of Pears from the Colonies include the varieties Keiffer, Winter Nelis, Magnifique, Easter Beurré, and very fine fruits of Doyenné du Comice. Home-grown Grapes have been a slightly better trade this past week, due to a falling off in the supplies. Cobnuts, Walnuts, Almonds and Chestnuts are all plentiful. English Tomatos are a good supply for the season of the year. Tomatos from Teneriffe are arriving in a better condition. Madeira Dwarf Beans have met with a slow trade this past week. Guernsey and Paris Dwarf French Beans continue very plentiful. Mushrooms, the bulk of which is sent from places on the South Coast, have been an irregular supply, but about sufficient for the demand. There is a large supply of vegetables of all kinds. *E. H. R., Covent Garden, November 13, 1912.*

Potatos.

	per cwt. s.d. s.d.		per bag. s.d s.d.
Bedfords	4 0- 4 6	Dutch	2 9- 3 6
Kents	4 0- 5 0	Belgian	3 0- 3 9
Blacklands ...	3 6- 4 0		
Lincolns	3 6- 5 0	German	3 6- 4 0

Remarks.—Trade remains quiet. Best tubers are in demand, but there is a slow trade in the commoner samples. The consignments are about the same as last week, and there is no alteration in prices. *Edward J. Newborn, Covent Garden and St. Pancras, November 13, 1912.*

Obituary.

Henry Groves.—We regret to record the death of this gentleman, which occurred on the 2nd inst. at his residence, Clapham, after a long illness. Mr. Groves was an accomplished botanist, and with his brother James was regarded as an authority on the Characeæ. He was a councillor of the Linnean Society. The ninth edition of Babington's *Manual of British Botany*, issued in 1904, was edited by the brothers Groves.

Alexander Dyer.—The death is announced of Mr. Alexander Dyer, for a number of years seedsman and gardener at Kittybrewster, Scotland. Mr. Dyer formerly conducted the business now carried on by Mr. Jas. Robertson, seedsman, Kittybrewster.

Answers to Correspondents

⁂ *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

A Gardener's Notice: *M. E. S.* It is customary for a head gardener to give or receive a month's notice on terminating an engagement. With regard to the payment of railway expenses after an employe has left your service, we do not think you would be liable, as no agreement was made to this effect at the time the engagement was made.

Begonias Unhealthy: *H. S.* and *W. W. P.* There is no disease present to account for the decay of the plants. The trouble has been caused by too much moisture. Keep the plants and their surroundings drier and admit air whenever the weather is favourable.

British Flowers in India: *Barr* and *Hunter*. You ask for a list of British flowers that will grow in India. The question is of such a general character that it is a difficult one to answer. India presents such a wide range of climatic conditions, from dry and humid intense heat to intense cold, that much depends on the situation. British flowers—that is, British wild flowers—flourish in the hill stations, and, indeed, many of the genera and species are common to the two countries. Taking the flora of the Simla district, for example, of the 639 genera, 244 are also represented in the wild flora of Britain; and 173 of the species are the same in the two countries. Similarly the hardy, cultivated flowers (fruits and vegetables) of Britain are successfully grown in India. You should consult Firminger's *Manual of Gardening for Bengal and Upper India*, Woodrow's *Gardening in India*, or Macmillan's *Handbook of Tropical Gardening and Planting*.

Camellia: *H. J. C.* The Camellia flower, obtained from a cross between C. Donckelaarii and C. reticulata, is of very large size, and the rich deep-red colour with salmon shading is very beautiful. We cannot state whether it is distinct from varieties already in cultivation.

Choice Conifers: *A. E. T. R.* In rearranging your large bed of Coniferous trees you should not overlook the value of the pendulous kinds, such as Juniperus recurva and Retinospora filifera and its golden variety. The glaucous form of the Deodar is Cedrus Deodara argentea. The following is a short list of "slow-growing Conifers, which are either of compact or pyramidal habit":—Picea excelsa var. clanbrassiliana, P. excelsa var pygmæa, Cupressus Lawsoniana var. Allumii, C. L. var. erecta viridis, and the many other varieties which have silvery, golden or white-and-green foliage. The garden genus Retinospora will furnish you with a number of forms you require, which you will find in the catalogue of any nurseryman who specialises in these trees. If your soil is well drained, Athrotaxis cupressoides and A. laxifolia will be hardy. Other uncommon species are Cupressus thyoides, Pinus beuvronnensis. Cephalotaxus pedunculata var. fastigiata, Libocedrus decurrens, Tsuga Pattoniana, and Picea polita. Picea pungens glauca var. Kosteriana is probably the best of the Spruces with silvery foliage, but its rate of growth is likely to be too great; we have not found the pendulous form to be altogether satisfactory; the branches exhibit too great an upward tendency. There are several golden forms of Taxus baccata var. fastigiata (Irish Yew), which you will find useful, and the monstrous form of Cryptomeria japonica, known as C. japonica var. monstrosa or as C. j. var. spiralis, is very interesting. Of the various Junipers, we should select Juniperus Sabina var. procumbens, J. excelsa var. stricta, J. communis var. fastigiata, and J. c. var. alpina aurea.

Diseased Vines: *J. B.* The roots of the vines submitted to us for examination are very badly infested with the Vine Phylloxera (Phylloxera vastatrix). It is a very bad case, and we strongly advise you to remove all the old soil from the borders and dress the brickwork with a strong solution of paraffin emulsion, applied hot. The pest being a notifiable one, you should inform the Secretary of the Board of Agriculture and Fisheries of its occurrence on your premises.

Erratum.—The inscription under fig. 160 in last week's issue should read as follows:—Samples of seeds of two sulphur-white strains compared with those of a pure cream (Princess Mary) and a pure white. (A) Seed of pure breeding cream (Princess Mary); (C) seed of pure breeding white; (B and D) seeds of two sulphur-white strains. B strain: Seeds large, regular, flat, like those of the pure cream. These are mixed as to colour, and can be sorted, the browner seeds giving the single whites, the yellower seeds the double creams. D. strain: Seeds small, irregular, and all brown, like those of the pure white.

Grapes with Superficial Markings: *Old Subscriber*. The spots on the berries are not due to disease. The injury may have been caused by rubbing or scorching.

Grubs attacking Cyclamen: *A. G.* The grubs that are attacking your plants are the larvæ of the weevil. It is sometimes difficult to kill these pests without causing injury to the plants; turn the plants out of their pots occasionally and pick out all larvæ that are visible with a pointed stick, and destroy them. If this treatment proves ineffective, shake the roots entirely free from the soil and larvæ, and then repot the plants in an uncontaminated compost. Place traps of pieces of vegetable, such as Carrot or Potato, near where the damage is done, and examine them at night, as weevils are most active when it is dark. Another way of killing the grubs is to turn the roots out of the pots, and spray the soil with carbon-bisulphide.

Names of Plants: *Hope.* Francoa appendiculata.—*A. B. S.* Ornithogalum lacteum.—*Horsley.* 1 and 2, Thymus Serpyllum; 3, Acæna Novæ-Zelandiæ; 4, Saxifraga Aizoon.—*Miss E. L.* Cerinthe major.—*H. Burton.* 1, Cydonia Maulei; 2, C. japonica.—*A. R. A.* Pyrus Torminalis, one of the most interesting and uncommon of British trees.—*W. B.* 1, Olearia Forsteri; 2, Eugenia apiculata.—*D. and W. C.* 1, Smilax aspera; 2, Escallonia pterocladon.—*J. H.* We do not undertake to name varieties of Michaelmas Daisies or other florists' flowers. You should send them to some grower who can compare them with plants in his collection. We have done the best we can for you. 1, Aster Novi-Belgii variety; 2, A. Amellus var.; 3, A. Lil Fardell; 4, A. Novi-Belgii var.; 5, A. Novæ-Angliæ var.; 6, A. Novi-Belgii var.; 7, Sirius.—*In Notepaper Box (no letter).* 1, Codiæum irregulare; 2, C. Weissmannii; 3, C. Johannis; 4, C. variegatum; 5, Dracæna concinna; 6, Helxine Solierolii.—*S. and S.* Euonymus alatus.—*Old Subscriber.* Rhus Cotinus, Whig Tree.—*G. H. S.* Solidago nemoralis var. incana.—*L.* Agrostis vulgaris var.—*Enquirer.* Schizostylis coccinea.—*F. F.* 1, Brassia verrucosa; 2, Maxillaria tenuifolia; 3, Oncidium pubes; 4, O. cheirophorum.—*M. K. B.* 1, Eriobotrya japonica; 2, Acacia dealbata (Mimosa); 3, A. armata; 4, Edwardsia microphylla; 5, Spiræa callosa; 6, Eupatorium Weinmannianum; 7, Salvia Horminum; 8, Nerium Oleander; 9, Lygodium scandens; 10, Polypodium glaucum; 11, Oplismenus undulatifolius variegatum; 12, Centranthus ruber var. alba; 13, probably Phaius grandifolius; 14, Begonia glaucophylla. It was a difficult matter to identify your specimens. You should number each.—*A. B. C.* Cymbidium pendulum. The leaf of Phalænopsis shows "spot" or Orchid disease, probably induced by excessive heat, especially at night. Remove damaged leaves and keep cooler and tolerably dry until new growth commences, when put into a warm, moist house.

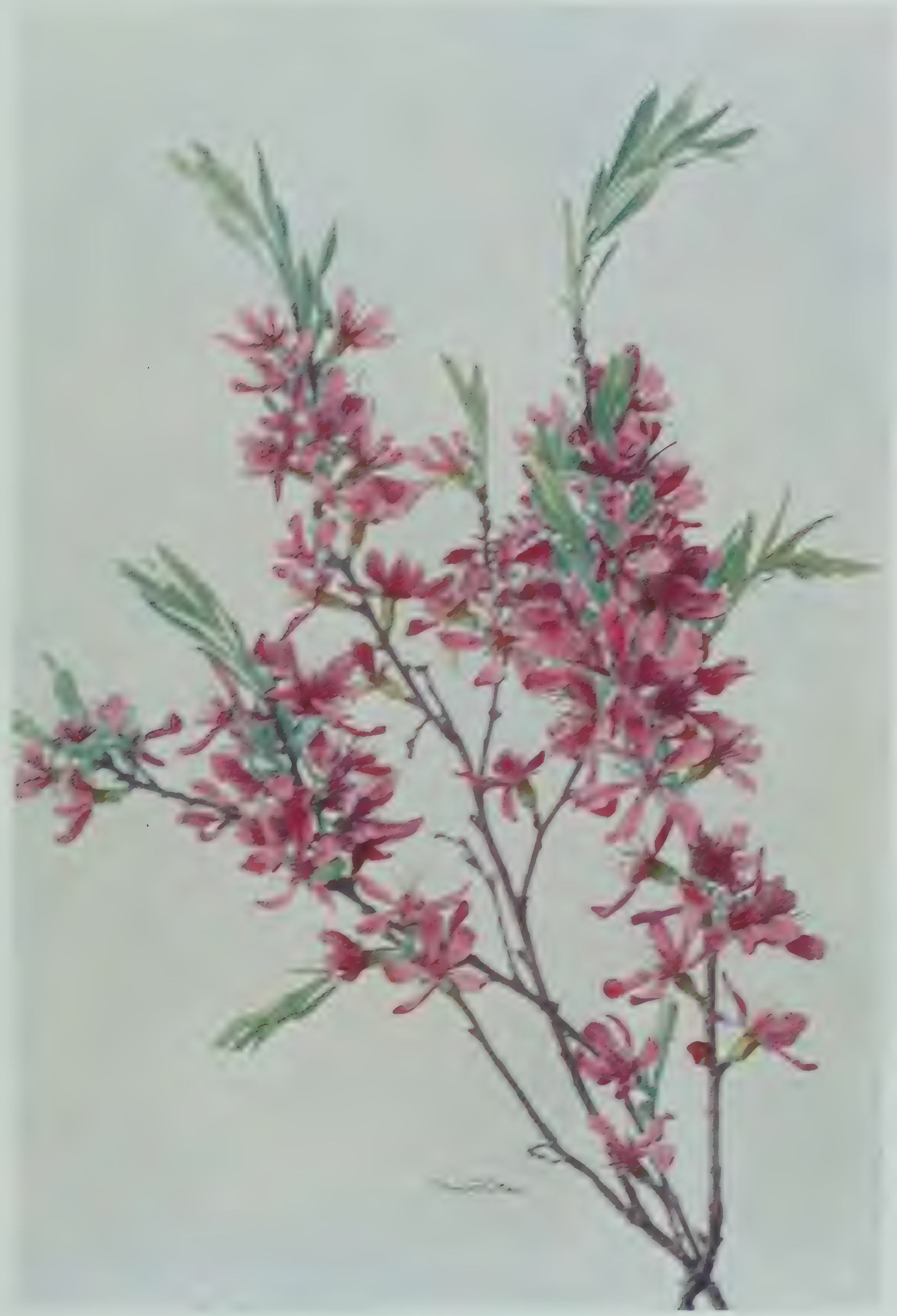
Orchids Marked: *Eremurus, Darlington.* The injury to the leaves is known as "spot," caused by condensation of water on the leaves, and by the night temperature being too low in proportion to the day temperature.

Phaseolus caracalla: *L. G. P.* Commonly known as the Snail Flower, from its curious, spirally-twisted flowers, is best raised from seed which may be purchased from the nurserymen. The seeds should be sown in early spring, and germinated in a moist, intermediate house. The seedlings should be grown in a rich, open soil in rather large pots, or they may be planted out when large enough, and trained on wires or string in a position close to the glass. Little or no shade is required, the aim being to obtain strong, vigorous growths, as the plant seldom flowers unless in robust health. Should the plants show signs of exhaustion, feed them liberally with cow manure, or an occasional application of artificial manure. Syringe the foliage once or twice daily in hot weather, and guard against the presence of red spider, which is particularly fond of this plant, and unless checked will speedily ruin it. It is better to raise fresh plants from seed each spring than to keep the old plants over the winter. Never allow the plant to become so dry at the roots as to cause flagging; aim at keeping the soil just moist, sufficient to cause it to bind together when squeezed in the hand.

Second-hand Gardening Books: *J. R. M.* Insert an advertisement in the gardening papers, or write to Messrs. Wheldon, Great Queen Street, London.

Slugs Attacking Tulip Bulbs: *W. J. A.* The best plan to adopt with slugs is to place Cabbage leaves as traps, and examine the leaves when it is dark. Slugs are particularly fond of the stalks of Cabbage and other greens. If soot and lime are mixed and sown over the ground at the rate of 1 peck or 1½ peck per rod, it will be found that this will do much good if the applications are repeated occasionally. Waterings with clear limewater or water containing 1 ounce of carbonate of ammonia to the gallon may be applied over the plants and ground. This will cause the slugs to come up to the surface of the ground, when they can be easily collected and destroyed. Sulphate of iron has often been recommended for destroying slugs, using 300 kilos. (660 lbs.) to the hectare (2½ acres prox.).

Communications Received.—A. H., Lewisham—A. H.—M. A. K.—C. J. M.—V. C.—S. B.—M. K. B.—W. F.—T. F.—O. T.—H. S. T.—I. E.—R.—J. M., Ireland—W. H. S. & Son—Mrs. M. K.—H. W. W.—E. P. W.—M. E. S.—W. A. C.—Gardener, Herts—F.B., Northampton C. F. C.—R. Bros.—Canon E.—A. O.—M. C.—Heaton Mersey—Wool—E. C.—A. G. Langford—J. B.—A. J. B.



PRUNUS NANA RUBRA

THE
Gardeners' Chronicle
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THE POLLINATION OF FRUIT TREES.

THE spring frosts of this year were very disastrous to experiments in pollination, but a certain number of artificial pollinations have been accomplished on lines similar to those described in a previous article (*Gard. Chron.*, October 28, 1911, p. 299).

The experiments which I have made since the date of that article prove that the following Plums are self-fertile:—Monarch, Oullin's Gage, Golden Transparent, Gisborne Red, Magnum Bonum, Warwickshire Drooper, Common Damson, Bradley's King Damson, Glastonbury Damson, and two other Damsons known as Prune Damson.

Those which have proved self-sterile include Prune Damson, Pond's Seedling, Curlew, Mallard, President, Grand Duke, Stint, Golden Gage, and French Prune.

The list of self-fertile Plums is not so complete as it might be, for owing to damage by frost, new results obtained outside the fruit house could not be taken as positive. There is evidence, both from analogy and from the results of Plum hybridisation undertaken by Messrs. Laxton Bros. in the past, to show that self-sterility is a simple unit character, self-fertility being recessive, and that the heterozygote, when self-fertilised, sets a fruit here and there, as do Mallard and River's Early Prolific. Breeding has shown beyond a doubt that the latter Plum is heterozygous.

I have found this year that even in the common Sloe there are both sorts, fully self-fertile and absolutely self-sterile.

One Cherry, other than Morello, has proved an exception to the general rule, for Late Duke is quite self-fertile, and has yielded a fine crop of seed. The Cherries Morello and Kentish were tested as to their ability to pollinate other Cherries efficiently, and proved efficacious in that respect, though it will be remembered that Andrew Knight raised hybrids from the Morello which proved sterile.

An experiment was undertaken to discover to what extent the wind may pollinate a *self-fertile* Plum. The result, though marred by frost, was quite in accordance with what Messrs. Lewis and Vincent found with regard to Apples. One of two young standard trees of Victoria was enclosed in muslin of a mesh sufficiently small to exclude bees and large flies, but large enough to admit wind quite freely. This tree bore one Plum, while the uncovered tree bore about a quarter of a crop, and but for the frost would doubtless have been heavily laden.

This shows then that, whether a tree be self-sterile or not, *insects are absolutely necessary for efficient pollination.*

In the controversy constantly waged between the advocates of the hive bee and those of the wild bee, it would seem that sufficient notice has not been taken of the weather obtaining at pollination time. As in so many cases in controversies of this kind both protagonists are right, for in bright, sunny weather, with a gentle breeze, the bees working may be 75 to 90 per cent. hive bees, but if the weather be dull and cold, pollination is done exclusively by wild bees and flies, which work much more readily under adverse weather conditions than do hive bees.

I am much indebted to the Toddington Orchard Co., on many of whose trees I have experimented, and to Mr. C. S. Martin, manager, who has given me every assistance in my experiments. *W. O. Backhouse.*

THE ALPINE GARDEN.

CAMPANULA × PROFUSION.

I NOTICE that Mr. Farrer, in his recent work on *The Rock Garden* (Present-day Gardening series), associates this pretty, late-flowering hybrid with C. cæspitosa, more generally known as C. pusilla. I do not know Mr. Farrer's reason for this; C. pusilla had nothing whatever to do with the variety, and, so far as I know, no plant of that species was within a mile at the time the cross was made. The history of the hybrid is as follows:—I had been endeavouring for several years to obtain crosses between C. isophylla and C. carpatica vars. as pollen parents and C. pyramidalis var. as the seed bearer. I believe I persisted for five successive years before getting a fertile seed. Unfortunately, in the year of securing seed, the tags marking the parentage became detached, and I therefore had to make a guess as to the pollen parent. I formed the opinion from the position of the capsule, that C. carpatica was the male parent; but, since the plant has become more developed, I have come to the conclusion that it was C. isophylla. This is made more obvious by the foliage when the plant is grown under glass, and is less apparent when the plant is cultivated in the open. There is no doubt about the seed parent—that was a white-flowered C. pyramidalis. The strangest part of it all is that the hybrid is a diminutive in both flower and foliage of its presumed parent, and no one would dream of C. pyramidalis being in any way connected with it. Virtually, indeed, it is not. There are two varieties in commerce named Profusion: the one a self-coloured flower, the other a sky-blue, mauve-shaded variety. It was the self-coloured flower to which the R.H.S. Award of Merit was made in August, 1895. The presence of the two plants under one name is due either to two seedlings having been pricked off together or to a seed vegetating subsequently. Of course, there was only one flower colour when the plant was certificated. A few days later I attempted a further cross, and soon afterwards sold the plant to the late Mr. Selfe Leonard, conditionally that he should await delivery till the seed ripened. The attempted cross was, however, a failure, and no seed was produced. In the meantime, however, flowers of the shaded variety appeared, and, though I tried to eliminate the plant, some roots must have survived, and, being presently propagated, got into commerce. The shaded or blue-and-mauve variety is, I believe, the more plentiful; possibly, too, the more charming. Both, however, are good, free, and late-flowering, and both show the characteristic trailing habit of C. isophylla, though it is more highly developed in the self-coloured variety, which I may refer to as "Profusion No. 1." For autumn effects in the rock-garden both seedlings are desirable, and, being distinct, should be planted freely. *E. H. Jenkins.*

NOTICES OF BOOKS.

THE GENUS EUCALYPTUS.

WE have before us two additional parts of J. H. Maiden's *Critical Revision of the Genus Eucalyptus*, namely, xv and xvi. The first treats of Eucalyptus oleosa, E. Gillii, a new species, and E. falcata, and contains plates 65 to 68. E. oleosa is an exceedingly variable species, of wide distribution, to the illustration of which three very full plates are devoted. Part xvi deals with a larger number of species, though the number of plates is the same. A new variety of E. oleosa is named Floctonii, "in honour of Miss Margaret Flocton, the accomplished artist of my *Critical Review of the Genus Eucalyptus and Forest Flora of New South Wales.*" It is good to acknowledge the merits of the artist whose work adds so much to the value of a monograph such as this; but Mr. Maiden does not explain why he ignores the usual feminine termination (E. Floctoniæ), thus failing to make it clear that his artist is a lady. Of the 12 other species described and figured in this part, six are Maiden's species, namely, E. Le Souefii, E. Clelandi, E. Stricklandi, E. Griffithsii, E. Pimpiniana, and E. Woodwardi, here figured, at least, for the first time. We have copied the names as published by Maiden, from which it will be seen that the author does not follow the usual rule in forming his genitives. Pimpiniana is derived from "Pimpin," the native name. The remaining species are: E. decurva, E. corrugata, E. Campaspe, E. diptera, and E. grossa. In many ways this is an interesting number—the third which has appeared this year, and we congratulate the author on the fact. So far, 88 species have been dealt with in 72 plates.

DAIRY-FARMING.*

IN so far as science is organised knowledge this little book cannot be called scientific. It is more in the nature of a natural growth in response to an open invitation given to members through the medium of *The Dairy World.* As might have been expected, like other natural growths, it contains a good many weeds and weeds of the same sort, and the reader cannot help wishing that the editor had used the hoe and pruning knife more freely to admit of the fuller development of the many admirable productions which it contains. The president remarks in his introduction that "our minds have to be trained to discriminate," and from this point of view the book undoubtedly offers educational facilities.

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* *Dairying and Dairy-Farming:* by Members of the Dairy Students' Union.

The notes by Messrs. R. H. Evans, J. W. Tayleur, and G. W. Walker-Tisdale will be found very valuable to those framing courses of elementary lectures on dairy-farming, &c., and some of the examples given are very striking. Mr. J. C. Newsham's articles are very good, especially No. 5 on the construction of cowsheds, but more space is required for the development of his article on "Some Poisonous and other Plants Affecting Milk."

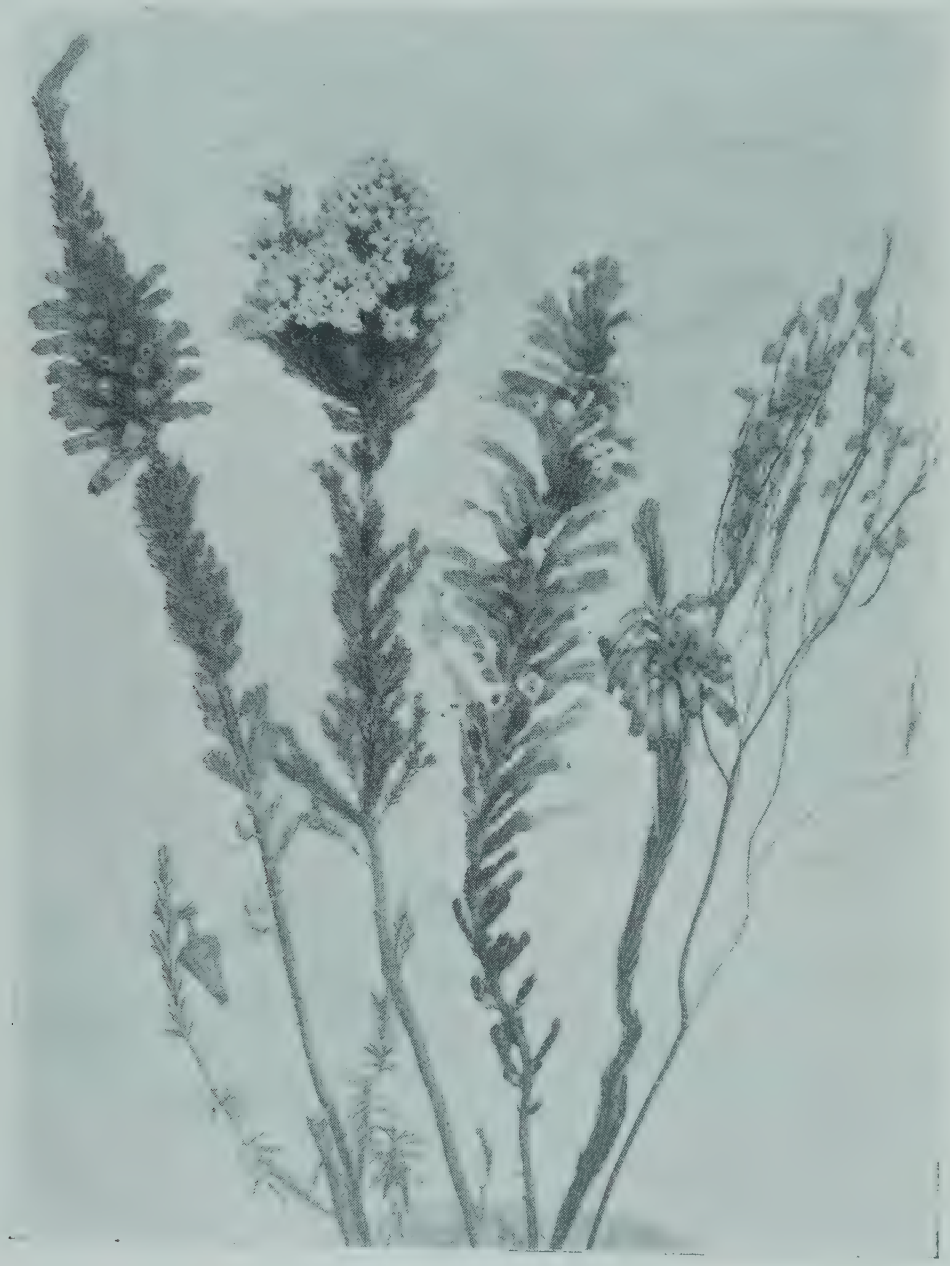
Many of the articles are much too sketchy, particularly those by Messrs. W. Newton and C. H. Page on "Notes from a Milk Factory" and "The Uses of Casein"; this fault is carried to an extreme by Mr. John Porter, who recommends "the use of concentrated sulphuric acid for the 'Gerber' milk test."

The publication of the book has called forth many valuable little articles, such as that by Miss Jean Mason on "Buttermaking," by J. C. N. on "Cheesemaking," and last, but not least, that by Miss Dora Saker on "Cheesemaking Records," a practical investigation which is worthy of further development.

Many useful notes are given at the end of the book, which, as a whole, will provide interest-

CAPE HEATHS.

At a recent meeting of the Royal Horticultural Society, Sir George Holford exhibited on behalf of his sister, Countess Grey, a collection of cut flowers of Cape Heaths. They had been brought in surprisingly fresh condition from Caledon, in Cape Colony, where Lady Grey saw them at an annual show of wild flowers. They comprised about 40 species, and as only very few of them were recognized by those present at the meeting, they were sent to Kew, where they were named by Mr. N. E. Brown. Two turned out to be new, and it is proposed to name them E. Greyi and E. Holfordii. A list of the species is given below. It will be seen that, although very few of them are in cultivation in England now, they have nearly all been grown at Kew and in other British gardens at some time or other.



(1) (2) (3) (4) (5) (6)

FIG. 167.—SOUTH AFRICAN ERICAS.

(1) E. clenna grandiflora. (2) E. colorans. (3) E. Walkeria. (4) E. perspicua. (5) E. regia variegata. (6) E. campanulata.

The history of the South African Ericas as British garden plants may be described as meteoric. When Philip Miller published his *Dictionary of Plants* in 1768 they were unknown to gardeners. They were among the many good garden plants collected in South Africa and sent to Kew by Francis Masson, "the first and one of the ablest and most successful of the numerous gardeners sent out from Kew to collect living plants for the garden." That was in the years from 1772 to 1795. The first species to be figured in the *Botanical Magazine* was E. grandiflora, t. 189 (1792), where it is described as "one of the many new and beautiful species which within these few years have been sent from the Cape by Mr. Masson." This was followed by E.

century 15 species had been figured in that work, including such beauties as E. ventricosa, E. Massonii, E. retorta, E. Aitoniana, E. vestita, &c. Cape Heaths soon became popular, and they were not only grown well, but they were also crossed with each other. Writing in 1843, Dean Herbert declared that a considerable number of Cape Heaths which had been looked upon as species were garden hybrids raised in this country by Rollison, of Tooting, and others. Aiton's *Hortus Kewensis*, Ed. II, published in 1811, enumerates 186 species as being at that time in cultivation at Kew.

During the first half of the 19th century, Cape Heaths were prime favourites as greenhouse plants. Loudon wrote of them in his *Magazine:* "Of what other genus can it be said that every species without exception is beautiful throughout the year and at every period of its growth—in flower or out of flower—and of every size and age? Suppose an individual had the penance imposed on him of being forbidden to cultivate more than one genus of ornamental plants, is there a genus he could make choice of at all compared to Erica? —perpetually green, perpetually in flower—of all colours, of all sizes, and of many shapes." Gardens were famous in those days for their collections of Cape Heaths, as they are in these for Orchids. Kew possessed a great collection; so also did the Botanic Gardens, Edinburgh; George Hibbert, Clapham; E. A. Woodford, Vauxhall; J. G. Angerstein, Blackheath; Messrs. Lee & Kennedy, Hammersmith; Richard Williams, Turnham Green Nurseries; and Messrs. Loddiges, Hackney. There was a large heathery under glass in the Duke of Bedford's garden at Woburn Abbey, and Professor Dunbar, Edinburgh, had the finest collection in Scotland. William McNab superintendent of the Royal Botanic Gardens, Edinburgh, one of the most successful growers of Cape Heaths, wrote a treatise on their propagation and cultivation, which was publish in 1832. Loudon, in *Hortus Britannicus* (1830), enumerates no fewer than 565 species and hybrids as having been cultivated in England, 348 of which had been figured in Andrews's *Heathery*, the *Botanical Magazine*, and other works. The raisers of hybrids were Messrs. Rollisson, Turnbull, Marnock, and the McNabs.

It is evidence of the decline in favour of these plants in the latter part of the 19th century that the last to be figured in the *Botanical Magazine* was E. Chamissonis, t. 6108, in the year 1874, where the decadence of the Cape Heath cult is the subject of comment. "The best collections of the present day are mere ghosts of the once glorious Ericeta of Woburn, Edinburgh, Glasgow, and Kew. Very many species have indeed fallen out of cultivation, and a few easily-propagated hybrids for decorative purposes are all that are to be seen of this lovely tribe."

The excitement and interest displayed over the collection of flowers shown by Lady Grey may be taken as evidence of a desire to restore Cape Heaths to popularity. The only good reason one can adduce for their loss of favour is that their culture is special and, compared with that of the majority of greenhouse plants, difficult. But the same may be said of Orchids. McNab, in his treatise, maintains that when their requirements are understood, Cape Heaths are quite as easy to manage as other greenhouse plants. Forty years ago there were considerable collections of species and hybrids in cultivation in the nurseries of Messrs. Low & Co., Clapton; John Fraser & Sons, Lea Bridge; and Jackson & Sons, Kingston, where they were grown in ordinary frames without any special effort by men who had been trained to provide the right soil and conditions, which were simple enough. It would not be difficult to start afresh by obtaining seeds from the wild plants in Caledon and other parts of the Cape where they still abound. According to Bolus, the showiest species are found on the mountains, which they colour as our native Heaths do our moors and hill-sides. They are which was the special botanising ground of Masson and other collectors of Cape plants. Caledon is in the centre of this district.

The following is a list of species of Erica brought from Caledon, Cape Colony, by Countess Grey, and shown at a meeting of the R.H.S., October 8, 1912:—

abietina.
†ardens.
articularis.
†baccans.
*†Bergiana.
*†Bowieana.
†campanulata.
Clenna grandiflora.
*coarctata.
*colorans.
†cubica.
†curviflora.
daphniflora.
dianthifolia.
†discolor.
Greyi (n. sp.)
Holfordii (n. sp.)
*Irbyana.
†longifolia.
†lutea.
*†mammosa.
*melanthera.
*†perspicua.
†physodes.
†Plukenetii.
*†propendens.
†pyramidalis.
*regerminans.
regia variegata.
†sacciflora.
sessiliflora.
sitiens.
†spumosa.
sulphurea.
†tenella grandiflora.
†viscaria.
Walkeria.

W. W.

THE MARKET FRUIT GARDEN.

The Sequel to Aphis Attacks.

In pruning Apple trees at the present time, the injurious effect of the great attacks of aphis of the past summer is distressingly in evidence. Shoots that were badly infested are dwarfed, twisted, and often covered with sticky growths. They should be cut back below their deformed parts to a good wood bud. If left unpruned, they would be covered with blossom and probably with fruit next season, but their growth would be permanently stopped, and only inferior Apples would be borne by them. The contrast between the appearance of a young and vigorous tree which was not attacked by the aphis and that of a tree which was badly infested is very striking. As stated on previous occasions, the aphis does more harm in my orchards than all other insect pests combined. I can almost entirely extirpate Apple suckers and caterpillars; but the aphis can claim the victory every season, in spite of any amount of spraying, and this statement applies to Plums as well as to Apples. If anyone could discover a wash which would prevent the mother queen aphides from starting the breeding campaign on trees, he would be a great benefactor to fruit growers. It is possible that a strong nicotine wash, applied as a preventive to aphis attack, as well as immediately after one had been begun, would have a good effect. At the present price of nicotine, however, the expense would be prohibitive. Next season, it appears, the growth of Tobacco, under certain conditions not yet made known, will be allowed. If the conditions are not such as to be practically prohibitive, this will be a great boon.

Continued Low Prices for Apples.

The Apple crop must have been a bigger one than early reports led anyone to anticipate, as the markets continued to be glutted up to the end of October. It was known that early varieties cropped heavily, and some mid-season sorts also yielded well. But the continued glut was partly due to the premature marketing of late varieties and partly to the checking of the demand by retail fruiterers, whose prices have been out of all fair proportion to wholesale rates. In the third week of October I sent some fine Lord Derby Apples to a large seaside market, and got a return of only 3s. per bushel for well-graded firsts, from which rail expenses and 6d. for commission had to be paid. In the same week, in the same town, greatly inferior fruit was ticketed at not lower than 3d. a pound in ten fruiterers' shops which were inspected, or at the rate of 10s. a bushel. Possibly the shops which cater for the lowest class of trade may have sold Apples at a lower price; but the demand from well-to-do people must have been checked greatly by fruiterers charging them more than three times as much as growers received. By such checking of the consumption, an artificial glut in the market is produced, seriously to the injury of growers.

British and American Apples.

Another point in connection with prices is that first-class American and Canadian Apples have been making more than first-class British fruit, well graded and packed. The former have been quoted up to 6s. a bushel for cooking varieties, or 1s. more than English fruits, which are vastly superior—at least as big, more juicy, and better flavoured. This was the case also with Blenheim Orange. Consumers, apparently, pay attention only to size and appearance, ignoring quality and flavour. *A Southern Grower.*

FOREIGN CORRESPONDENCE.

CULTIVATION OF ALPINE PLANTS AND ORCHIDS.

Having read with much interest M. H. Correvon's article on the cultivation of Alpine plants in the south (see p. 263), perhaps I may be permitted to relate my experience in connection with their cultivation here in Naples.

It may be a matter of surprise to your readers to hear that I have come to the conclusion that the conditions of culture of two such different sets of plants as Alpines and Orchids are subject to the same rules; but my experience points towards this conclusion. In October, four years ago, I visited the Botanical Garden at Dresden, and saw some Orchid plants cultivated in bare stones, and apparently doing very well. This was of the greatest interest to me, as my few Orchids were not in a satisfactory condition, owing to my not having been able to obtain proper Sphagnum-moss and other necessary materials. On my return, therefore, at the beginning of November, I repotted my whole stock—perhaps 30 or so pots—in small pumice-stone, having first thoroughly washed the roots in water. During the winter I could perceive no improvement, but in the spring I was delighted to find that young, healthy growth was being made by the Calanthes and Phaius (Japanese species, such as Calanthe discolor, C. citrina, C. japonica, Phaius Blumei, P. grandifolius, and P. maculatus), also by Cypripedium insigne, C. villosum, C. Harrisianum, Lissochilus Krebsii, and L. graniticus.

These are all terrestrial Orchids; and I was curious to know whether the epiphytes were doing as well as these. I had received some time before, from a friend, a very poor specimen of Cœlogyne cristata; it had only three small pseudo-bulbs, hardly larger than Sweet Pea seeds. During the period of growth following my experiment the bulbs were found to be as large as Hazel Nuts, and now, in the second year, they are the size of large Walnuts. I tried the same experiment with Odontoglossums and Cattleyas, and the growth is in every case satisfactory.

This method of cultivation is very simple; the merest amateur could carry it out with success. The chief point to remember is to give a large quantity of water in the morning and evening, and none at all during the day; the stones I use are very porous and hold sufficient moisture to last 10 or 12 hours.

After attaining to such success with Orchids, I felt inclined to try my hand with Alpines, such as Campanulas. I obtained a small collection, consisting of C. pulla, C. pulloides, C. pusilla, C. pusilla alba, C. elatinoides, C. Raddeana, and others, and planted them in stones, sinking the pots in soil among other plants, in a half-shady place under some Orange trees. I was astonished at the splendid growth and the fine, well-developed blooms. The roots have now filled the whole pot; and, though it is only a short time since they were planted, there is quite a carpet of young plants. I have applied the same method to our beautiful Campanula fragilis, and also to Woodwardia orientalis and W. scolopendrium.

I employ pumice-stones which were thrown up in the eruption of Vesuvius in the year 79 A.D. If any of your readers would like to make an experiment with them, I should be quite willing to send a small quantity by post. *Willy Müller, Hortus Nucerensis, Nocera Inferiore, Italy.*

FORESTRY.

SEASONABLE WORK.

Before beginning to plant it is, of course, necessary to bear in mind for what purpose the planting is to be done: whether to beautify the landscape or to provide cover for shooting or hunting. If the former object is intended, the chief consideration should be the nature of the landscape, in order that any fresh feature provided by planting may be in harmony with the surroundings; if the latter, the following directions may be of some use:—

At the commencement, a fence should be erected round the site decided upon, and to it wire netting should be fixed. This should project into the ground for some 6 inches at the bottom, in order to keep out rabbits, which do a good deal of damage to young trees. Inside the fence a quickset hedge should be planted; this, if given proper attention, will become a strong barrier by the time the covert has matured. There should be a distance of at least 10 feet between the hedge and the first trees in the plantation.

The best material for covert planting consists of Hazel, common Ash, and Spanish Chestnut, and these trees suit almost any soil. The Chestnut gives the quickest result, being of a fast-growing nature. A few standard trees and Conifers should also be planted amongst the underwood at intervals of about 30 yards. When planting these, it is a good plan to drive a stout stake into the ground as a support.

It may be well to say here that orders for planting should be given early, but, when ordering, it should be expressly understood that the trees are not to be lifted until they are wanted. Many failures in planting are the result of the trees having been out of the ground too long. A great deal of work should be done before the trees arrive; for instance, the holes should be dug ready to receive them. For planting Hazel, Ash, and Spanish Chestnut the holes should be 15 inches square and 10 inches deep. The same size should also be allowed for Larch, Austrian Pine and Scotch Fir, unless the trees are more than 2 or 3 feet in height, when the roots will probably require rather more room.

With regard to the labour required for digging holes, a satisfactory solution to this problem may be found in the method of piece-work. A very fair price would be 15s. per 1,000 holes. Any man who is in the least efficient can earn at this rate a fair wage, and do the work well and thoroughly. A simple way of checking the size of the holes is to measure the sole of the boot, and, when walking over the ground, to place the foot occasionally in a hole of doubtful size. *Arthur Gooding.*

THE HEATHER BEETLE.

Of late years this beetle has been so on the increase in Scotland that the Heather over large areas has been killed outright by its attacks. It was first noticed in Scandinavia in 1866, and in Scotland about nine years ago. During the past two years, however, it has increased at an alarming rate and large areas of heather, particularly in Ayrshire, Lanarkshire, and Renfrewshire, have been completely killed by the beetle.

The beetle in size and shape resembles the better known Pine beetle, but is of lighter colour, yellowish brown with a black head, and less than a quarter of an inch long. *A. D. Webster.*

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* In cultivation at Kew, 1899 (see *Hand List*).

† In cultivation at Kew, 1811 (see *Hortus Kewensis* Edit, II).

PROBLEMS OF PROPAGATION.*

(Concluded from page 3.)

Resinous Cuttings.

Another problem confronts the gardener when he attempts to propagate by cuttings plants which are full of resin, as are so many of the Coniferæ. It was said for a long time, and is said even now, that propagation by cuttings of many Conifers is not possible. The impracticability of such propagation from the point of view of commerce we may admit in the case of many coniferous genera. As a fact of science all can be propagated. One essential difficulty in the way of propagation by cuttings of some of these plants—e.g., Abies and Picea—for commerce lies in this, that the terminal shoot alone gives a good radially impressed offspring. The dorsiventrality of the lateral shoots is so engrained in the organism that it reappears in the product of a cutting from a lateral shoot. And so propagation by cuttings does not in many genera spell multiplication.

The Coniferæ generally do not form callus freely. Pines and Firs do not develop stool-shoots, and this has been suggested—although it is not valid—as an obstacle to their propagation by cuttings. All of them form some callus (fig. 169). Far more of an obstacle is the resin. Deficient as they relatively are in the usual means —callus—which Nature provides for protection of wound-surface, the Conifers have acquired another means of protection—resin. This when it exists flows out copiously on an injured surface, covering it as effectively as does callus with a hard skin. The significance of this in propagation will be readily appreciated. The cut surface of the cutting bleeds and the resin exuded hardens over it and any callus there is, thus forming an effective obstacle to the exit of young rootlets. What then is the propagator to do? Simply scrape off the resin-skin. Most Conifers so treated, and under the application of the wound-stimulus of paring the callus, propagate freely (fig. 168). Of all of them Pinus seems to be the most obstinate, but it also yields to treatment, e.g., plunging the end of the cutting in nearly boiling water (fig. 169).

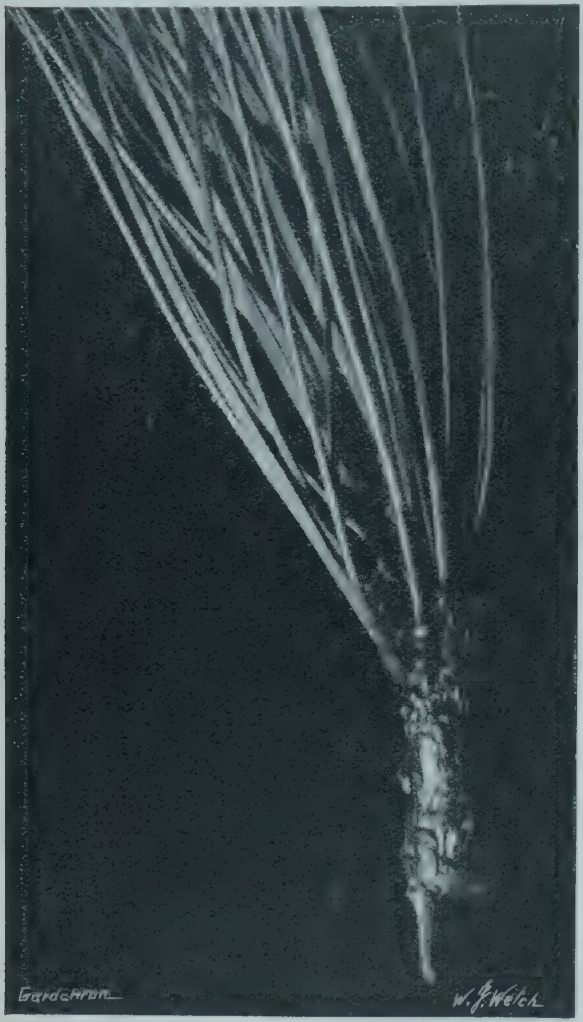

Fig. 168.—Rooted cutting of Pinus.

Dicotylous plants with resinous or milky juice are in like case with Conifers, and require to be treated after the same fashion.

A great outflow of the resin or juice from the cutting is damaging. Luting of the cut end by placing in water or by rapid drying of the exuded resin or juice prevents the risk of loss.

Cuttings of Monocotyledons.

The propagation of monocotylous plants by cuttings brings us in contact with some striking features in which they differ from dicotylous plants, and I am disposed to think that possibly the difference I am about to describe may have been one of the reasons for the prevalent idea that some of these monocotyls do not propagate by cuttings.

In illustration take the case of Asparagus. Here, as in monocotyls generally, a short terminal portion of the shoot will give no result. A larger branched twig must be severed for use as the cutting. Placed in the required conditions, it exhibits phenomena fundamentally diverse from those shown by the dicotyl:—

(a) First of all no callus is formed. Only a skin of cork is produced to cover the wounded surface.

(b) No roots are sent out from the stem by the cutting.

(c) A bud in the axil of the lowermost leaf on the cutting (or of it and of the one immediately above it) begins to enlarge, and as it does so from its base emerge new rootlets. This enlarging bud is the beginning of the new plant that is to come from the cutting. As the bud spreads laterally it sends up aerial shoots, and as these develop the portion of mother-shoot used as a cutting withers and dies off. It takes no share in the formation of the new plant.

This distinctive difference in behaviour of dicotyls and monocotyls is no chance one. It belongs to phyletic history, and is of the essence of the constitution of the two groups of plants. Dicotyls begin with a terminal plumule. Monocotyls begin with a lateral plumule. From the beginning the dicotyl has the instinct of upward terminal growth, and that means rapid growth. From the beginning the monocotyl displays lateral growth, and that means sluggish growth.

The habit thus early shown by these two classes of plants is impressed upon them, and reappears in the stages of vegetative propagation by cuttings. The terminal shoot of the dicotyl extends as the new plant from the cutting. A lateral bud develops as the new plant in the monocotyl and the terminal portion of the cutting dies.

There is a further interesting point to note here:—A wood-cambium, such as occurs in dicotyls, is absent from monocotyls. Yet in some tree and shrubby forms monocotyls make a wood-cambium of a special kind, for example Dracæna. Correlated apparently with this divagation from the ordinary monocotyl type in the direction of the dicotyl, the terminal portion of the shoot when cuttings are made elongates, and forms an extension of the severed shoot after the fashion of the dicotyl.

It is usual when selecting a portion of the mother-plant for the purpose of making a stem-cutting to include at least one node, because it is there that a shoot-bud actually in evidence or latent will be found, from which the new extension will proceed. But in some plants such selection is unnecessary. Any portion of an internode may be used as a cutting. Take for instance Acanthus. In such cases the shoot-bud for extension is an entirely new formation from the callus.

The root, like the stem, offers a part from which cuttings can be made, and it is frequently used for the purpose, especially in the case of plants whose propagation otherwise has proved more difficult—for instance Calycanthus, Cladrastis, Ailanthus, and others—and also in some cases where an earlier result is desired than can be obtained by a stem-cutting—as in Spathodia campanulata.

Propagation from Roots.

In the use of the term "root" I refer to the true root. It is difficult when reading gardening literature to determine, in many cases when propagation by roots is spoken of, the sense in which the word is used—whether as including all underground parts of plants, or the root in its strict botanical sense.

Propagation by root-cuttings is governed by the same principles as are involved in shoot-cuttings. There is callus-formation on cut surfaces as on the shoot. There are, however, no nodes and internodes offering regions of selection, and this is correlated with another feature in the root which operates to promote the success of cuttings. The spots whence branch-roots normally arise in the root are not confined to definite intervals on the length of the root. They come off from the pericycle of a primary root apparently as required by the plant. Fewer develop than the capacity of the root provides for, and there is thus an ample reserve, any of which may develop when needed. The shoot-bud is here a new formation, and may come from the callus or from the pericycle of the root.

Any root with adequate substance and food-supply may be used for propagation under suitable stimuli.

We have seen how in nature—e.g., in Bryophyllum—vegetative propagation may be carried on through the leaf itself without the stem, and I have described how the leaf may be ancillary to the stem in the case of a shoot-cutting by assisting in the formation of roots if it be left at the base of the cutting. It has then clearly potentialities for use as a cutting itself, and you are all doubtless familiar with the fact in the multiplication of Lilies from the scale-leaves of the bulb. It is a common garden practice. Here the leaf is a tuberous food-store. Moisture and other necessary conditions suffice to stimulate callus-formation at the severed surfaces whence the new plantlets arise—beginning always as bulblets.

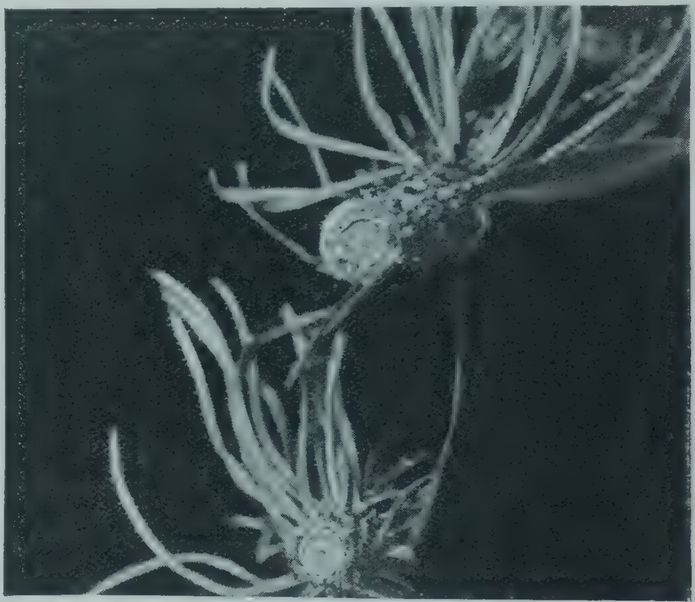

Fig. 169.—Cuttings of Pinus sylvestris, showing callus formation.

Propagation from Leaves.

An illustration of the principles governing propagation by leaves is offered in nature by Zamioculcas Loddigesii. The leaves when shed exhibit no particular feature indicating their special dedication to the purpose of propagation, but after they have become detached from the plant the leaves remain green and active, and the food-material which they contain at the time of their fall accumulates at the cut surface, and is there devoted to the formation of a large tuberous callus from which roots develop, and then a vegetative shoot-bud is extended to form the rhizome of a new plant.

Different as the leaf is from the stem, the procedure in its utilisation for propagation is the same. It does not produce new leaves—it produces shoots. Given the possession of adequacy of active indifferent cells, that is to say, cells not already impressed with a definite morphological destiny and a sufficiency of food, then in proper conditions of moisture, aeration, and temperature any leaf may be used as a cutting.

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* The eighth Masters Memorial Lecture delivered by Professor I. Bayley Balfour, F.R.S., at the meeting of the Royal Horticultural Society, on June 4.

The practice of using leaf-cuttings is an old one, and was followed more in the past than now—Citron, Lemon, and Laurels were so propagated by the Romans. Nowadays, however, it is restricted by gardeners to a comparatively small number of facile forms—such for example as one finds in Begonia, Melastomaceæ, Gesneraceæ, Crassulaceæ, where there is substance and abundant water in the leaf—soft-wooded plants one may call them. Although thus limited in use, the method of propagation from leaves is one which the gardener should not underestimate. Apart from the fact that it is, when easy, an economical method—inasmuch as many plants may be obtained from one leaf—there is another practical point I wish to mention. It offers a means of obtaining quickly flowering specimens. A leaf from near the flowering region in a Begonia, for example, used as a cutting will give plants that flower earlier than can be otherwise obtained than by the cutting of the whole flowering shoot. For a really adequate scientific explanation of this interesting phenomenon we must await further experimental work.

In leaf-propagation there is, however, one difficulty which has doubtless been in the way of its more frequent use. Root-formation takes place freely from the callus of the wound of the leaf as a rule. But the formation of the new shoot-bud is often retarded. I have pointed out that in stem-cuttings, which have the shoot-bud ready on the stem awaiting the vivifying impulse of a water-supply from new roots, the exuberant callus may be slow in forming roots or refuse to do so until the further application of the wound-stimulus by paring of the callus. Here in the leaf it is the new shoot-formation that is retarded—for example, in Ficus elastica, Camellia, and Hoya carnosa. Why exactly this should be is one of those problems of propagation of which we have not yet the solution. Stimulus of callus-paring operates in hastening if the callus be large, but that does not seem to meet the whole case. There is, indeed, evidence that the quality of food-material may be an influential factor, and that possibly an acid state of the plastic material may be requisite for shoot-formation in the circumstances. Further experiment is required. If research should prove that the quality of pabulum is an efficacious stimulus the importance of the discovery from the practical gardening standpoint would be great, and its bearings would extend beyond the immediate matter of propagation by leaf-cuttings.

From the standpoint of practical gardening the time at which a cutting is taken is a matter of considerable moment in many cases. In the outlook my thesis compels me to take, it bulks less largely because the colonial organisation of the plant lends itself so readily to adjustment to artificial treatment and stimulus that I might—with perhaps a large reservation—say not only that all plants can be propagated by cuttings but also that most plants can be propagated at any period under right conditions—that is to say, conditions which secure that the activity of the formative cells is adequately preserved while the stimulus to growth is applied. The risk in selection of an unfavourable period is correlated with the condition of the food-supply, the conversion of which means probable delay in striking with the attendant danger of wilting.

Principles and Practice.

In the case of many plants of temperate regions which strike readily, no special preparation for securing rooted cuttings is necessary, and success is easy if due attention be given to watering.

To other plants, and particularly those of warm countries, and other plants of special features, more attention must be given, and in general terms one may say that there are two outstanding lines of practice suitable with or without modification for individual plants, and characterised by the manner in which water is supplied and the temperature maintained. They may be designated:—

1. Overhead watering in full sunshine.
2. Under-root watering in shade.

The first method is for cuttings that do not suffer readily from water on their crowns, and is more rapid, and more effective. The sun's rays have evidently a stimulating influence other than that implied in the heat unit, and are more decisive in promoting energetic growth than the suffused heat derived by the cutting from the water alone under the second method.

The second method does away with all the difficulties that attach to damping-off from excess of moisture on the surface of the cutting, and also from intermittancy in consequence of variations in temperature of the water, and for plants which are woolly the safeguard against over-watering is sometimes critical.

I have confined myself to dealing with some of the matters that seem to me to lie at the foundation of the idea expressed in my text—"It is well known that many plants cannot be propagated from cuttings"—and to endeavour to show how some at least of the difficulties experienced by propagators are not a consequence of inherent qualities in the plants themselves, and that therefore by method in propagation they may be overcome. In what does that method consist?

(a) In maintaining adequate water-supply in the cutting until it is able to absorb for itself.

(b) In applying stimuli to encourage the development of the new water-absorbing organs—and in other cases to promote the development of the shoot.

(c) In securing adequate aeration of the rooting end of the cutting.

Therein is the essence of propagation by cuttings.

Much investigation will be required before we are able to prescribe for all desirable plants what is the best procedure for their vegetative propagation from the gardening standpoint.

For some years in Edinburgh investigation of the kind required has been in progress, and I have drawn largely upon the work of Mr. Laurence Baxter Stewart, the enthusiastic plant propagator, whom I am so fortunate as to have on my staff, as well as upon the work of one of my pupils—Miss Bertha Chandler—who has been engaged for some time in working out the details of propagation and preparing a story of principles and methods in which will be incorporated with the results of her own experiments a record of methods advocated by propagators as these are preserved in periodical literature and books on gardening. I hope that the record will be in a sufficiently advanced state for publishing next year, and that it may convince gardeners of the incorrectness of the commonly accepted notion conveyed in the text from which I have spoken.

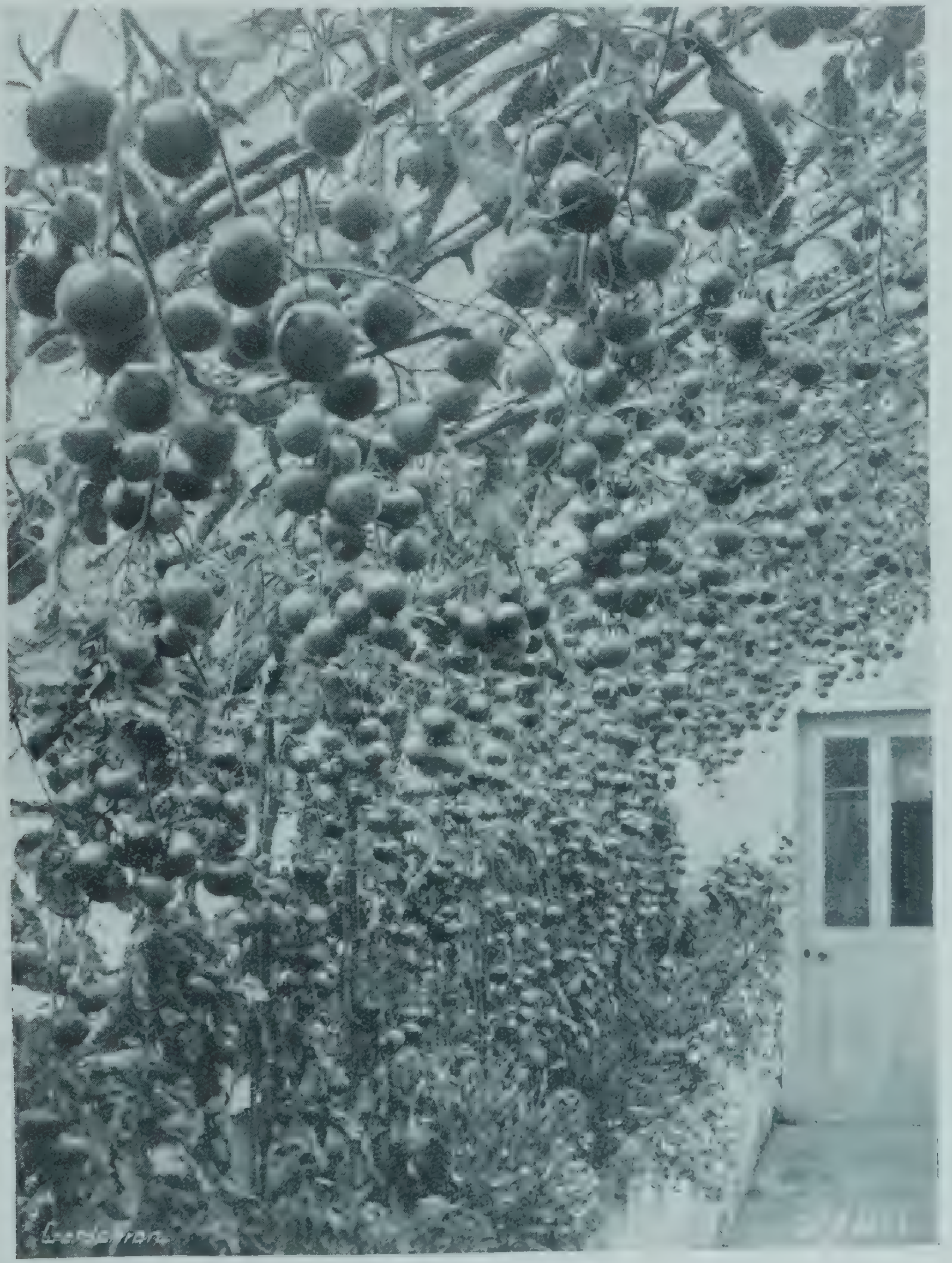

Fig. 170.—Crop of Tomatos grown by Mr. J. A. Barkham, Ryde.

A FINE CROP OF TOMATOS.

The crop of Tomatos illustrated in fig. 170 was grown by Mr. J. A. Barkham, Ryde, who has kindly supplied the following particulars:—The variety is named Magnificent, and was raised from a cross between Carnation and Winter Beauty. The fruits are of good colour and shape, and average from four to six to the pound; owing to the small number of seeds, there is a considerable amount of flesh. The plants were raised early in February in a temperature of 55°, and, when the seedlings were large enough to handle, they were potted singly in small pots in a mixture of loam, leaf-mould and sand. They were afterwards shifted into 4½-inch pots, and when large enough planted in the borders.

SOUTH AFRICA.

THE NARRA FRUIT.

The British Territory of Walfish Bay, on the West Coast of South Africa, forms part of the South African Union. It is the poorest and most desolate portion of the Union, consisting of nothing but shifting sand dunes. There is no drinking water, only a few water-holes yielding a brackish, nauseous fluid, which frequently gives out; at the Bay Settlement all the necessary water is supplied by the Government condensing station. The district covers an area of about 1,080 square miles, but the population is naturally very small, consisting of a few white inhabitants stationed at the bay and about 800 Hottentots.

The nature of the territory prevents anything but the poorest of floras. The daily south-western hurricane covers the ground with heavy sand; the salt air kills any plants which may survive the sandstorms, with the result that no vegetation can exist, with the single exception of the Narrah, or Narra, plant [Acanthosicyos horrida.] As may be imagined, this hardy denizen of a blighted territory is protected in a very special manner from the enemies which have annihilated every other plant in the region. The plant is a Pumpkin, and belongs to the Cucurbitaceæ; but, unlike other Pumpkins, it has no leaves. The foliage atrophies as soon as it appears, and from each node a pair of long, sharp thorns is produced. The root strikes deeply—30, 40, and even 60 feet—into the sand, until it reaches moist ground, and in order to avoid being covered by the sand, the growth is tremendously rapid, and enables the plant always to push up above the surface. In this respect, the absence of leaves is naturally a great advantage, as foliage would provide a ready surface for deposits of sand.

The fruit forms in October, and reaches maturity about Christmas, lasting until the end of March. It is about the size of a small Water Melon, and contains 60 or 70 seeds, or "pips" as they are called. The seeds are highly nutritious and very palatable; they taste like fine nuts, and are frequently used as Almonds. The natives are in the habit of selling them, usually boiling them first. The flesh of the Narra, when ripe, is of a pale cream colour, sweet, but with a trace of pleasant acidity, and almost liquid. The fruit, which can be divided into sections like the Orange, contains large quantities of sugar, and is highly nutritious, forming the staple—indeed almost the sole—food of the Hottentot inhabitants of the district. The people are in the habit of staking off small plots on which the Narra grows. The plots are handed down from father to son, and the owner for the time being strictly preserves his rights over the harvest. Those who are too idle, or too unfortunate, to have established any such claim, wander about in families from sand-dune to sand-dune, plucking and eating the fruits of unappropriated plantations. As the Narra fruits mature very quickly, the natives have adopted the following method of preserving them:—The Narras are boiled in a pot to a thick soup, and, while still liquid, pressed through a crude sieve composed of a woven basket. The liquid runs through on to the dry, sandy ground, where it forms into huge pancakes which are dried hard by the sun. The seeds are left behind in the basket, and are subsequently sold by the natives in Cape Town, where the merchants dispose of them as "nuts" or "Almonds."

The large, flat cakes, when thoroughly hard and dry, are rolled up (sand and all), and kept as provision for the winter. Sometimes they are eaten in this condition, chunks being cut off, as from a roll of tobacco. The substance is so tough that only a Hottentot, who is accustomed to use his teeth for this purpose from early youth, can bite it, and so astringent that it causes considerable burning and swelling of the palate and gums to anyone who is not used to it.

Sometimes the dried cakes are boiled before use; the result is a thick brown soup, at the bottom of which is formed a sediment consisting of the starch, which separates from the other constituents.

Perhaps it is hardly necessary to state that the Hottentots have discovered a method of producing an alcoholic substance, resembling beer, from the Narra. For this purpose the fruits, when ripe, are laid out in the sun for two or three days. They are then pressed to extract the juice, which is boiled into syrup. No addition of sugar is necessary; but in order to supply a slightly bitter flavour and to assist fermentation, a little of the root is scraped into the syrup. This root, by the way, is often used by the natives for medicine. It is extremely bitter, and it is said that even the odour is enough to turn milk sour. Certainly a drop or two of the juice of the fruit is sufficiently acid to coagulate milk immediately, though, strangely enough, this property is possessed only by the ripe fruit.

It has already been noted that the Narra seeds resemble Almonds, and if the raw seeds are pressed between stones a fine, fragrant oil is obtained. Naturally, when boiled, much of the oil is lost. Even after the oil is extracted, sufficient nourishment (of an albuminous nature) is retained in the seeds to make them a valuable food for poultry.

In conclusion, I may say that most of the above particulars were supplied to me by Mr. V. von Gerard, the magistrate at Walfish Bay, one of the few European residents in the district. *C. G. Willson, Uitenhage, Cape Province, S. Africa.*

NEW ROSES.—III.

(Continued from p. 365.)

Rayon d Or (Aust. Hyb., Pernet Ducher, 1910).—This Rose is said to have been raised as a cross between Mme. Mélanie Soupert and Soleil d'Or. By universal consent on its first appearance it was regarded as a fresh break among Roses. Its special feature is the colour of its flowers, which are a deep canary yellow, sometimes almost golden yellow. This colour is clear and uniform, and, though no doubt paler in autumn, it is much less washed out by the autumn rains than is that of most of the yellows. The habit of the plant is branching, the young stems are a nice brown and the foliage a dark and very glossy green. It seems proof against mildew, but not against black spot—though I fear I might ask whether there is any Rose that is proof against this fell disease, and get no satisfactory reply—it is rather a dwarf grower, my plants being about 1 foot 6 inches to 2 feet 6 inches high, and flowers quite continuously during the season. I think there has hardly been a day during this summer and autumn without a flower in my little bed of some half-a-dozen plants, but I have seldom seen a mass of flowers out at a time. The flowers are fragrant, but as a rule have little beauty of form. In this respect, we are hoping great things of Mrs. George Beckwith, of which we had a glimpse at the International, and when it comes we trust it may add to the colour of Rayon d'Or some beauty of form in the flower. Till then, we must do our best with what we have, and few will do wrong in growing a little batch of this bright yellow Rose.

Sheilagh Wilson (H.T., Dr. J. Campbell Hall, 1910).—This is really a semi-climber, its growth being nearly as strong as that of Reine Olga de Wurtemburg. It has been described as a perpetual Paul's Carmine Pillar. It is certainly perpetual, and generally carries some flowers, but it is hardly as bright as Carmine Pillar, and seems to suffer rather badly from mildew. Still it is a step in advance and worth growing as a perpetual climbing or pillar Rose until we can get a better.

Simplicity (H.T., Hugh Dickson, 1909), said to be a seedling from Kaiserin Augusta Victoria. This is a white Rose with large flowers which are single or nearly so. Several flowers are produced at the top of the stems, and they open successively. It is a very beautiful flower at its best and useful in the garden, but it is not altogether easy to have it at its best for indoor decoration without taking some trouble. The difficulty is that a great part of the charm of the flower lies in the contrast of the yellow stamens in the centre with the white petals, and these stamens rather soon go to a dirty brown, when the freshness of the flower is gone too. It is, therefore, necessary to make up one's mind to sacrifice a few flowers and cut the blossoms just before they open, removing any that are fully expanded, and then allow the flowers to open indoors. It is a good upright grower, carrying its flowers well, with good foliage, and it makes a beautiful and useful garden plant.

Theresa (H.T., A. Dickson & Sons, 1910).—The striking colour of the summer flowers is the feature of this Rose. It is a deep apricot orange, but very variable even on the same plant. In autumn, one may sometimes pick a flower which is quite buff yellow. This Rose makes a nice shrubby little plant of symmetrical outline about 2 feet 6 inches to 3 feet high. The foliage is plentiful, but the leaflets are not large, and it is rather given to mildew. Curiously enough my plants suffered more from this disease in the dry year of 1911 than in the wet one of 1912. The flowers are only semi-double and wanting in form. Though fairly free flowering it is not quite continuous, but gives several crops during the season. It is not an indispensable Rose, but for those who have room for it Theresa will afford a good deal of interest and pleasure in the course of the year.

White Killarney (H.T., Waban Rose Co., 1909).—This is a creamy white sport from the well-known Killarney, and like its original it often gives a most beautiful and perfectly-formed flower. It is also a good garden plant, and the flowers show up well in the borders. It is a good grower, but naturally, having regard to its origin, is somewhat prone to mildew; the flowers, however, do not suffer so much as do the pink ones of the parent when the plant is attacked. Mildew, moreover, may always be kept in check by a little timely and persistent syringing. White Killarney is quite fragrant.

Veluvezoom (H.T., Baron von Pallandt, 1909).—This strikes me as quite a good garden Rose, but it seems little known, for I do not remember seeing it in any garden but my own. It is a good grower, free from mildew, of nice branching habit, and has large, full and well-shaped flowers which are carried well on the plant. The colour of the flowers is bright carmine rose with a certain amount of yellow at the base and specially on the reflexes of the petals. The shade of colour is perhaps the weak point of this Rose, but the yellow shading tends somewhat to relieve a colour which otherwise might be thought rather crude. For those who have room to spare it is a Rose quite worth growing.

At this point I would venture, in the interests of the Rose, to express a hope that some of our hybridists would give us a little more information as to the parentage of the Roses that are put on the market. Not a few of our best Roses are referred to by the raisers as pedigree plants, so one would suppose the parentage is known, but, as a rule, it is only by Continental raisers that this information is given. To them accordingly we proffer our thanks. *White Rose.*

KEW NOTES.

Following upon the general rebuilding of the rock-garden, the east side at the south end is now in process of reconstruction. The part near to the dripping well is being considerably heightened; the well itself is being placed further back to provide space in front for a bog-garden. A shortage of materials when this portion of the rockery was first made necessitated the use of a mixture of various stones. These are now being substituted by weather-worn Cheddar limestone.

The building of a new span-roofed Orchid house for Cattleyas by the side of the existing public Orchid houses has necessitated the removal of several trees. Two large evergreen Oaks, weighing approximately 7 tons and 8½ tons respectively, have been moved with the aid of the large transplanting machine. The grass bank and chains clothed with Ivy, which form the boundary of the terrace on which the range is built, have been extended along the front of the new house. The dimensions of the structure are: length 46 feet 9 inches, width 20 feet, height to eaves 6 feet 6 inches, to top of ridge 13 feet. The side and central benches in the house are of teak. The principal rafters are iron and the woodwork deal. Heywood's patent system is used in the glazing. The flower-beds in front of the large Palm house, along the Broad Walk and near to No. 4 greenhouse, have been planted with bulbs, principally Tulips and spring-flowering plants, Wallflowers, Iberis, Violas, and Polyanthus.

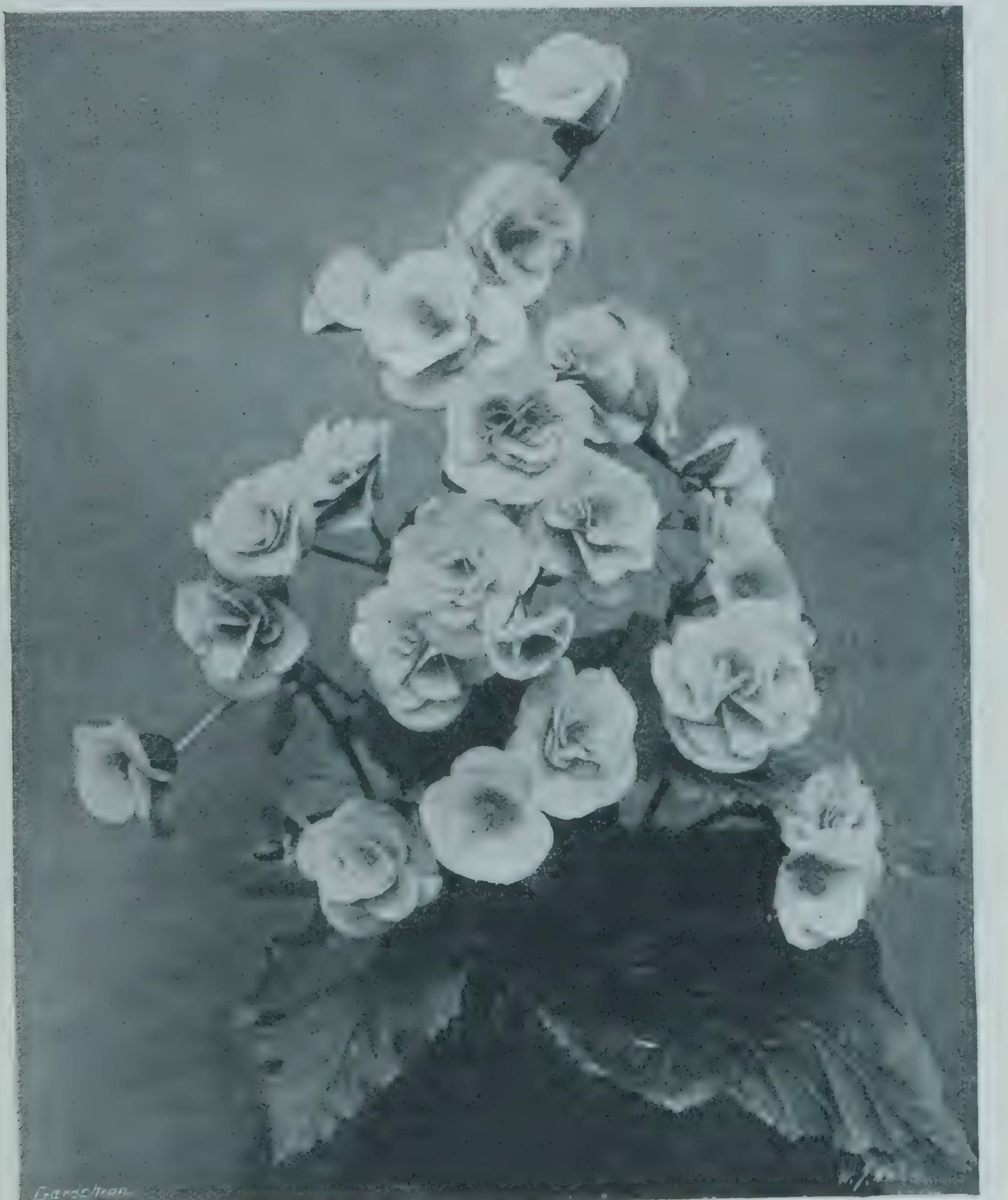

Fig. 171.—Begonia "Lucy Clibran": colour of flowers, pink shaded with apricot.
(R.H.S. Award of Merit, see p. 394.)

This season the Roses near to the Palm house have furnished a splendid display late in the autumn. A few of the best sorts are Duchess of Wellington, Mrs. A. R. Waddell, Frau Karl Druschki, Caroline Testout, Gruss an Teplitz, Mme. Abel Chatenay, General MacArthur (a lovely crimson variety and one of the most fragrant of Roses), Lady Pirrie, Mrs. Aaron Ward, Pharisaer, and La Tosca.

In the Bamboo garden the tallest and stateliest of all the specimens is perhaps Phyllostachys fastuosa. Arundinaria nitida, which is represented by several large clumps, A. japonica (Bambusa Metake), Phyllostachys viridi-glaucescens, P. nigra, P. Henonis and Arundinaria Hindsii deserve special mention. Among the Bamboos Funkia lancifolia tardiflora was nicely in flower in October.

Considerable work is in progress on the north-west boundary of the gardens. The shrubbery border, stretching from the Brentford gate some 300 yards in the direction of the Isleworth gate along the riverside, has never proved satisfactory, owing to the presence of numerous young Elm trees, beneath which, as most gardeners know, it is very difficult to get shrubs to grow to form a screen. Some of the Elms are being removed, and replaced with large specimen evergreen Oaks—moved with the large transplanting machine—Yews, Hollies and other evergreens. These will form an effective screen to the warehouses and chimneys of Brentford in winter as well as during the summer months.

When it was decided 30 years ago to sow down with grass seed a considerable part of the long walk—1,000 yards in length—along the Sion Vista, a thin layer of soil was spread over the surface and the seed sown without removing the gravel. During dry summers the exact position of the old road or path is clearly indicated by a long stretch of brown turf. To remedy this defect a commencement was made a few years ago to remove the gravel, and the end of the work is well in sight.

The provision of a short grass avenue through the wood leading from the Azalea garden to the Rhododendron dell should prove an additional feature in this part of the gardens.

The replanting of a small portion of the Rose dell near to the pagoda, which was made 17 years ago, is in progress. The excavations give ample evidence of the old gravel pit which occupied the site previous to 1895-6. The terraces at the sides and around the bays are faced with the stumps of large trees to hold the soil in position.

There is much to admire in "the square" devoted to Cotoneasters at the south end of the temperate house. Seldom, if ever, have the bushes been so abundantly laden with fruits. Pride of place must be given to Cotoneaster rotundifolia, which is aglow with shining red fruits, set off effectively with small green leaves. Close rivals are C. Simonsii, C. frigida (the twigs of which are in numerous instances bending down, so ladened are they with fruits), C. Franchetii, C. pannosa, C. amœna (a new species, see *Gardeners' Chronicle*, January 2, 1912, p. 2), and C. buxifolia.

The south octagon of the large temperate house, which was erected in 1862, is being rebuilt. Iron is principally used for the girders and rafters, the woodwork being teak. Messrs. Heywood's patent glazing is employed. This system has steel bars clothed with lead, by which means the glass obtains a good bearing. The panes of glass rest on a soft cushion of asbestos, which renders the roof practically weather-proof. *K.*

SCOTLAND.

EDINBURGH ROYAL BOTANIC GARDENS BUILDINGS.

The Edinburgh Town Council has approved of the proposed settlement of the question regarding the building line at the Edinburgh Royal Botanic Gardens, the estimated cost to the city being £325.

THE NORTHERN SEEDS AND ROOTS ASSOCIATION.

This association, which has its headquarters at Portsoy, held its annual general meeting recently, when Mr. G. Smith, Ordens, presided over a good attendance. The report showed that there is a substantial increase in the membership and a balance of funds in hand. The silver cup presented by Provost Sutherland has been won outright by Mr. W. M'Lennan, Bogton. It was stated by the secretary, Mr. James Young, that an anonymous donor had presented a silver Rose bowl for competition at the society's show.

THE LATE MR. DAVID STEELE.

Mr. David Steele, Forfar, who died recently at his home, Beechhill, will be remembered as the donor of the Steele Park to his native town of Forfar.

EDINBURGH'S LORD PROVOST.

The new Lord Provost of Edinburgh, Mr. Robert Kirk Inches, has filled the office of Convener of the Parks Committee of the Edinburgh Town Council for the past three years, during which time various improvements have been effected in the parks and open spaces of the city.

MR. JAMES EDDIE, INVERURIE.

Among the new Scottish burgh magistrates elected this year is Mr. James Eddie, nurseryman and seedsman, Inverurie, who has been elected third bailie of Inverurie. *Correspondent.*

The Week's Work.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Hertfordshire.

THE HERB BORDER.—The present is a favourable time for putting the herb border in order, so that it may appear as tidy as possible during the winter. Useless and untidy growths should be cut away, weeds removed, and the soil neatly raked or forked over. Any plants that are worn out should be replaced with fresh specimens, or the planting may be left until the spring.

PATHS.—As work in the kitchen garden is not very pressing just now attention may be directed to the paths, which should be swept and rolled. Any that need resurfacing should be attended to without delay. Much damage is caused to the paths in the kitchen garden at this time of the year by the wheelbarrow, but this may be largely prevented by using planks. There should always be plenty of good scrapers at convenient spots to prevent the soil being trodden on to the gravel.

CUCUMBERS.—Success with this crop during the next two months, will, in a large measure, depend upon the locality, for it is not a difficult matter to maintain a supply of Cucumbers in winter in districts free from smoke and fog, provided a suitable structure is available. The roof-glass, both inside and out, needs to be kept as clean as possible, and the washing is best done with the aid of a brush tied securely to a stout bamboo pole; if the glass is washed in showery weather the work will be done much easier. The house, or pit, should be provided with plenty of hot-water pipes, so that the necessary temperatures may be maintained without employing excessive fire-heat, as nothing is more detrimental or injurious to the plants than a dry, hot atmosphere. The use of much fire-heat may be largely prevented by placing a thick mat of some material against the bottom of the door to prevent draughts, and covering the roof with blinds or mats at night time. Where there are two doors in the same house, the one exposed to the cold winds should be kept locked. The plants must not be overcropped, neither should they be allowed to carry too much foliage. They should be syringed on every favourable occasion, especially on the underside of the leaves. Use tepid rain-water, and do the work sufficiently early in the day to allow the foliage to become dry again before night. At this time of year the plants do not grow very fast, but tying and thinning may need attention once a week. Stir the surface of the soil occasionally to promote aëration, and afford a top-dressing of fine soil enriched with manure. If the beds are near to the hot-water pipes, the soil will dry very quickly, and water must be afforded as often as necessary. Two of the best varieties for winter cropping are Lockie's Perfection and Syon House. The latter is an old sort, and the fruits are smaller than those of most varieties, but it is a free cropper, and the plants give good results in winter.

TOMATOS.—Plants in bearing will not make much growth now, and watering must be done with increased care. A small quantity of fine loam mixed with its bulk of some rich fertiliser should be scattered over the surface of the pots. Keep the leading growths tied to the stake, and remove all axilliary shoots. Avoid overcrowding of the plants, as they need plenty of light to fruit well. Young plants intended for fruiting in the spring should be placed near to the roof glass, in order that growth may be sturdy. These young plants should be supported with neat stakes, and afforded larger pots as soon as the roots need increased room, using a rich compost, but no manure. The soil for Tomatos in winter should not be of too close a texture, and, if the plants are drawn, place them as low in the pots as possible. Like all newly-potted plants, they must be watered with extra care for some time afterwards. Should aphis be present on the plants, fumigate the house with a nicotine preparation on one or two occasions. A small white fly (Aleyrodes) is very troublesome on Tomatos in winter, but I have frequently found that when an adjoining house, separated by a glass partition, is cyanided, the small amount of gas that escapes through the spaces between the panes of glass is sufficient to destroy the fly on the Tomatos.

FRENCH BEANS.—If heated pits or other suitable glass structures are available, sowings of a suitable variety of French Bean may be made at regular intervals. Topdress those already raised, and thin the seedlings where they are too thick. It may be necessary to afford supports to the plants, and nothing is better for the purpose than twigs of Birch. As the plants grow they will need increased supplies of water at the roots and plenty of atmospheric moisture; the leaves should be syringed on frequent occasions to prevent red spider. So soon as the pods are formed, feed the roots with liquid manure. After the rough leaves have developed, pinch out the points of the main growths. Although this stopping of the shoots delays fruiting, the plants grow dwarfer and ultimately produce as many Beans as if they had not been stopped.

CAULIFLOWERS.—Young Cauliflowers transplanted in frames for the winter should have an abundance of air during mild, open weather, for in no circumstances should the plants be grown tender. Make a fresh sowing under glass, selecting a good forcing variety. Sow the seeds thinly, and, when the seedlings are large enough, prick them out in the boxes filled with prepared soil, and grow them near to the glass.

FRUITS UNDER GLASS.

By E. HARRISS, Gardener to Lady WANTAGE, Lockinge House, Wantage, Berkshire.

LATE GRAPES.—If the Grapes are not intended to be kept for a long time, it will be an advantage to cut the bunches, so that the vines may be rested forthwith. The bunches may be placed in a cool room, where they will remain in a good condition for a considerable period. Unless the vinery is utilised for housing flowering plants, the ventilators should be thrown open at all times; in any circumstances, the welfare of the vines must be considered and air admitted whenever the weather permits. Those vines which are required to carry bunches until the end of the year must be attended to carefully. Water should not be afforded unless the roots are extremely dry. The proper ventilation of the houses will have a direct bearing on the good keeping of the Grapes. During damp or foggy weather the top ventilators should be nearly closed and the bottom ones shut: these latter apertures need never be used except during bright, warm weather. If the atmosphere is kept dry, a current of air will be unnecessary, as this would only cause the Grapes to shrivel. Endeavour to keep the temperature at about 45° or 50°; it is advisable to keep the hot-water pipes slightly warmed always. The bunches should be examined at least twice a week to remove decaying berries, which must be done without damaging the sound ones.

LATE MUSCAT GRAPES.—If a suitable room is available, the bunches should be cut and the stems placed in bottles filled with water. The Grapes will keep just as long as if they were left on the vines. The removal of the bunches will permit of watering the roots, which are doubtless in need of a good soaking. If the roots are in a healthy condition, the watering may be followed by an application of diluted liquid manure. Keep the Grape-room quite dry. When the bottles require refilling, take them outdoors for the operation. Place two or three pieces of charcoal in each bottle to keep the water sweet. Maintain an equable temperature of about 45° in the room, which should be kept quite dark. After the Grapes are cut, open the doors and the ventilators of the vinery to the fullest extent, and partially prune the vines, to facilitate the ripening of the wood.

MID-SEASON VINES.—The pruning and cleansing of the vines should be hastened, as it is important to get as much as possible of this work done before the beginning of the New Year. No hard-and-fast rules can be laid down as to the number of buds to retain on the spurs. Certain varieties, such as Duke of Buccleuch and Buckland Sweetwater, need plenty of young wood to ensure a crop. Do not prune very old vines too hard; where room exists, train in some of the young, vigorous shoots, as these may take the place of worn-out rods. Young, healthy vines may be pruned to two prominent buds. The cleansing of vines which have been badly infested with thrip, red spider or mealy bug, must be thorough. Remove all loose bark, and pay special attention to holes or crevices where the insects may be concealed. Afterwards scrub the rods thoroughly with a strong mixture of soft soap and sulphur. It is a good practice to fumigate fruit houses at this time of year with sulphur, but care must be taken that the fumes do not escape into houses which contain tender plants. Take advantage of fine weather to do the necessary work of renovating and extending fruit borders.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

FERNS.—Plants of Adiantum that have been used for the embellishment of the conservatory or winter garden are, possibly, now somewhat shabby, and should be removed to a fairly cool house and afforded a rest, keeping the roots partially dry for a time. As soon as the fronds commence to turn yellow they may be cut off, for although this treatment is not always practised with Ferns, it ensures a good crop of young fronds in the early spring when decorative plants are very useful. The fernery proper should be kept somewhat dry at this season. All close-growing plants should have untidy and decaying fronds removed regularly, and this applies to specimens planted on walls and rockeries as well as those in pots. If decay attacks one or two of the fronds, it will soon spread through the whole plant, unless it is checked at once. Do not employ more fire heat than is necessary, especially where such plants as Blechnum and Woodwardia are growing, as these Ferns are very liable to attacks by thrip, which soon spreads in a dry, warm atmosphere.

PHYLLANTHUS NIVOSUS AND P. ATRO-PURPURENS.—I have exhibited shoots of these stove foliage plants as decorations in exhibits of Chrysanthemums this season, and, from the numerous inquiries made for their names, the plants appear to be little known. They are fairly quick-growing subjects, and specimens in small pots attain to a height of from 3 to 5 feet in a single season. The habit is not branching, which renders the plants all the more suitable for arranging amongst other subjects. Cuttings made from young shoots with a heel of the hard wood or bark attached will form roots at any season. Specimens that have been employed for decoration and have lost many of their leaves may be cut down to within 6 or 8 inches of the pot level. This will result in new shoots developing, and often vigorous suckers. The latter, if removed with a few roots attached, will soon become established. The plants should be potted in light, porous soil, mixed with plenty of peat and leaf-mould and broken crocks. The potting should be done firmly, as specimens in comparatively small pots give the finest leaf-colouring, and the roots are apt to become raised in loose soil. Specimens cut down now or at any time before Christmas will produce suitable shoots for purposes of propagation in the spring.

GARDENIA.—Plants of Gardenia, whether in pots or planted out in pits, must be watered with extra care at this season; those grown in pits should receive a little fresh air on bright days, as the atmosphere does not move so freely in pits as in larger glasshouses. In a close atmosphere the plants are liable to become sickly, and the earliest flower-buds may drop in consequence. A sudden change in the temperature will also cause bud-dropping, and this must be guarded against. If the pits are heated inadequately the roof-glass should be covered at night-time with some cold-excluding material whenever frost threatens.

THE SHOW HOUSE.—Do not maintain a moist, close atmosphere where plants of Euphorbia (Poinsettia) pulcherrima, E. jacquiniæflora, Begonias in variety, Browallia speciosa, and similar subjects are in bloom, as this would cause the flowers to fade prematurely. The same remark applies to houses containing Primulas, Cyclamens, and Cinerarias, although these are not grown so warm by 10 or 15 degrees as the other plants enumerated above.

BULBS.—The batches of the earliest-potted bulbs should be examined, and plants that have sufficient roots and a little top growth should be removed to a frame. Fresh batches of the very earliest bulbs house. If Tulips of the Duc van Thol type are required in bloom at Christmas, a full month's forcing will be necessary. Retarded crowns of Lily-of-the-Valley may also be placed in heat to furnish spikes by Christmas. For later flowering, the Berlin crowns may be employed, and these should be potted so soon as they are received from the nurserymen.

Helleborus niger.—The Christmas Rose is generally regarded as a border plant, but the roots may be lifted and the plants flowered in a slightly-heated frame. Lift the roots with plenty of soil attached, so that the plants will receive only a slight check. Another plan is to place frames over the plants in the borders. The frames will not only serve as a protection from severe weather, but keep the flowers from being splashed by the rains.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme,
Warter Priory, Yorkshire.

Orchards. — Neglected orchards are very common in all parts of the country, but much may be done to improve the condition of the trees, except when they are very old and neglected, when the best plan is to grub them up and plant afresh. Younger trees may be brought into a satisfactory condition of bearing by careful pruning. It will be generally found that certain of the branches may with advantage be removed altogether. For instance, those that cross each other, or are bare of fruitful shoots. After the pruning is completed, the stems should be limewashed, and the top growth syringed with a winter wash to destroy lichen and pests. Freshly-slaked lime may be sprinkled freely on and amongst the trees, as this will destroy grubs of injurious insects and be beneficial to the roots. A dressing of manure may be applied to exhausted trees, but if farmyard dung is not available, such materials as bonemeal, soot, wood ashes, charred vegetable refuse, and road scrapings will be beneficial. Every effort should be made to finish this work whilst the weather remains favourable.

Figs.—If it is considered necessary to protect the branches of Fig trees on walls, the shoots should be loosened from the wall, fastened together, and covered with straw or bracken. The bundles of branches should then be secured close to the wall, and allowed to remain undisturbed until the spring. Gross-growing trees are the more likely to suffer harm from cold. Many Fig trees have an unusual amount of unripened wood this season, and these also are sure to be damaged if the winter is very severe. It is also necessary to protect the roots with a covering of Bracken-Fern or litter. It should be remembered that trees which are regularly root-pruned, and planted in soil of a calcareous nature, produce hard, short-jointed shoots that ripen well and are less likely to be injured by frost.

The Fruit Room.—Remove all decaying fruits frequently, but do not fill the vacant spaces with other specimens, especially in the case of Pears, for the less they are handled the better. Let there be a free circulation of air through the fruit-room by keeping the ventilators open on all favourable occasions.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart.,
Gatton Park, Surrey.

Zygopetalum.—The partially-developed pseudo-bulbs of Zygopetalum Mackayi are sending out flower-spikes, and, from now onwards until the flowering season is over, extra care must be taken in watering the roots, for an excess of moisture may cause the leaves to become spotted. Water should only be applied when the compost is dry, when sufficient should be given to soak the materials thoroughly. The plants may then be allowed to become dry before affording moisture again. Plants of Z. crinitum, Z. Clayi, Z. Perrenoudii, Z. Gottianum, Z. Burkei, and Z. Protheroianum, also Zygo-Colax, including Z.-C. Wiganianus and Z.-C. Charlesworthii, are in full growth, and should be afforded liberal supplies of water at the roots until the growth of the new pseudo-bulbs is completed. All these plants thrive best in a moist, shady position in the cooler part of the intermediate house. Plants of Zygopetalum Ballæ are developing flower-spikes, and rooting freely from the base of the newly-formed pseudo-bulbs. They should be placed near to the roof-glass in the warmer and shadier part of the intermediate house. Sprinkle the surface layer of Sphagnum-moss frequently to keep it healthy. Z. rostratum and Z. Roeblingianum may be afforded a similar treatment, but should be grown in a warmer temperature. Plants of the Bollea section, such as Bollea cœlestis, B. Lalindei, Pescatorea Lehmannii, P. Dayana, P. Klabochorum, P. Roezlii, Batemannia, Burtii, B. Colleyi, Chondrorhyncha fimbriata, and C. Chestertonii are pushing forth new roots, and any specimens that require fresh rooting materials should be attended to in this respect. They grow best in pots or pans, which should be filled to half their depth with clean crocks for drainage purposes. The compost should consist of two parts Sphagnum-moss and two parts Osmunda and A1 fibres cut in short portions, with a liberal quantity of crushed crocks. The materials should be well mixed. Press the compost moderately firm, and fill the pots to the rims, finishing with a layer of live Sphagnum-moss. During the winter months the plants should be grown in the warmer part of the intermediate house, but they should not be exposed to sunshine at any time. Spray the growths overhead frequently, and keep the surroundings moist, also the Sphagnum-moss. Zygopetalum maxillare and Z. Gautieri are producing roots from the base of the young growths, and plants that require increased rooting space should be given attention. These Orchids have a rambling habit, and are not suitable for growing in pots or pans; they do best fixed on a portion of the stem of a Tree-Fern. If necessary, the rooting space may be extended by wiring another piece of stem on the top of the old block. The roots should be kept moist at all times, and Zygopetalum maxillare thrives best when suspended in a moist, shady position in the warmer part of the intermediate house.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote,
Eastwell Park, Kent.

The Pampas Grass. — The Pampas and other ornamental Grasses associate well with Bamboos. The Gyneriums are very beautiful plants, especially when grown in large clumps by the waterside. Arundo conspicua is also very handsome, and should be more extensively grown than at present. It throws up its stately plumes in July, hence the name summer-flowering Pampas. It may be grown as an isolated specimen on the lawn or grouped with other Grasses and Bamboos in larger spaces.

Hardy Azaleas. — The Azaleas are now classed by the botanist with Rhododendrons, but for garden purposes they may be regarded as distinct. Although these beautiful flowering shrubs may be planted during fine weather at almost any time from September till April, it is better to do the work before severe weather sets in. In most seasons the weather remains fairly open until well into December, and it is a good practice to get the bulk of the planting done before that time, for shrubs planted in the autumn have a much better chance of success the following season than those planted late in spring, when drying winds usually prevail. Few flowering shrubs rival the gay colours of the different sections of hardy Azaleas, whilst for brilliant effects in spring they are not surpassed. The foliage also assumes most beautiful colours in the autumn, the leaves of many varieties turning a vivid scarlet. Many refrain from planting Azaleas and Rhododendrons because their gardens are not peaty, but there need be no hesitation because of this provided the ground is free from lime, or is not a shallow soil resting on chalk. Much may be done to overcome even these difficulties by making special stations for planting, although this precaution is not always a success. It is advisable to make a small experimental planting, to see how the plants succeed. Soil of a heavy, clayey nature should be trenched and have plenty of leaf-mould mixed with it. In planting, scatter some turfy loam about the roots, to enable the plants to make a good start. When the work is finished, apply a mulch of leaf-mould to protect the roots from extremes of weather. Bulbs may be associated freely with Azaleas and Rhododendrons, and, if early flowering varieties are selected, the beds will remain attractive over a long period. There are many beautiful hybrids of Azalea sinensis. If beds of distinct varieties are required, Anthony Koster, Glory of Boskoop, J. C. van Thol, Mme. A. Koster, Prince of Orange and Floradora may be selected. For woodland planting or for mixed beds, seedlings of all the sections may be employed, and these may be purchased at a moderate cost. Standard plants disposed at intervals through the beds will break the uniformity of the effect.

Rhododendron. — Hardy Rhododendrons thrive under the same conditions as Azaleas. Being evergreen, and of a robust growth, they are often planted as a background for Azaleas and other shrubs of a moderate growth. Where they flourish, Rhododendrons may be substituted for the common Laurel as hedges or wind screens. Rhododendrons prefer partial shade during the hottest part of the day, the blooms lasting for a longer period when protected from the full glare of the sun. They are useful for planting under large deciduous trees, where many other shrubs will not thrive. Good clumps or beds of one colour give a better effect than indiscriminate planting. Mrs. Holford, Pink Pearl, Sylph, Doncaster, Mrs. John Waterer, Mrs. Anthony Waterer, Lady Clementine Walsh, and Martin Hope Sutton are suitable varieties for massing.

Planting Roses.—The beds having been prepared some time since so that the soil has become somewhat settled again, the planting of Roses should be proceeded with whenever the ground is in a suitable condition. On no account plant when the ground is wet and pasty, rather cover the roots with soil temporarily, and plant at the first favourable opportunity afterwards. Trim all damaged roots, making clean cuts, and see that the holes are made sufficiently large to allow of the roots being spread out evenly. Scatter some fine soil amongst the roots and tread the soil quite firm.

The Carnation Rust.—This is caused by a rust fungus known as Uromyces caryophyllinus, and is particularly common on Carnations grown under glass in this country. Affected plants are characterised by the presence of brown spots on the leaves and stems, each one of these discoloured areas being a mass of spores, which serve to disseminate the disease to healthy plants. Though plants are not often killed outright by this pest, they are seriously weakened, and always become unsightly when attacked by it. The fungus may spread with great rapidity, especially in houses where the plants are crowded. Once the disease becomes established, it is a matter of great difficulty to check it. The reason for this is that no fungicide is able to reach the mycelium or spawn of the fungus, which lives entirely within the tissues of the plants. Fungicides are useful, however, in that they check the formation of new centres of infection. Bordeaux mixture or a dilute solution of copper-sulphate (1 lb. in 25 gallons of water) may be applied, but, in order to be effective, spraying must be performed so soon as the first sign of disease appears in the house, and must be repeated at weekly intervals. At the same time, affected plants should be removed from the vicinity of the healthy ones. Where the disease is severe, it would be wise to discard the plants and otbain a healthy stock. The Carnation house should be well ventilated, the plants should be watered in such a way that the leaves are not wetted, and the foliage should not be allowed to touch the soil. Cuttings should only be taken from healthy plants. In the United States, where the disease was so bad 20 years ago that it seriously threatened the growing of Carnations on a large scale, it has been found that certain varieties, such as William Scott, are much less susceptible to the disease than are others. It is obvious that resistant varieties should be sought and cultivated in this country. *F. T. B.*

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

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SALES FOR THE ENSUING WEEK.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY—
Dutch Bulbs at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 11.

WEDNESDAY—
Palms, Plants, Azaleas, Rhododendrons, Camellias, Aspidistras, &c., at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 5.
Fruit Trees, at Platt Nurseries, Borough Green, near Wrotham, Kent, by Protheroe & Morris, at 11.30.
Bulbs, Liliums, &c., at 12.30; Roses, at 2.15; Roses, Fruit Trees and Shrubs, at 3; Ornamental and Decorative Plants, at 4.30; Roses, Rhododendrons, Azaleas, &c.; at 5; at Stevens's Auction Rooms, 38, King Street, Covent Garden, W.C.

THURSDAY—
Roses, by Protheroe & Morris, at 12.30.

FRIDAY—
Orchids, by Protheroe & Morris, at 12.45.
Mushroom Spawn Manufactory, Fruit Farm, &c., at the Mart, Tokenhouse Yard, by Protheroe & Morris, at 2.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—41·5.

ACTUAL TEMPERATURES:—

LONDON.—*Wednesday, November 20* (6 P.M.) Max. 49°; Min. 43°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, November 21* (10 A.M.): Bar. 29·8°; Temp. 51°; *Weather*—Overcast.

PROVINCES.—*Wednesday, November 20:* Max. 53° Ireland, S.W.; Min. 43° Aberdeen

The Chemists' Conquest of the Air.

The achievements of the chemist in meeting the steadily-increasing demands of agriculture for manures, especially those containing nitrogen, afford an interesting example of technical progress. For a long time the deficiency of nitrogen due to the removal of this element in the crop was supplied by the importation from abroad of Chili saltpetre, guano and the like, and an imposing industry has been built up to supply the world's demand for nitrogen-fertilisers. As this demand increased, search was made to find other sources of the element, more especially as the available supplies of saltpetre are decreasing year by year. The waste liquors of gas works, which sometimes contain as much as 3 per cent. of ammonia, came early under notice, and the production of ammonium sulphate from this source has become an important item in the prosperity of gas companies. A further substantial supply of nitrogen is afforded by the ammonia recovered from molasses residues. Many other waste nitrogenous products are now turned to a like purpose.

The problem of the utilisation of sewage is still unsolved, but, on the other hand, science has shown how to draw upon the unlimited store of uncombined nitrogen in the atmosphere, and render it available for the nutrition of the plant. The industrial application of this discovery has followed at an amazing rate. Already several rival processes are in successful commercial operation. One essential, a supply of electrical energy at a very low cost, has led to the establishment of many of these new factories in Norway, where immense water-power is available.

In one process, nitrogen is made to pass over calcium carbide, heated to 1000° C. Nitro-lime is produced, which is directly available as manure. In a rival process, nitrogen and oxygen are caused to combine under the influence of a high tension electric discharge; the nitric acid formed is neutralised with lime and the marketed product is known as Norway saltpetre.

In a third process, nitrogen is made to unite with hydrogen, and so furnish ammonia.

At the same time progress on the agricultural side has led to the appreciation of the value of green manuring, and the importance of leguminous crops in enriching the soil. The progress is particularly marked in connection with our knowledge of the nitrogen fixing bacteria of the soil, which, when supplied with a suitable source of energy, are able to fix nitrogen from the air and thus enrich the soil. In order that nitrogen fixation may go on in the soil a supply of carbohydrate, in the form of sugar, or other similar substance, is necessary. By the addition of such substances to the soil, the rate of nitrogen fixation is increased. Hence carbohydrates are destined—if they may be had cheaply enough—to be used more and more as manures. One of the latest suggestions is the application to the soil of the waste liquors of the wood-pulp industry which are so difficult to dispose of at the present time without polluting the rivers. When neutralised with lime, these liquors contain much carbohydrate material in a form directly available for the soil bacteria.

The outlook for the agriculturist is thus of the brightest, and he may rest assured that the pessimism displayed by Sir William Crookes in his address to the British Association some years ago is no longer justified, though it may be that Sir William's warning has acted as an incentive to the chemists in their conquest of the air.

Coloured Supplement.—Prunus (or Amygdalus) nana, a native of South Russia, and known popularly as the Russian or Dwarf Almond, is not so common in gardens as it deserves to be. It was cultivated as a hardy shrub in this country more than 200 years ago. A figure of this species was published in the *Botanical Magazine* in 1791 (t. 161), where we are told that it was then justly considered as an ornamental shrub which rarely grew higher than 3 feet, and was very suitable for the shrubbery of small extent. Miller says it was common in the London nurseries in his time, nearly two centuries ago. That the plant deserves to rank with the best hardy spring-flowering shrubs may be seen at Kew in April, when the bushes are covered with white, pink, or red Almond blossom. There are several colour varieties of P. nana, the best being that illustrated in the Supplement, namely, P. n. rubra. The flowers are over ½ inch in diameter, and as they are borne all along the slender shoots, the effect of a good bush when at its best is particularly pleasing. For lawn beds or a mixed shrubbery, or for a "break" plant in the rock-garden, this little Almond is an excellent plant. In exposed positions it scarcely exceeds 1 foot in height. It ought to be a good forcing plant, and market-gardeners might do worse than establish it in pots to be forced into flower early in the year. The named varieties of P. nana are alba (white-flowered), georgica (a darker shade of pink than the type), and gessleriana (less robust than the type, with deep-red flowers). Propagation is by means of suckers, which, however, do not make such shapely plants as those that are raised from layers, for which the branches should be laid in the usual way in April or May; by autumn they will have rooted, and be fit for removal. The appearance of a bush of this Almond when in leaf, after the flowers are past is that of a small Willow. Its nearest allies are P. incana, a native of Asia Minor; P. Jacquemontii, Afghanistan; P. Simonii and P. Davidiana, both Chinese species; and, of course, the Almond proper, P. Amygdalus, and the Peach, P. persica.

NATIONAL CHRYSANTHEMUM SOCIETY.—The annual dinner of the National Chrysanthemum Society will be held in the Holborn Restaurant, on the 27th inst., at 6.15 p.m. The President, Sir ALBERT ROLLIT, D.C.L., LL.D., will occupy the chair, and will present the Challenge Trophy, the Holmes Memorial Cups and Medals to the winners during the evening. Tickets may be obtained from the Secretary, Mr. RICHARD A. WITTY, Savernake Road, Gospel Oak.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held in the Lecture Hall of the Institution, on the 25th inst., at 8 p.m., when a paper will be read by Mr. E. M. KONSTAM, Barrister-at-Law, entitled "Land Values Taxation: a Criticism of the Evidence before the Departmental Committee on Imperial and Local Taxation."

YORKSHIRE GALA.—The fifty-fifth annual exhibition will be held in the Bootham Park, York, on July 18, 19, and 20, 1913. The Council has purchased from Messrs. PIGGOTT BROS. & CO., LTD., a portion of the patent ventilated tent erected by that firm at Chelsea for the Royal International Horticultural Exhibition. The new tent will give an increased area of at least 20 per cent.; the outer walls will be 12 feet in height.

LEGACY TO A GARDENER.—Under the terms of the will of the late Mrs. MEROPE PETROCOKINO, of Norcliffe, Broughton Park, Manchester, the sum of £1,000 is left to her gardener.

STRAWBERRY GROWING IN ONTARIO.—Such high prices have been obtained for Strawberries in the Dominion in the last two or three years that many farmers with an acre or two of space available are now considering the advisability of setting out plants for Strawberry growing. In a recent report Mr. W. T. MACOUN, Dominion Horticulturist, gives the following estimate of the cost of producing an acre of Strawberries and the returns at 5 cents a box:—

Rent of land (two years)	$10.00
Preparation of land	4.00
Fertilisers	30.00
Plants	36.00
Planting	5.00
Cultivation	15.00
Mulching	10.00
Boxes	21.00
Picking	60.00
Crates and marketing	25.00
Total	$216.00
Selling 6,000 boxes at 5 cents per box	300.00
Net profit	$84.00

Many growers disposed of big crops this year for 10 cents. per box and higher.

Fruit-growing in British Columbia.—The most prolific crop of Peaches and Apples ever known has been obtained this year in the Okanagan district of British Columbia. It has been on such a scale that the marketing system of the valley has temporarily broken down. Hundreds of tons of Peaches have been left to rot on the ground, and for the same reason a bountiful Tomato crop, for which product the district is famous, has to a large extent been sacrificed. In this province within a few years upwards of a hundred thousand acres of fruit must have been brought into bearing. Within the next 12 months another railway system will be serving the Okanagan district.

The Royal Medal. — Botanists will learn with pleasure that Dr. Francis Darwin is the recipient of the Royal Medal, an award made by the Royal Society for distinction in biological research. Dr. Darwin's contributions to plant physiology are many and important, and date from the time when he assisted his father, Charles Darwin, in the classical experiments published in *The Power of Movement of Plants.* The views expressed in that volume on the sensitiveness of plants, and particularly on the localisation in the root-tip of sensitiveness to gravity, have long been accepted. Nevertheless, at the time that these conclusions were published they were assailed with some vehemence by the official world of botany, and they are now accepted so widely and unhesitatingly that it is apt to be forgotten that it was the Darwins—father and son—who first promulgated them, and, in doing so, showed how fundamentally similar are the nervous mechanisms of plants and animals.

Legion d'Honneur.—The grade of Chevalier in the Légion d'Honneur has been conferred on MM. Antoine Rivoire, Pierre Guillot, and Tissot in recognition of their services in connection with the Turin exhibition. Of these distinguished French horticulturists, M. Rivoire has played a great part in the organisation of horticulture in France, M. Guillot is a well-known rosarian and vice-president of the French Society of Rosarians, and M. Tissot carries on a large business in horticultural "sundries."

Snowdrop Petals as Snuff. – In the course of a recent lecture on "English Wild Flowers," at the London Salon of Photography, Mr. H. Esserbigh Corke is reported to have said that Snowdrop petals, when dried and crushed, make an excellent substitute for snuff.

Publications Received.—***The Journal of the Board of Agriculture.*** November. (London: Board of Agriculture and Fisheries.) Price 4d.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Wart Disease of Potatos.—The article by Mr. H. C. Long (see p. 326) on the Wart Disease of Potatos is one of considerable importance to everyone interested in this subject, and its appearance is most opportune. I believe that this disease is increasing rapidly in England, and drastic steps must be taken at once in order to ensure its eradication. It is true that the Board of Agriculture has issued a leaflet dealing with the subject, and preventive and remedial measures are described therein in detail, a list of varieties being given which have proved free, or practically free, from attack. But how have these varieties fared this season? Have they upheld their immune character? Wart disease has also been scheduled as a notifiable one under the Destructive Insects and Pests Acts of 1877 and 1907, and all growers upon whose land this "Black Scab" appears are liable to penalty if they fail to notify the fact of its occurrence to the officers of the Board of Agriculture, or, in some districts, the police. The good intentions of those who drafted the measures to deal with this epidemic are quite apparent, but further effort and exertion would seem very necessary if the complete extermination of this dangerous disease is to be secured. The Canadian poster, a facsimile of which you reproduced (see p. 337), issued by the Department of Agriculture of that country, is a useful means of distributing information, but our colonial friends have gone further. They have closed their ports against Potatos grown in Great Britain, and are determined to run no further risks from fresh imports from a contaminated country. It would have been well had we adopted similar precautions some years ago. As it is, is there one of our colonies now open to our exports of seed Potatos? The situation is really serious, and growers of seed Potatos seem to be unaware of their position in these times. As one who is much interested in the cultivation of the Potato, I would welcome some immediate action in the matter by the Board of Agriculture. Is it not time to close our ports against the imports of Continental Potatos, and should tubers which may, or may not, be affected be allowed unchallenged access into the rural districts to spread further devastation amongst the crops? In the report of the London markets in the *Gardeners' Chronicle* of November 9, I note that your contributor remarks, "The market is glutted with foreign Potatos, and prices for these are lower." Is not this a possible source of contamination, and are these tubers wholly free from this disease? Have the Board of Agriculture an organized system of inspection of such imports of Potatos, or are they allowed to pass entirely unchallenged; that is, beyond the usual Customs search for the detection of dutiable goods? If there be no such inspection, it is surely time it was begun. It seems absurd that Potatos should be allowed entry into Britain, even at any time, without searching inspection by qualified officers of either the Customs or Board of Trade. Is it not a fact that this disease is an imported one, and its origin here attributed to tubers imported from the Continent? It has evidently been known in Britain since 1886, but no reports of its presence would appear to have become general until 1901, and after this lapse of 15 years the area of infection had, undoubtedly, become very extended, and there is no denying the fact that a large portion of England is suffering badly at the present time. We seem, so far, to be almost free in Scotland, and I have never seen a case in this country. *George M. Taylor, Mid-Lothian.*

Hybrid Nomenclature.—(see p. 362)—The "confusion which is likely to arise from the application of Latin or Latinised names to garden-raised Orchids" arose long ago from quite different causes. Mr. O'Brien remarks: "It is a curious fact that the giving of Latin names to garden products was not begun by the raisers of Orchids, either amateurs or nurserymen, but by scientific botanists." It began long before hybrid Orchids were even thought of, but we will limit the remark to Orchids. It is true that the first hybrid Orchid, Calanthe Dominii, was named by Lindley, but the second and six others out of the first dozen were named by the raisers, and some of those afterwards described by Reichenbach received names furnished by the raisers. The point is merely mentioned as a matter of historical accuracy. In course of time confusion arose, but not from the cause asserted. Three other systems had arisen, with the additional complication that different seedlings out of the same capsule had received separate specific names, and in 1889 the R.H.S. appointed a sub-committee to consider the question. Its members were: Sir Trevor Lawrence, Bart., and Messrs. Harry J. Veitch, F. Sander, H. Williams, J. O'Brien, N. C. Cookson, W. J. Thompson, and F. W. Burbidge. From the Society's own report I extract the following:—"Hybrids between species raised artificially should be named in Latin, with the addition of the word hybridus, —a, —um, or the sign of hybridity, ×." "Crosses between varieties raised artificially should receive suitable vernacular or informal names." "The Orchid Committee should decline to recognise any unauthorised name, or any name that is deemed unsuitable, or one that is not applied in conformity with the preceding rules." This is not a rule that "as far as possible names in the vernacular should be given to all garden-raised Orchids," an exception being made by the Committee, "with some reluctance," that "primary hybrids might be named either in Latin or in the vernacular (fancy names)." The double name never worked well. When "Digbyano-Mossiæ," the example cited by Mr. O'Brien, was proposed, the *Gardeners' Chronicle* remarked: "We hope some means may be taken to render the name less cumbrous." It is too long, as our writers sometimes find when speaking of its white variety, Queen Alexandra, so they omit it. The vernacular was tried, and Cypripedium Charles Canham was described (by request), but was promptly changed into Canhamii. Soon afterwards Epidendrum O'Brienianum was described, with the special request of the raisers that the form "James O'Brien" should not be used, a reason being given that has since been recorded. The classical name, which I think originated with Cypripedium Io, has worked admirably, and its use was soon greatly extended. But to return. Mr. O'Brien remarks: "Science once more intervened. The *Orchid Stud-Book* was published, in which many compound and fancy names . . . were changed for Latinised appellations." The *Stud-Book* adopted a simple and uniform rule that specific names should consist of a single word—the use of two short words being permissible where they can be connected by a hyphen. It adopted all classical and fancy names that agreed with the said rule, and it declined to recognise others. It did what would have been done at the outset if the R.H.S. rules had been followed, carrying out the original idea so far as possible. Space would fail to describe the condition of things when the work was published, but the *Gardeners' Chronicle* described it as "a definite step towards the evolution of order out of chaos." And let the R.H.S. itself defend the system adopted. Last year the Society printed its replies to questions submitted to it by the Brussels Nomenclature Congress (to which it sent two representatives). Some of these questions were based directly upon names taken from the *Orchid Stud-Book.* The answers were: "The specific names of such hybrids should be in the Latin form." "These specific names should consist of a single word." *R. A. Rolfe.*

Richard Bradley and His Publisher (see pp. 132, 136, 160).—It would be a work of supererogation to attempt to convince Mr. Murison that Bradley was not the author of *The Compleat Seedsman's Monthly Calender,* but just as I am convinced from internal evidence that *The Flower Garden Display'd* was written by Bradley, so from similar evidence am I convinced that he did not write, nor could he have written, the book in question. Never once in his writings does Bradley refer to himself as a gardener, and when he has occasion to refer to gardeners he refers to them as "the gardeners." In this volume the author invariably associates himself with the brotherhood just as Fairchild, Cowell, Switzer, and others do in their books of the same period. This is sufficiently striking. But proof that it is impossible to controvert lies in the fact that the book was written by a comparatively uneducated person, and though it cannot be said that Bradley's style was on a level with that of the essayists, all his writings bear clear proof that, if not those of a learned savant, yet they were of a superior order to those of contemporary horticulturists, excepting, perhaps, Switzer. The production of books at the period, as is well known, was in the hands of persons devoid of principle. Meors was no worse than many of his neighbours, if that could be any justification, and as an example of how low down they could descend I may quote what I have already previously noted of Cowell's, *The Curious and Profitable Gardener* being republished two years later as *The Curious Fruit and Flower Gardener*, and the next year as *The Compleat Fruit and Flower Gardener.* "By R. Bradley, late Professor of Botany," &c. At one time it appeared as if Bradley wrote this, yet we know he did not write it, because the sheets in the three volumes are identical. *The Lady's Recreation* is another impudent swindle. But to note all such instances would need an article to itself. *R. P. Brotherston.*

The Larch Sawfly.—My attention has been called to an article by *A. D. W.* in your issue of November 9 on the Larch sawfly. May I be allowed to remind readers of a pamphlet published (1912) by the Department of Agriculture of the Dominion of Canada on the Larch sawfly? In this pamphlet Dr. Gordon Hewitt gives a full account of the parasites and natural enemies of the sawfly and of the means of controlling the pest that have been tried and found successful in the extensive plantations of Larch trees on the Manchester Corporation's estate at Thirlmere. Dr. Hewitt was formerly lecturer on economic zoology in the University of Manchester, and the work begun by him has been continued by his successor, Mr. J. Mangan. The cost of the remedial measures is certainly not so great "as to be almost out of the question," and the results obtained have exceeded our own most sanguine anticipations. Last summer and the summer before last (1911 and 1912) the Thirlmere plantations were practically free from the pest, although the trouble was raging in the surrounding districts. I am quite certain that the sawfly pest could be prevented and, if present, remedied in this country if the methods suggested by us, and carried out at Thirlmere by the Manchester Corporation, were adopted. It is a great pity that the "non possumus" attitude of the owners of Larch plantations in this country should still be maintained and encouraged. *Sydney J. Hickson.*

Scaring Birds.—Probably through being unacquainted with the gardener's endless round of work, the secretary to the Royal Society for the Protection of Birds, in his note under the title "Blue Tits and Sweet Peas," on p. 367, is unfair when he assumes that gardeners do not use the contrivances recommended by his society because they "canna be fashed." From my experience, and a long acquaintance with other gardeners, I can assure Mr. Gardiner that, except in rare instances, it is impossible to find time to attend to kites and such things, which he himself tacitly admits mean "endless bother." Because, in self-defence, gardeners shoot birds, it must not be inferred that they are callous and indifferent to their charm, for such is far from being the case. The average gardener is as great a bird lover as any member of the Royal Society for the Protection of Birds, and is equally ready to deprecate their wanton destruction; but it must be borne in mind that the gardener's first duty is towards his employer, and that he tills the garden to furnish produce for the table. *A. C. B.*

Carnation Princess Juliana.—In reply to Mr. Cook's challenge (p. 366), I shall be quite willing to give £5 to the Gardeners' Orphan Fund if Mr. Cook can prove that I did not raise Carnation Princess Juliana and that Mr. Hopper did raise it. *Montagu C. Allwood.*

——— It is a trivial matter whether Mr. Allwood or Mr. Hopper raised the variety of Carnation known as Princess Juliana. Mr. Allwood is a successful raiser, and we look to him for many good novelties in the future. His Lady Alington is, to my mind, the finest of the Perpetual-flowering type. I have never previously heard of Mr. Hopper. However, the *Gardeners' Chronicle* knows no favourites, for all receive fair play, and that is why I have read the paper for over 30 years. I hope Mr. Allwood will continue to write his always interesting and instructive notes on Perpetual-flowering Carnations. *Thomas Spencer, Hale Hall Gardens, Bowdon, Cheshire.*

Mandragora autumnalis.—This plant is now in beautiful flower in my garden, reminding me of Anemone pulsatilla, and I think the time of flowering is worth recording. I have had the plant for many years, and when I first obtained it, it flowered in the late autumn, as it does in S. Europe. Gradually it altered its time of flowering, and for many years it has flowered in the spring at the same time as M. officinalis, and this year it is flowering now, its normal time. It is a handsome hardy perennial, well worth growing. It often produces fruit here, and the seeds germinate freely, but the seedlings are very impatient of removal. It is well figured and described in Sweet's *Bot. Fl. Gn.*, vii. *Henry N. Ellacombe, Bitton, November 8.*

SOCIETIES.

ROYAL HORTICULTURAL.

November 19.—The usual fortnightly meeting was held on Tuesday last in the Society's Hall, Vincent Square, Westminster. Orchids were not so numerously shown as usual, but they constituted the most imposing exhibit in the Hall, namely, a group of Vanda cœrulea from the Duke of Marlborough's garden at Blenheim. The Orchid Committee recommended two First-class Certificates and two Awards of Merit.

Chrysanthemums, Carnations, and shrubs formed the principal subjects before the Floral Committee: there were also many exhibits of floral paintings. This body recommended 11 Awards of Merit to new varieties of Chrysanthemums, Carnations, and Begonias respectively.

Exhibits of fruits and vegetables were of importance, and the Fruit and Vegetable Committee awarded two Gold Medals to collections of fruit and vegetables respectively. Several exhibits of preserves received awards of medals.

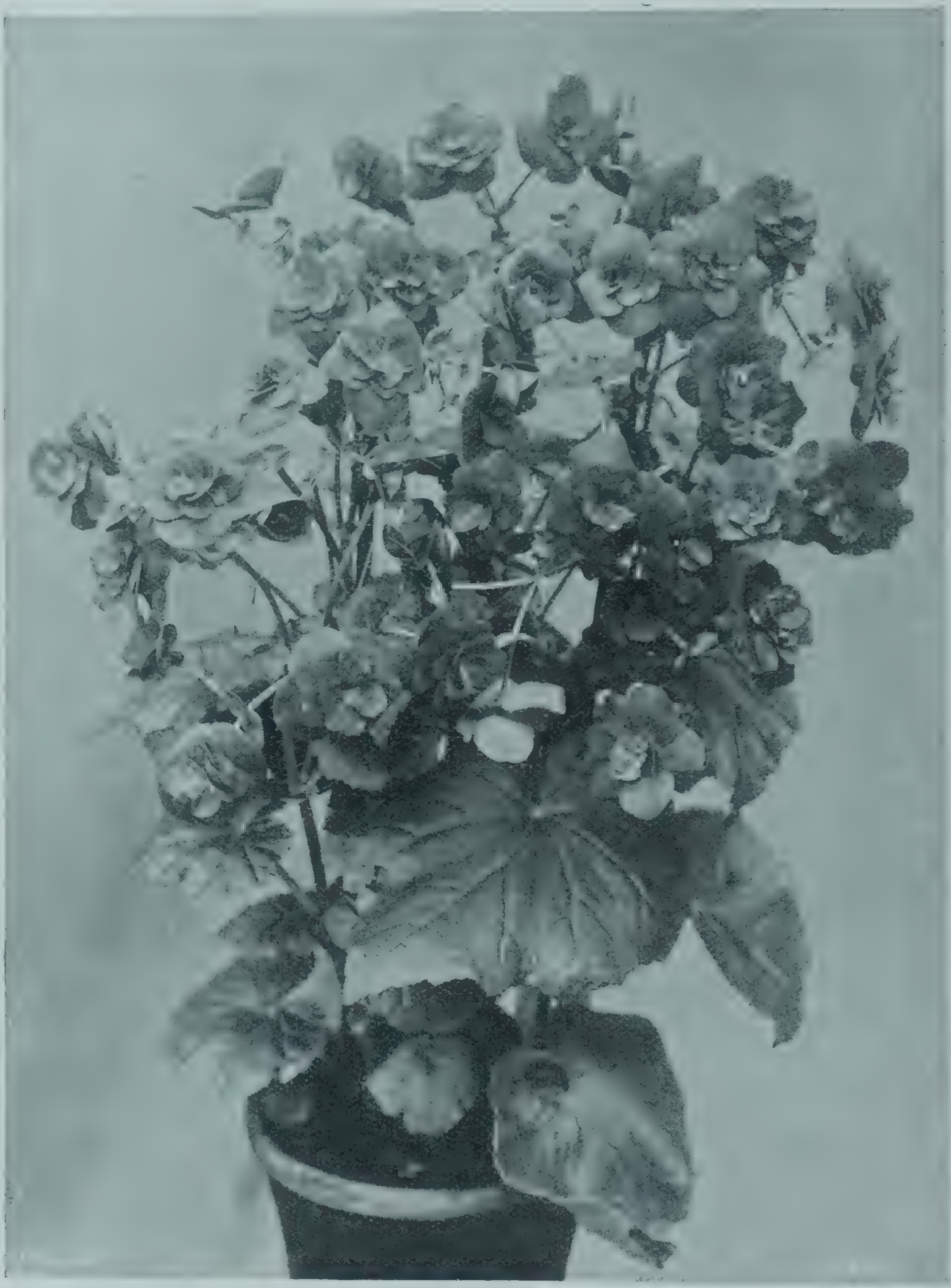

Fig. 172.—Begonia Splendour.
(R.H.S. Award of Merit, November 19. See page 893.)

At the three o'clock meeting, a lantern lecture on "Some Gardens In and Around Bournemouth" was given before a large audience by Dr. G. G. Hamilton. Numerous coloured photographs of garden and country scenes in the neighbourhood of that popular seaside town were shown on the screen, and Dr. Hamilton gave a few particulars of each picture.

Floral Committee.

Present: Henry B. May, Esq. (in the Chair); Messrs. Chas. T. Druery, G. Reuthe, W. J. James, John Green, John Dickson, Chas. Dixon, Chas. E. Shea, F. Page Roberts, F. Herbert Chapman, W. Bain, H. J. Jones, Chas. E. Pearson, Wm. Howe, J. F. McLeod, W. J. Bean, J. Jennings, Edw. Mawley, Arthur Turner, J. W. Barr, R. G. Reginald Nevill, and James Hudson.

Messrs. John Waterer & Sons, Ltd., Bagshot, Surrey, put up an imposing group of ornamental trees and shrubs, including a large number of Hollies. The plants were splendidly grown, and the coloured forms exceptionally bright. In the centre at the back was a magnificent specimen of Holly Golden Queen, with a globular head 7 feet in diameter. There were similar but smaller specimens of Waterer's Gold and Silver Queen on either side. Weeping Hollies were represented in golden, silver and green varieties. Other interesting plants were a standard Taxus adpressa, Athrotaxis selaginoides, a very distinct Conifer; Thuya plicata var. zebrina, one of the finest golden Conifers; Retinospora plumosa argentea, a remarkably fine specimen; Ilex crenata aurea, with leaves like those of Pernettya, and many a beautiful gold colour; a plant of the variety latifolia had numerous black berries; Cupressus Westermanii and a standard plant of Cupressus (Retinospora) filifera aurea were both a bright golden colour. (Silver-gilt Flora Medal.)

Mr. G. Reuthe, Keston, Kent, showed a collection of uncommon shrubs and Himalayan Rhododendrons. The rare Fagus fusca, an evergreen Beech; F. Menziesii, F. betuloides, Gevuina Avellana, Restio subverticillatus, Damnacanthus indicus, Pittosporum Kirkii, Olearia ilicifolia, O. Colensoi, O. angustifolia, and Athrotaxis imbricata were included in the collection.

Mr. L. R. Russell, Richmond, filled a large table with dwarf shrubs of an ornamental character, and plants of Azalea indica Mme. Petrick, with rose-coloured blossoms.

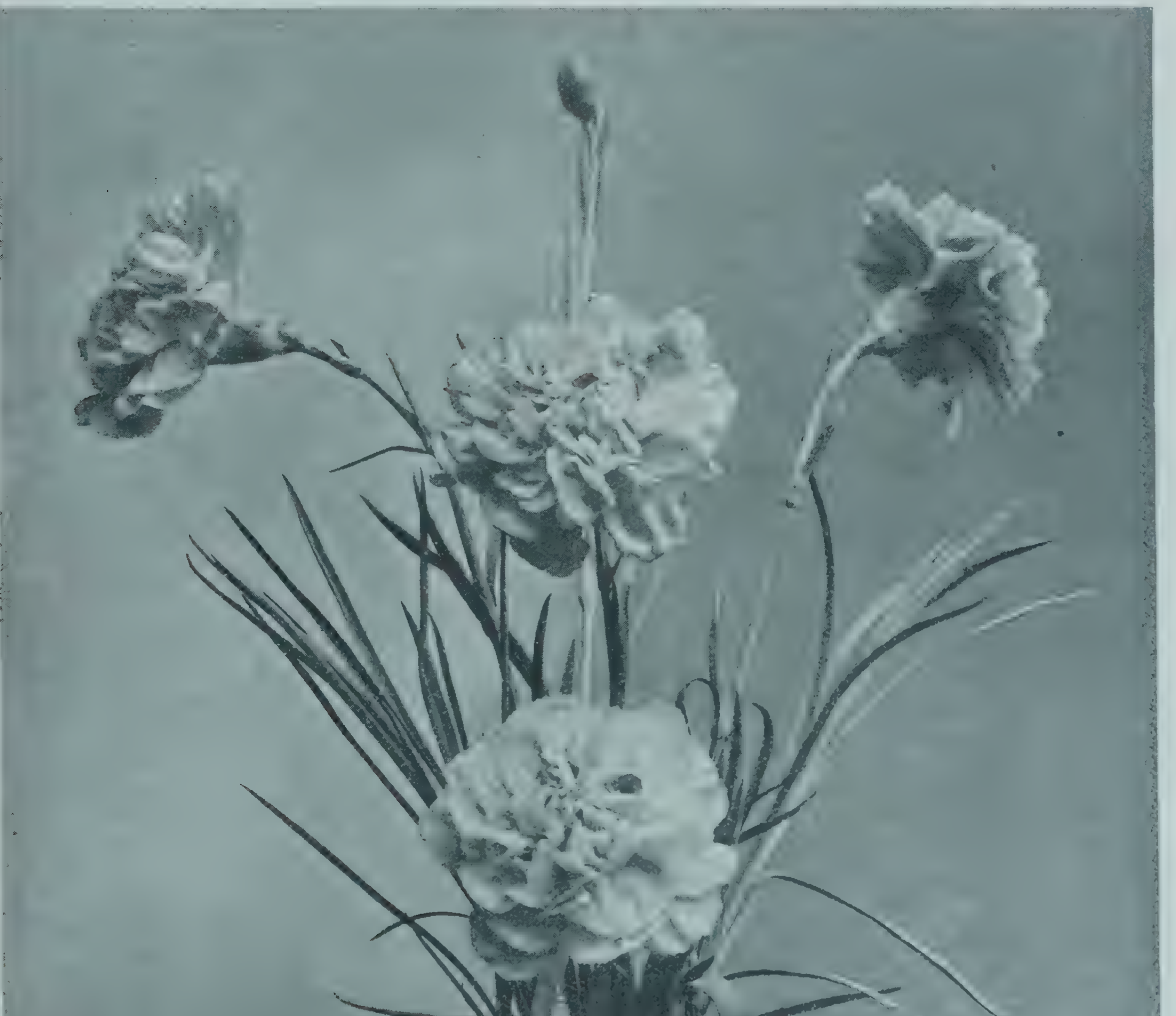

Fig 173.—carnation "salmon enchantress."
(R.H.S. Award of Merit, November 19. See page 394.)

Messrs. **Clibrans**, Altrincham, exhibited varieties of winter-flowering Begonias. The plants were splendidly flowered, healthy, and made a very imposing exhibit. The varieties were very numerous, and included several good seedlings, Altrincham Pink, Clibran's Triumph, Miss Clibran, Clibran's Pink, Scarlet Beauty, Emily Clibran, Duchess of Westminster, and Beauty of Hale; some of these are described under "Awards of Merit." (Silver Banksian Medal.)

Messrs. **James Veitch & Sons**, King's Road, Chelsea, again showed varieties of winter-flowering Begonias. The finest variety was The Gem, a close-habited, rosy-carmine flower. The same plants were exhibited in bloom at the last meeting, and the flowers had remained beautifully fresh. Other varieties were Julius, Ensign and Success. The exhibit included plants of Lindenbergia grandiflora and Browallia speciosa. As a separate exhibit Messrs. **Veitch** showed a large collection of dwarf Chrysanthemums in pots, mostly varieties of the single type. (Silver Flora Medal.)

Messrs. **W. Cutbush & Son**, Highgate, filled a table with greenhouse flowers, including Carnations, Begonias, Ericas, Liliums, Roses, Lilacs, and Spiræas. The choicer Carnations were Mrs. L. Mackinnon (scarlet), Mrs. Waldorf Astor (yellow ground with cerise markings), R. F. Felton (pink), King George (scarlet "Malmaison"), and Goldfinch (apricot). This firm also showed pans of Iris alata and I. Vartanii. (Silver Banksian Medal.)

Messrs. **H. B. May & Sons**, Edmonton, showed batches of Cyclamens in distinct colours, plants of Plumbago rosea, the form of Euphorbia pulcherrima known as major, and numerous decorative Ferns. (Silver Banksian Medal.)

Hon. **Vicary Gibbs**, Aldenham House, Elstree (gr. Mr. Edwin Beckett), displayed blooms of Streptocarpus of the improved "Aldenham"

A large group of Plumbago rosea, bordered with plants of Clerodendron fallax and Ferns, was shown by Sir **George Faudell Phillips**, Hertford (gr. Mr. F. Fitch).

Mr. **W. A. Manda**, St. Albans, showed a small number of Ferns and a pretty variegated Anthericum named Mandaianum.

Messrs. **W. Wells & Co., Ltd.**, Merstham, arranged the most imposing floral group, with varieties of Chrysanthemums. There were no fewer than 100 specimen blooms of the new white Queen Mary variety (see fig. 164 in the last issue). These were arranged in a bold mass in the centre, with 18 of the choicest specimens in a very large ornamental basket in front. The ends of the exhibit were formed of great banks of the white Japanese William Turner and Mrs. Gilbert Drabble. There were also large clumps of Mensa, Phyllis Bryant, Mrs. Prowting (a primrose-coloured sport from Cannell's White), Mrs. Drexel, Lady Talbot, Miss Ada Brooker, December Gold, Glaucus, and others. (Silver-gilt Flora Medal.)

Messrs. **H. J. Jones, Ltd.**, Hither Green, Lewisham, filled a table with varieties of Chrysanthemums. This well-arranged exhibit included such popular sorts as Mensa (the finest white single), Mrs. Gilbert Drabble, Florrie King (an Incurved Japanese variety), Mrs. W. T. Smith (white), Mrs. Alice Thorpe (yellow), Sylvia Slade (a pretty single variety of magenta colour), Mrs. A. E. Roope, and Queen Mab. (Silver Flora Medal.)

Mr. **James Box**, Lindfield, Sussex, filled a corner with a pretty exhibit of single Chrysanthemums. The blooms of Golden Spray are like a bright yellow Senecio, and are developed in lax bunches. The fine crimson and gold Ceddie Mason variety was shown in a large batch in the centre of the exhibit. (Silver Banksian Medal.)

Messrs. **H. Cannell & Sons**, Swanley, Kent, exhibited Chrysanthemums and Zonal Pelargoniums. This firm usually exhibit uncommon varieties of the former flower; on this occasion they showed a novelty in Bacchus, like a bunch of white and red silk twist. Sam Caswell is another pretty variety of this type with pink florets.

Messrs. **Cragg, Harrison & Cragg**, Heston, showed vases of single Chrysanthemums of the type grown for market. A new variety named Elfrida has buff florets suffused with rosy-crimson. The new Snow Queen with "Anemone" centre was included in the collection.

Messrs. **John Peed & Son**, Norwood, arranged a collection of single Chrysanthemums. The exhibit was very attractive, and included the fine varieties Chas. Dickens and Phyllis.

Mr. **T. Ward**, Bishop's Stortford, staged bunches of single Chrysanthemums of well-known varieties.

The Misses **G. C. Price & A. B. Fyfe**, Grove Park Nursery, Lee, showed varieties of Chrysanthemums and Carnations.

Exhibits of Carnations were staged by Mr. **C. Englemann**, Saffron Walden; Messrs. **Allwood Bros.**, Haywards Heath; Mr. **William Lawrenson**, Yarm-on-Tees; and Messrs. **Stuart Low & Co.**, Enfield, who had also their fine salmon-coloured Cyclamen and plants of Acacia platyptera.

Messrs. **John Piper & Sons**, Barnes and Bayswater, showed a fine collection of 60 species and varieties of Saxifraga.

Messrs. **T. S. Ware, Ltd.**, Feltham, showed pans of Alpines and the pretty Erigeron speciosum "Quakeress," which has flowered continuously since June.

Messrs. **Barrie & Brown**, 39, King William Street, London, showed 12 species of Sempervivums, models of Alpine gardens, and a nesting box for wild birds. The box is about 1 foot high and 7 inches wide and deep. The roof is high pitched and projecting, so as to protect the nest from rains, sun, and cats. The entrance is close up under the apex of the roof, and a perch affords a place upon which the birds can alight before entering the nest.

Mr. **Wilfred Mark Webb**, Odstock, Hanwell, hon. secretary of the Selborne Society, exhibited "Selborne" nesting boxes for wild birds and bird-feeding appliances.

A Silver Flora Medal was awarded to **Frank Galsworthy**, Esq., Chertsey, for paintings of floral subjects.

Awards of Merit.

Chrysanthemum Michael Harrison (single).—The flowers are large and of great substance, with three or four rows of ray-florets. The general colour is light reddish-brown (approaching the darkest shade of dull carmine lake, *Rép de Couleurs*), but around the disc is a band of clear yellow one-third of an inch wide, which gives the flower a bold effectiveness. The rays are also lightly tipped with yellow. Shown by Mr. S. F. **Harrison**, East Grinstead (gr. Mr. A. H. Chapman).

C. Audrey (single).—A large flower with rich-yellow, flat ray-florets in two or three rows. Shown by the **Manor House Nurseries**, Cardiff.

C. Miss May Fox (Japanese).—An exhibition variety of good depth and substance, with long, drooping ray-florets. The flowers are a pale, creamy yellow, but greenish yellow in the undeveloped centre. Shown by Messrs. **H. J. Jones, Ltd.**

C. Mrs. W. T. Smith (Japanese).—An exhibition variety of medium size and close globular form. The pure-white florets are broad and incurving; the young blooms are tinged with yellow. Shown by Mr. **Alex. Smith**, Roehampton.

Begonia Lucy Clibran (see fig. 171).—This and the three following Begonias are of the winter-flowering type, and were raised from Begonia socotrana and tuberous varieties. In each plant the foliage is bold and handsome, more closely approaching that of the tuberous-rooted section. The large, double flowers of Lucy Clibran are 3 inches in diameter, and of a soft pink shaded with salmon and apricot. When fresh, they are said to be tinted with orange, but those shown had suffered somewhat in transit.

B. Splendour (see fig. 172).—The flowers are semi-double, with a tuft of small petals at the centre and a few extra larger ones. The plant is neat in appearance and very free-flowering. The colour is reddish scarlet, and darker than other varieties.

B. Scarlet Beauty.—This variety has semi-double flowers, with the form of the last. The blossoms are a bright scarlet colour, and borne freely in a large, loose truss.

B. Eclipse.—This variety has semi-double flowers, very freely borne, and carries a number of fertile, single flowers. The colour is a light salmon-red. These four exceedingly attractive Begonias were shown by Messrs. CLIBRANS.

Carnation Mary Allwood.—A perpetual-flowering variety, with fine stem, good calyx, strong clove scent, full flower, and smooth petal. The colour is a light salmon-rose, close to shade three of raspberry red of the *Rép de Couleurs.*

C. Salmon Enchantress (see fig. 173).—This is a pleasing salmon-pink sport from Rose-pink Enchantress. The colour is similar to that of Lady Alington, and the variety is said to possess all the good points of Enchantress in growth, freedom of flowering, and form. Both these Carnations were shown by Messrs. ALLWOOD BROS.

C. Snowstorm.—This was probably the most generally admired individual flower in the show. The plant is a strong grower, with wiry stem and unusually good foliage. The flowers are large and full-petalled, almost globular in shape, delightfully clove-scented, and pure white. Shown by Mr. WM. LAWRENSON.

SOME FURTHER NOVELTIES.

The novelties submitted for award included 39 varieties of Chrysanthemums. In addition to those certificated, Edna Deane (shown by Mr. G. FERGUSON, The Hollies, Weybridge) was of interest from its unusual form. For half their length the ray florets were tubular or quilled, and buff in colour, the outer half then opening to a small, lance-shaped ray of pale fawn. The most interesting plant botanically was Drosophyllum lusitanicum (shown by Mrs. C. C. BERGHEIM, Belsize Court, Hampstead). The leaves are about 4 inches long, linear and channelled, and borne in a close spiral at the end of a 1½-inch stem. Glandular hairs studded the leaf margins, and there were two rows on the dorsal side. The flower is bright yellow. The blooms were faded. The plant received a Botanical Certificate in 1875, and it is figured in the *Bot. Mag.*, tab. 5796. Its home is the sandy shores and dry rocks of Spain and Portugal.

Orchid Committee.

Present: Sir Harry J. Veitch (in the Chair); Messrs. Jas. O'Brien (hon. sec.), de B. Crawshay, R. Brooman-White, W. Bolton, W. H. White, A. Dye, W. P. Bound, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Cypher, J. Charlesworth, C. H. Curtis, A. McBean, F. Sander, T. Armstrong, F. J. Hanbury, R. G. Thwaites, R. A. Rolfe, C. J. Lucas, and Gurney Wilson.

The feature of the show was the very fine group of Vanda cœrulea arranged by Mr. Hunter (gr. to His Grace the Duke of MARLBOROUGH, Blenheim Palace, Woodstock), for which the Society's Gold Medal, together with a Silver Lindley Medal for excellent cultivation, was awarded. The group had a frontage of 36 feet and a depth of 6 feet. It was arranged with a raised centre, with lower curve on each side, the ends being also elevated, the fine blue sprays of flowers arching gracefully in all directions, their clear, blue tints showing well above the setting of pale-yellow Cypripedium insigne Sanderæ and other Cypripediums which were arranged in the front and lower parts of the group. The central design contained choice varieties of V. cœrulea of very fine colour and distinct veining, the best of the varieties noted being Rosamund, Margaretta, Mrs. Spencer Churchill, and Hunteri. The whole formed a very meritorious exhibit.

Messrs. STUART LOW AND CO., Bush Hill Park, were awarded a Silver Flora Medal for an effective group, in which good forms of Cattleya Fabia, white varieties of C. labiata, and other showy Orchids were arranged beneath sprays of yellow Oncidium varicosum, and other graceful species. Among hybrids, the white Cattleya Dusseldorfei Undine, a pretty hybrid between Sophronitis grandiflora and Brasso-Lælia Helen, and a very fine cross between Cattleya labiata and C. Luddemanniana were noted.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, Chelsea, were awarded a Silver Banksian Medal for a group principally composed of good Cypripediums, including forms of C. insigne, C. Euryades, C. Leeanum, and C. Baron Schröder. Among Odontoglossums were O. Anaphe (crispum × Uro-Skinneri), a prettily-spotted flower and a distinct hybrid between Brasso-Lælia Digbyano-purpurata and C. Dowiana aurea, the latter being the seed-bearer. The flower was intensified in its rosy-mauve colour by the cross, but the yellow of the female parent did not appear.

Messrs. SANDER & SONS, St. Albans, secured a Silver Banksian Medal for an interesting group, in which were noted a good Cypripedium Dreadnought, C. Pyramid var. Black Prince of the C. Euryades class but very heavily blotched; C. Troilus, Lord Nelson, and other good Cypripediums. Finely-coloured Cattleyas and Lælio-Cattleyas, two distinct forms of Cœlogyne fuscescens, Cirrhopetalum Medusæ, Bulbophyllum hirtum, and other curious species were also remarked.

Messrs. J. CYPHER & SONS, Cheltenham, received a Silver Banksian Medal for a representative group of Cypripediums, including some good forms of C. insigne and C. Leeanum. Also C. Fulshawense C. F. Sander, C. Milo "Westonbirt variety," C. Thalia gigantea, C. Swinburnei magnificum, and C. Mme. Jules Hye.

Messrs. SWAN & PRICE, Keyfield Nursery, St. Albans, were awarded a Bronze Banksian Medal for a group of Cypripediums, which included C. Queen Alexandra (a very good flower; parentage unknown), C. Baron Schröder, C. Tityus Louise, C. Actæus varieties, C. Priam, C. Goweri splendens, and various unnamed kinds.

Sir TREVOR LAWRENCE, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), sent Lælio-Cattleya Adolphi Iris, a pretty Indian yellow flower, spotted with claret-red, with crimson front to the lip.

Messrs. CHARLESWORTH & CO., Haywards Heath, staged a select group, in the centre of which was their new Trichopilia Gouldii, with a spray of five, white fragrant flowers. Together with an excellent selection of Cypripediums were the singular Catasetum discolor, a selection of Odontoglossums including a very richly-coloured home-raised Odontoglossum crispum, and the singular Oncidioda Marjorie (Cochlioda Noezliana × Oncidium Forbesii), curiously intermediate in character and with bronzy flowers having a whitish front to the lip.

Messrs. HASSALL & CO., Southgate, staged a group of Cypripediums and Cattleyas. With them was a plant of the remarkable Angræcum infundibulare, with large, white labellum, and a dark-coloured Dendrobium Cœlogyne.

E. H. DAVIDSON, Esq., Orchid Dene, Twyford, sent Cattleya labiata Helene, a very clear white flower, with violet blotch on the lip; a very large and handsome Odontoglossum, with finely-marked flowers; and the new Lælio-Cattleya Bella "Orchid Dene variety" (see Awards).

Messrs. J. & A. MCBEAN, Cooksbridge, sent a curious hybrid between Lælia autumnalis and Cattleya Octave Doin named L.-C. auto-Doin. The flower was of good size, rose, with white base to the lip.

H. S. GOODSON, Esq., Putney (gr. Mr. G. E. Day), sent Sophro-Lælio-Cattleya Olive, a well-formed flower of a reddish-rose colour; the showy Cattleya Iris King George V, and Odontoglossum amabile Rosetta, of fine colour, but not fully expanded.

C. J. LUCAS, Esq., Warnham Court, showed Lælio-Cattleya Muriel (a neat white flower) and Cypripedium Harlequin.

W. THOM, Esq., Athol House, Blackburn, showed Cypripedium Bulgare (insigne Harefield Hall × Parkerianum).

Lady THEODORA GUEST, Inwood, Templecombe (gr. Mr. Hester), sent Cattleya Neptune (labiata × Schilleriana).

F. ARNOLD HINDLEY, Esq., Croft Villa, Great Horton, Bradford, showed Cypripediums Hassallii "Hindley's variety" (Bingleyense × Charlesworthii), a finely-formed flower, with large, rose-tinted dorsal sepal.

Lieut.-Col. Sir GEORGE L. HOLFORD, K.C.V.O. (gr. Mr. H. G. Alexander), sent a good Lælio-Cattleya Neleus (C. Iris × L.-C. Ophir), in form like C. Iris, but broader. Sepals and petals yellowish, tinged with green; lip crimson.

AWARDS.

FIRST-CLASS CERTIFICATES.

Lælio-Cattleya Bella "Orchid Dene variety" (L. purpurata × C. labiata), from E. H. DAVIDSON, Esq., Orchid Dene, Twyford.—A very remarkable hybrid, which, in its colour and fine form, approaches nearest to C. labiata. The flowers are bright, rosy-lilac, the lip being purplish-crimson, with a white base, having some purple markings.

Cypripedium Elatior (Leeanum × Baron Schröder), from F. M. OGILVIE, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth).—A very fine form of the favourite hybrid originally raised by Messrs. Jas. Veitch & Sons. In the plant shown the flowers were of fine shape and very dark colour. The petals and lip had a greenish-yellow ground, heavily tinged with purple. Dorsal sepal white, densely spotted with dark claret-purple.

AWARDS OF MERIT.

C. Latona (Niobe × Alcibiades), from Lieut.-Col. Sir GEORGE L. HOLFORD, K.C.V.O. (gr. Mr. H. G. Alexander).—Flower of good shape. Dorsal sepal white with a small green base, above which are lines of large purple blotches. Sepals and petals resembling those of C. Thalia.

Lælio-Cattleya Scylla (L.-C. Cappei × C. Lord Rothschild), from F. M. OGILVIE, Esq.—A very effective hybrid, with flowers of apricot-yellow colour, the margin of the lip tinged with rose.

Fruit and Vegetable Committee.

Present: Jos. Cheal, Esq. (in the Chair); Messrs. George Woodward, Edwin Beckett, J. Willard, George Kelf, A. Grubb, A. R. Allan, Wm. Pope, W. E. Humphreys, John Harrison, Owen Thomas, Geo. Wythes, W. Poupart, H. Somers Rivers, A. Bullock, J. Davis, and A. W. Metcalfe.

A Gold Medal was awarded to Messrs. JAMES VEITCH & SONS, LTD., King's Road, Chelsea, for a collection of vegetables. This fine exhibit included most kinds in season, there being altogether 100 dishes. The quality of the produce was superb and the method of exhibiting admirable. Novelties included New Intermediate Beet, (a selection from Egyptian Turnip-rooted), Golden Shallots, Paris Market Brussels Sprouts, Black Spanish Radish, Smooth Prague Celeriac, and China Rose Radish. Hollow Crown Parsnips were of large size, and there were splendid Onions of the Cocoa-nut variety, Michaelmas White Broccoli, Model Carrots, Selected Red Beets, Invicta Tomatos, Potatos in variety, Capsicums, Cucumbers, Cress, Endive, Leeks, Mushrooms, and many other kinds.

Messrs. JAMES CARTER & CO. exhibited from their trial grounds at Raynes Park a collection of Cabbages and Kales. There were 20 varieties of Cabbage, including 10 sorts of Savoys and 9 of Kales. An improved strain of Model Cabbage was the best in its section, and there were also good heads of Hartwell, Ball Head, Large York, and White Prizetaker. The old Green Curled was unequalled amongst the Savoys, which included Scotch Green Curled, Dwarf Extra Curled, and Cottager's. Uncommon greens were seen in Norwegian Savoy, Couve Tronchuda, Chou de Russie, and Ragged Jack Kale. Chou de Russie, or Russian Kale, is a splendid winter green; the plant is very hardy, and the leaves are excellent as a vegetable. (Silver Banksian Medal.)

Hon. VICARY GIBBS, Aldenham House, Elstree (gr. Mr. Edwin Beckett), exhibited 70 varieties of Apples, 25 varieties of Pears, several bunches of Grapes, also dishes of Nuts and Medlars. The Apples were very good specimens, especially the varieties Blenheim Pippin, Wealthy, Adams's Pearmain, Cox's Orange Pippin, Hoary Morning, Kentish Fillbasket, Emperor Alexander, Stone's Pippin, Bismarck, Peasgood's Nonesuch, and Bramley's Seedling. The Grapes included four bunches of Black Alicante, ten of Muscat of Alexandria, two of Cooper's Black, and two of Princess of Wales, the berries in all cases being well finished. (Gold Medal.)

A very attractive exhibit of Apples and Pears was shown by Mrs. W. GORDON CANNING, Hartpury House, Gloucester. Apples Gascoyne's Seedling, Melon (exceptionally large), Chas. Ross, Tyler's Kernel, Sandringham, and Bismarck, and Pears Beurré Baltet Père, Van Mons, Chas. Ernest, and Marie Benoist were all remarkably

Mr. C. Goring, Wiston Park, Steyning, Sussex (gr. Mr. W. Bennett), was awarded a Bronze Knightian Medal for a collection of Apples and Pears.

Confections and preserves were staged by Mrs. Miller, Moyleen, Harlow (Silver Banksian Medal); Miss Sewell, South Kensington (Silver Banksian Medal); and Messrs. E. Westmacott & Co., Leadenhall Street, London. (Silver Knightian Medal.)

A Cultural Commendation was awarded to Mr. Staward, The Gardens, Panshanger, Hertfordshire, for fruits of White Ischia Figs.

SCOTTISH HORTICULTURAL.

November 14, 15, 16.—The 27th annual Chrysanthemum exhibition of this association was held in the Waverley Market, Edinburgh, on these dates. The weather was dry, with a rather cold north-westerly wind, but the new heating and ventilating system worked admirably, and a comfortable and equable temperature was maintained. The attendance was very good, and the receipts showed an increase over those of 1911 of more than £100.

There was a considerable decrease in the entries, which were 200 fewer than in 1911; this was no doubt partly due to the fact that the council now demand a deposit from every competitor as a guarantee that his entries will be staged. As a consequence only an extremely small proportion of the entries was not forthcoming. This was very marked in the vegetable section, in which (though more than half of the total deficiency occurred here) there was quite as good a display as in 1911. The falling off was seen chiefly in the principal classes for specimen Chrysanthemums. In the leading class, for example, there were only two exhibits, and in the Scottish Challenge Cup class the number was little more than half the average. The quality of the exhibits in this section was not quite up to the standard of 1911.

Cut Flowers.

The City of Edinburgh Queen Victoria Memorial Cup was offered in the leading class for cut blooms of Japanese Chrysanthemums. The schedule required 15 vases in 15 varieties, three blooms in each vase. The finest exhibit was staged by Captain Archibald Stirling, Keir (gr. Mr. Thos. Lunt); 2nd, Mrs. Simson, Bonaly Tower, Colinton (gr. Mr. James Fraser). This being the third occasion on which the cup has been won by Captain Stirling it now becomes his property. The 3rd prize of £5 was awarded to Mrs. Simson. The varieties shown by Captain Stirling and the points awarded to them were as follow :—

Variety shown	Maximum Points.	Points awarded.
Coronation	12	8
Hon. Mrs. Lopes	12	9
White Queen	12	8½
Geo. Hemming	12	8½
Mrs. L. Thorn	12	10
Mary Poulton	12	10
Lady Talbot...	12	9
Mrs. A. T. Miller	12	11
Frances Jolliffe	12	9
Maud Williamson	12	10
Melchet Beauty	12	8½
Purity	12	9
F. S. Vallis	12	9
J. H. Silsbury	12	9
Wm. Turner...	12	10
	180	138½

Mrs. Simson's blooms received 87 points out of a possible 180.

In the Scottish Challenge Cup class for eight vases of Japanese Chrysanthemums in eight varieties, three blooms in each vase, open to Scottish gardeners and amateurs, there were six exhibits. The trophy was won by John Graeme Thomson, Esq., Norwood, Alloa (gr. Mr. James Small); 2nd, Jas. E. B. Baillie, Esq., Dochfour (gr. Mr. R. Mackenzie); 3rd, W. T. MacLellan, Esq., Auchenault, Helensburgh (gr. Mr. H. MacSkimming). Mr. Thomson showed William Turner, Frances Jolliffe, Mrs. A. T. Miller, F. S. Vallis, Mrs. L. Thorn, White Queen, Fred. Chandler, and Lady Talbot, receiving 76 points out of a possible 96. J. E. B. Baillie, Esq., was awarded 74½ points; W. T. MacLellan, Esq., 72½; and the Right Hon. R. C. Munro Ferguson 71½ points. The bloom of "Wm. Turner" in Mr. Graeme Thomson's exhibit was awarded the Silver Medal for the best bloom in the show.

In the class for six vases of Japanese Chrysanthemums in six varieties, three blooms in each vase, W. H. Dobie, Esq., Dollarbeg, Dollar (gr. Mr. J. Waldie), with 57 out of 72 points, was awarded the 1st prize; W. T. MacLellan, Esq., was awarded the 2nd; the Rt. Hon. R. C. Munro Ferguson, the 3rd; and David Thomson, Esq., Greenfield, Alloa (gr. Mr. L. McLean), the 4th prize.

For 12 blooms of Japanese Chrysanthemums in 12 varieties, shown on boards, Captain Stirling was placed 1st; J. Graeme Thomson, Esq., 2nd; and J. E. B. Baillie, Esq., 3rd.

Captain Stirling was also 1st in the classes for two vases of Japanese Chrysanthemums of one variety, three blooms in each vase, and for four vases in 12 varieties, three blooms in each vase. The Hon. Mrs. Askew Robertson, Ladykirk, Norham (gr. Mr. G. Little), was 2nd, and the Rt. Hon. R. C. Munro Ferguson 3rd in the class for two vases, and D. Thomson, Esq., 2nd, and Mr. Alex. S. Watt, Whiting Bay, Arran, 3rd in that for four vases.

C. E. Green, Esq., Gracemount, Liberton (gr. Mr. P. MacLachlan), excelled in the class for four vases in four varieties, three blooms in each vase; 2nd, Colonel More Nisbet, Drum, Gilmerton (gr. Mr. R. Whannell).

The Earl of Wemyss, Gosford (gr. Mr. W. Galloway), excelled in the class for three vases of Chrysanthemums in three varieties, not more than 12 sprays in a vase, for quality and decorative effect; 2nd, Dr. Scott, Musselburgh (gr. Mr. Wm. Armstrong).

Lord Elphinstone, Carberry Tower, Musselburgh (gr. Mr. D. Kidd), was placed 1st for one vase of Chrysanthemums, disbudded, and arranged for effect, whilst for six vases of single Chrysanthemums in six varieties, not more than 12 sprays in each vase, the Earl of Wemyss was placed 1st; Mr. J. Bruce, Davidson's Mains, being 2nd; and C. W. Cowan, Esq., Dalhousie Castle (gr. Mr. W. G. Pirie), 3rd.

Sir Wilfrid Lawson, Bart., Brayton (gr. Mr. A. Knight), excelled in the class for three vases of single Chrysanthemums in three varieties, not more than 12 sprays in each vase; the Earl of Home being 2nd; and for three vases of the same kind the Earl of Wemyss won the 1st prize.

In the class for market growers, that for six vases of Chrysanthemums in six varieties, three single and three double sorts, Mr. James Bruce, Davidson's Mains, and Messrs. Todd & Co., Musselburgh, who were the only exhibitors, were placed 1st and 2nd respectively.

Messrs. Wells & Co., Merstham, secured the Silver Medal offered for the best new Chrysanthemum not in commerce with a fine bloom of "Queen Mary"; the Hon. Mrs. Askew Robertson was awarded the Bronze Medal for the variety "The Hon. Mrs. Askew Robertson."

Decorative Classes.—Miss H. Newlands, Leith, showed the best (1) bride's bouquet, (2) two bridesmaids' bouquets, (3) bouquet of Chrysanthemums, (4) bouquet of Carnations, and (5) floral wreath. Sir W. Lawson, Bart., Brayton (gr. Mr. A. Knight), was 1st for (1) a bouquet (Chrysanthemums and Carnations excluded), (2) basket of flowers (Chrysanthemums excluded), (3) hand bouquet (Chrysanthemums excluded), and (4) basket of Orchid blooms arranged for effect. Mrs. Boase, Binrock, Dundee (gr. Mr. J. Beats), excelled for a basket of Chrysanthemums and hand bouquet of Chrysanthemums. Lord Elphinstone, Carberry Tower (gr. Mr. D. Kidd), was 1st for floral decorations for a dinner table (Orchids excluded); A. Sinclair Henderson, Esq., Seathwood, Dundee (gr. Mr. G. Scott), was 2nd. The flowers used in Lord Elphinstone's decoration were Francoas and Carnations with a ground-work of Ampelopsis Veitchii.

Chrysanthemum Plants.

Lady Steel, Boroughfield, Edinburgh (gr. Mr. W. Michie), won 1st honours in the classes for (1) six distinct varieties (Single and Pompon excluded), (2) four Japanese (distinct), (3) two varieties (distinct), (4) one large-flowered, and (5) one Single (Marguerites excluded), while Mrs. Simson, Bonaly, excelled for six plants in 7-inch pots.

Plants.

In the plant classes the quality was about the average, and here also there was a smaller number of exhibits than usual. In the Palm classes the Earl of Home, Douglas Castle (gr. Mr. A. McMillan), was placed 1st for six specimens in pots, not exceeding 7 inches, and also for two specimens, whilst Mrs. Rose, Richmond House, Glasgow (gr. Mr. J. Templeton), excelled for three specimens, and Sir Wm. Younger, Bart., Auchin Castle, Moffat (gr. Mr. J. Macgregor), for one specimen. Sir J. Gilmour, Bart., Montrave, Leven (gr. Mr. J. Wilson), was placed 1st for six Dracænas; the Rt. Hon. R. C. Munro Ferguson, Raith, Kirkcaldy (gr. Mr. D. McLean), excelled for six Primula sinensis and six Primula obconica; the Rt. Hon. A. J. Balfour, M.P., Whittinghame, Prestonkirk (gr. Mr. G. Anderson), showed the best six table plants (excluding Ferns); Miss Balfour Melville, Pilrig House, Edinburgh (gr. Mr. Wm. Robertson), the best six dwarf hardy Ferns; and Mr. A. Johnstone, Hay Lodge, Edinburgh, the best six table Ferns. Other winners of 1st prizes were: Mrs. Wauchope, Niddrie (gr. Mr. J. Alexander), for six plants of Salvia splendens; Major Thorburn, Craigerne, Peebles (gr. Mr. J. McNeill), for six pots of Roman Hyacinths; the Earl of Home for three pans of Lily of the Valley and six specimen Ferns; Lord Stratheden and Campbell, Hartrigge, Jedburgh (gr. Mr. A. Williams), for six Cyclamen and four winter-flowering Begonias; Sir W. Lawson for eight decorative foliage plants; and Sir Wm. Younger for four decorative foliage plants.

Fruit and Vegetables.

The exhibits of fruit were, considering the season, fairly good, but amongst the hardy kinds there was a distinct falling off, both in quantity and quality. There were only two competitors in the class for a collection of eight dishes, viz., Lord Elphinstone and the Earl of Wemyss, who were awarded the 1st and 2nd prizes respectively.

W. Mackay, Esq., Ascog, Bute (gr. Mr. D. Halliday), was awarded the 1st prize for four bunches of Grapes, distinct, but the prize was withheld on protest on the ground that bunches labelled Mrs. Pearson and Dr. Hogg were both of the former variety; Lord Elphinstone was placed 2nd, and C. W. Cowan, Esq., 3rd.

In the class for two bunches, W. Mackay, Esq., was also 1st for Black Alicante and for any other variety. W. H. Dobie, Esq., was placed 1st for one black and one white variety; C. W. Cowan, Esq., showed the best Muscat of Alexandria; Sir J. King, Bart., Carstairs House (gr. Mr. J. Shiells), excelled for Gros Colman; the Rt. Hon. A. J. Balfour, M.P., won the class for Appley Towers variety; and Major Thorburn for Lady Hutt.

In the hardy fruit classes, Colonel Gordon, Threave House, Castle Douglas (gr. Mr. J. Duff), was placed 1st for (a) 18 dishes of Apples, in not fewer than 12 varieties (grown in Scotland), (b) for 18 varieties of Apples, (c) for six varieties culinary Apples, and (d) six varieties of dessert Apples. The Earl of Wemyss excelled for six varieties of Pears grown in Scotland, whilst the American Ambassador, Wrest Park, Bedfordshire (gr. Mr. G. McKinlay), showed the premier collection of six varieties of Pears.

In a class for market growers for three baskets of dessert Apples and three baskets of culinary Apples, each in three varieties and 12 lbs. in each basket, Mr. R. G. Sinclair, Congalton, Drem, was 1st in each class.

Vegetables.—There were five competitors in the class for a collection of vegetables, nine distinct kinds, selected from a list published in the schedule, and the 1st prize was awarded to the Earl of Lauderdale, Thirlestane Castle, Lauder (gr. Mr. R. Stuart); the Earl of Home, Bothwell Castle (gr. Mr. W. P. Bell), was 2nd; and J. Ramsay Stewart Richardson, Esq., Tulliebelton House, Bankfoot, Perth (gr. Mr. W. Harper), 3rd. The Earl of Lauderdale's collection consisted of Ailsa Craig Onions, Student Parsnips, Perfection Tomatos, Delicacy Cucumbers, Lyon Leeks, Self-Protecting Autumn Broccoli, Macgregor's Beet, Gay Gordon Potatos, and Solid White Celery.

In the single dish classes, the Earl of Lauderdale was also successful in obtaining 1st prizes for eight Leeks, six Dobbie's International Leek, two Cucumbers, and one dish of any other vegetable. A. Sinclair Henderson, Esq., excelled for Tomatos; Mr. Wm. Gilchrist, Lasswade, for Broccoli; Mr. J. W. Scarlett, Inveresk, for Brussels Sprouts and Savoys; R. M. PILKINGTON, Esq., for culinary Cabbage; the Earl of HOME for Curled Greens; Mr. JAS. PATERSON, Roxburgh, for Celery; Colonel GORDON for Beetroot; Mr. ANDREW TAYLOR, Earlston, for Parsnips and Carrots; W. H. DOBIE, Esq., Dollarbeg, for Turnips; T. G. BAIRD, Esq., Rosemount, Ayr (gr. Mr. P. Melville), for Onions; ALEX. COWAN, Esq., Penicuik (gr. Mr. J. Turnbull), for Parsley; Miss BALFOUR MELVILLE for Jerusalem Artichokes; Sir HERBERT MAXWELL, Monreith (gr. Mr. S. Gordon), for Potatos; and Mr. G. M. SERVICE, Liberton, for market Leeks.

NON-COMPETITIVE EXHIBITS.

Messrs. W. WELLS & Co., Merstham, were awarded a Gold Medal for an exhibit of Chrysanthemums; Messrs. SUTTON & SONS, Reading, staged an exhibit of vegetables, for which a Gold Medal was awarded; Messrs. JOHN FORBES (Hawick), Ltd., staged Carnations, winter-flowering Begonias, and Michaelmas Daisies; Messrs. YOUNG & Co., Hatherley, showed Perpetual-flowering Carnations (Silver Medal); Messrs. DOBBIE & Co., Edinburgh, exhibited a collection of Potatos (Silver Medal); Messrs. WM. CUTBUSH & SON, Highgate, showed perpetual-flowering Carnations, including Mrs. Lucy MacKinnon, Hon. R. James, Mrs. Waldorf Astor, and perpetual-flowering "Malmaison" King George (Silver Medal); Mr. H. N. ELLISON, West Bromwich, showed Ferns in variety; Mr. D. W. THOMPSON, Edinburgh, exhibited hybrid winter-flowering Begonias; Messrs. HUGH LOW & SON, Enfield, staged perpetual-flowering Carnations; Messrs. LILLIE, WHITE & Co., Edinburgh, showed Bay trees and other plants; Mr. D. MCLEOD, Chorlton-cum-Hardy, exhibited Cypripediums; Messrs. BALL & BIEBERSTEDT, Leith, showed a non-bleeding Beet; Mr. JOHN STORRAR, Colinton, showed a Potato grafted on a plant of Tomato.

AWARDS.

FIRST-CLASS CERTIFICATE.

Chrysanthemum "Thomas Lunt," exhibited by Mr. THOS. LUNT, Keir, Dunblane.

CERTIFICATES OF MERIT.

Chrysanthemums "Queen Mary" and *"Mrs. W. G. Drexel,"* exhibited by Messrs. W. WELLS & Co., Merstham, and *Chrysanthemum "Snow Queen,"* exhibited by Messrs. CRAGG, HARRISON AND CRAGG, Heston.

NATIONAL CHRYSANTHEMUM.

EXHIBITION OF LATE-FLOWERING VARIETIES.

NOVEMBER 20.—In conjunction with the annual conference, which was held in the evening, an exhibition of cut Chrysanthemum blooms was held in the Essex Hall, Strand, London, on the above date. The all-round excellence of the exhibits and the keen competition shown in nearly all of the classes must be very gratifying to the Society, and should have the effect of making a show for the late-flowering varieties a permanent part of their programme.

The premier class was for 36 Incurved blooms, in which the Challenge Cup and 1st prize in money was won by PANTIA RALLI, Esq., Ashtead Park, Epsom (gr. Mr. G. Hunt), who showed an excellent collection. Many of the blooms were so large that their outer florets touched those of their neighbours. The yellow varieties were, perhaps, the best, the colours of the shapely blooms being rich and clear, the hairy variety Emblème Poitevine being especially noteworthy. Amongst the whites, Souvenir de William Clibran and Edwin Thorp were the best; whilst Clara Wells (cream and pale bronze), H. Hearn, Amber Beauty, and W. Pascoe were very good specimens. The 2nd prize was awarded to Miss LANGWORTHY, Gay's House, Holyport (gr. Mr. T. J. Broom), whose finer blooms were Nellie Threlfall, W. Pascoe, and Clara Wells. 3rd, W. W. MANN, Esq., Ravenswood, Bexley, Kent (gr. Mr. J. Simon).

The display of market Chrysanthemums which won the 1st prize in Class 2 for Mr. NORMAN DAVIS, Framfield, Sussex, was admirable in quality as well as in arrangement. The blooms of the different varieties were of that quality and freshness which one would expect to see prominently displayed in a first-class florist's establishment. A large stand of December Gold, a variety which Mr. DAVIS grows so well, was balanced by a good vase of the lesser-known variety Christmas Gift, which was extremely ornamental. The white-flowered varieties were represented by Maud Jeffries, Mrs. H. Luxford, and an unnamed Anemone-flowered variety. Wells's Late Pink and the deeper-coloured Phoebe are two very desirable pink varieties, and Black Prince, which is appropriately named, was very striking. The 2nd prize was won by Mr. J. TULLEY, Enfield Highway, who showed many useful varieties.

Messrs. CRAGG, HARRISON & CRAGG also competed in this class. The arrangement as well as the quality of the blooms pleased us more than the 2nd prize collection.

There were only three exhibits in the class for three vases of single-flowered varieties, and the 1st prize was awarded to Messrs. CRAGG, HARRISON & CRAGG, Merrivale Nurseries, Heston, Middlesex, for charming vases of Merstham Jewel, Portia, and Sandown Radiance.

Of the nine vases of single-flowered varieties, the best was shown by Mr. PHILIP LADDS, Swanley Junction, who utilised the varieties Bronze Beauty and Ethel Mortimer.

The Chairman's prize for a pair of vases of spidery, thread-petalled, pompon, or Anemone-pompon blooms was responsible for two very attractive exhibits. The 1st prize was won by Miss S. G. ABETHELL, Devonshire Lodge, Muswell Hill, London (gr. Mr. E. R. Cooper), and the 2nd by Miss LANGWORTHY.

The prizes offered by Messrs. W. Wells & Co. for a vase of 12 disbudded single Chrysanthemum blooms were won by LOO THOMSON, Esq., Ailsa Craig, Formby, Liverpool, and Mrs. ROGER GREGORY, Shoreham House, Shoreham, Kent (gr. Mr. L. Lawrence), in the order named.

Unfortunately, there was only one basket of Chrysanthemums exhibited in the Walthamstow Chrysanthemum Society class, yet this style of exhibit makes a very pleasing change from the arrays of vases and show boards. The 1st prize (a Large Silver Medal) was awarded to Mr. J. EMBERSON, Grove Road Nursery, Walthamstow, for a charming arrangement.

TRADE DISPLAYS.

A Large Gold Medal was awarded to Mr. NORMAN DAVIS, Framfield, Sussex, for a magnificent collection of cut blooms. The chief feature of this exhibit was the large stands of Japanese varieties, of which those containing immense, high-quality blooms of the variety Mrs. G. Drabble were especially prominent. At one end the blooms of A. M. Faulkner (the long florets in the centre of the flower have a pale golden colour, which merges to a dull purple in the mature florets, the two colours blending to a rosy tint), a sport from Edith Jameson, flanked by the white Mrs. Turner and December Gold were a charming combination. Other fine Japanese varieties were Mrs. G. C. Kelly, His Majesty, Lady Talbot, Gorgeous, and Mme. Paolo Radaelli. The single varieties shown were Royalty, Mensa, Agnes Pictor, &c., whilst the front row included such "button-flowered" kinds as Snowdrop, Baby, and White Baby.

A Gold Medal was also awarded to Messrs. CRAGG, HARRISON & CRAGG, Merrivale Nurseries, Heston, Middlesex, for an exceedingly meritorious display, which was chiefly composed of fresh and good blooms of such single-flowered varieties as Pink Beauty, Edith Pagram, Mrs. W. Garner, Celia, and Mensa. Several vases of yellow-flowered Incurved varieties, such as Romance and Golden King, illustrated the colour value of this type.

The Gold Medal group of Mr. PHILIP LADDS, Swanley Junction, Kent, contained a very good selection of the best market varieties, the single-flowered varieties being very prominent. These included such valuable kinds as Bronze Beauty, Ethel Mortimer, Mrs. Higgs, and Miss Phyllis Bryant. Amongst the Japanese varieties, Freda Bedford, Mme. Rivol, Mme. Paolo Radaelli, and William Turner demanded notice.

A Small Gold Medal was awarded to Messrs. W. WELLS & Co., Merstham, Surrey, for a smaller but very interesting collection. The centre was filled with splendid blooms of the white-flowered variety Queen Mary, whilst at the ends of the table there were good displays of Mrs. G. Drabble and William Turner.

Messrs. GODFREY & SON, The Nurseries, Exmouth, Devon, exhibited vases of Mollie Godfrey, a rosy-purple, large-flowered, single variety, and Godfrey's Perfection, a decorative, white-flowered, Anemone variety.

NOVELTIES.

The 22 exhibitors of new single-flowered Chrysanthemums presented 45 varieties for the consideration of the Committee. Of these four gained First-class Certificates, and three other awards were made, whilst two Japanese varieties received First-class Certificates. In addition to the first-class certificate a special prize was offered for the best novelty; this was won by Messrs. CRAGG, HARRISON & CRAGG for their variety Portia.

FIRST-CLASS CERTIFICATES.

Portia.—A large single flower with long, rolled, reddish terra-cotta coloured florets, which contrast well with the golden disc.

Snow Queen.—A very decorative pure white variety, which has a small anemone centre. The flower is well-formed, and the broad ray florets are slightly recurved at their tips. Both of these varieties were shown by Messrs. CRAGG, HARRISON & CRAGG, Heston, Middlesex.

Joey Saunders.—A large buff-coloured, and a trifle loosely formed, single flower. Shown by Mr. T. LAWRENCE, Shoreham House, Shoreham.

Royalty.—A medium sized, very prolific, deep crimson single variety, which will find favour as a decorative variety. Shown by Mr. NORMAN DAVIS, Framfield.

Autocrat.—A white Japanese variety, suitable for market purposes. The florets are broad, and of good substance. Shown by Messrs. LOWE & SHAWYER, Uxbridge.

Prince of Wales.—A very large, full, compact Japanese variety. The broad crimson florets have dull bronze reverses. Shown by Mr. NORMAN DAVIS.

CARDS OF COMMENDATION.

Mrs. Roger Gregory.—An attractive single variety, with flowers of medium size and good form. The broad rosy-mauve florets are recurved at their tips. Shown by Mr. T. LAWRENCE.

Crimson Queen.—A wine-coloured-crimson single variety. The tips of the florets of the broad flowers are slightly incurved.

Elfrida.—This large, deep apricot-coloured variety received its award for colour. Both these were shown by Messrs. CRAGG, HARRISON & CRAGG.

GLOUCESTERSHIRE ROOT, FRUIT AND CHRYSANTHEMUM.

NOVEMBER 9.—The 49th annual exhibition of the above society was held in the Shire Hall, Gloucester, on this date. The entries numbered nearly 900, and the exhibits were of general all-round excellence.

The principal prize-winners in the vegetable classes were Lieut.-Col. TIMMIS, Matson House; Sir HUBERT PARRY, Highnam; Mr. J. H. CROXFORD, Tuffley; Mr. HUGH ANDREWS, Toddington Manor; Mr. J. T. WITHERS, Hambrooke; Mr. JOSEPH BENNETT, Claxhill; Mr. M. P. PRICE, Titterton Court; Mrs. H. T. HIGGINS, Tuffley; and Mr. H. J. TILLEY, Cheltenham.

The finest exhibit of Apples and Pears was shown by Mr. W. GORDON-CANNING, of Hartpury House; 2nd, Col. HENRY, of Haffield. Other principal prize-winners in this section were Messrs. POWER & WHIFFEN, Aston Court, Ross.; J. BOTT, Hereford; A. J. COOK, Norton; JAMES HITCH & SONS, Shurdington; S. R. COX, Ashe Leigh; H. J. PHELPS, Tibberton; M. P. Price, Tibberton Court; A. HARRIS, Quedgeley; A. R. ONSLOW, Newent; W. E. GOULDING, Elmore; J. W. BENNETT, Claxhill; T. PONTING, Taynton; and Sir HUBERT PARRY, Highnam.

Mr. HUGH ANDREWS, Toddington Manor; Sir HUBERT PARRY, Col. HENRY, and Mr. G. N. WALKER, Gloucester, won prizes in the Grape classes.

The exhibits of Chrysanthemums and winter-flowering Begonias were the best ever seen in the history of the society, a fact probably due to the increased prize money allotted to this section of the show. For Begonias the chief prizes were divided between Sir HUBERT PARRY and Mr. HUGH ANDREWS. Mr. HUGH ANDREWS (gr. Mr. J. R. Tooley) carried off premier honours for a display of Chrysanthemums, and was also placed 1st for 12 Japanese blooms

ROCHFORD AND DISTRICT HORTICULTURAL AND CHRYSANTHEMUM.

November 5.—The second annual autumn exhibition of the above society was held in the Corn Exchange, Rochford, on this date, and, on the whole, was a success, the number and character of the exhibits staged in the various sections being fairly satisfactory. In the group classes, James Tabor, Esq., The Lawn, Rochford (gr. Mr. J. Burles), was awarded the 1st prize for a group of Chrysanthemums arranged on a ground space of 10 feet by 6 feet, thereby winning for the third time the challenge cup which he offered as president. 2nd, Mr. F. Moore. Mr. Tabor was also placed 1st for a group of miscellaneous plants; 2nd, Mr. Bright. In the open classes for cut blooms, Messrs. H. E. Campion, P. C. Wiseman, W. Thurley, F. Flavell, and G. F. Cottell were the most successful exhibitors. A challenge cup was offered by Alderman J. C. Ingram, J.P., for floral designs displayed on a table 6 feet by 3 feet, open to all nurserymen and florists residing within a radius of 10 miles of Southend Post Office. This was a very interesting class, and the trophy was won finally by Mr. A. Pilgrim, florist and fruiterer, London Road, Southend. Apples and Pears were shown well by Mr. H. B. Herbert, Eastwood; Mr. F. Langstone, Great Wakering; Mr. Murrell, Barling; and Mr. F. Moore, in the respective classes. Mr. T. Lock and Mr. W. Robinson were awarded the 1st and 2nd prizes respectively for collections of six kinds of vegetables.

CHESTER PAXTON.

November 12, 13.—A successful exhibition was held on these dates in the Town Hall by the Chester Paxton Society. Apples and Pears were shown in great variety, and in each case information was forthcoming as to soil and mode of culture, thus making the exhibits both interesting and instructive from the grower's point of view.

The Rev. Canon Wardell Yerberg was the most successful exhibitor in the class for a group of single-flowering Chrysanthemums, in which there were four creditable collections, all exhibiting skill and taste in arrangement. J. R. Samuel, Esq., of Shotwich (gr. Mr. F. Berry), was 2nd, and Percy W. Whaller, Esq., Chester (gr. Mr. C. Edwards), 3rd.

For a semi-circular group of naturally-grown Chrysanthemums, Mr. A. Walker gained the 1st prize, the quality and colour of the blooms being extremely good; 2nd, T. Gibbon Frost, Esq. In the class for six single blooms Mrs. Butt, Chester (gr. Mr. E. Palin), gained the prize; whilst for four pot plants, Mrs. E. P. Smith was equally successful.

There were rather fewer exhibits of cut blooms than usual. R. Brocklebank, Esq. (gr. Mr. T. Winkworth), gained the 1st prize for 18 Japanese Chrysanthemums, in six varieties, arranged in vases; whilst for 12 Japanese blooms, in two vases, the first prize was awarded to Mr. Joseph Smith.

The premier class for fruit was for a collection of Apples and Pears; twelve dishes of culinary and six of dessert Apples, and six dishes of Pears. There were seven exhibits, and Sir George Meyrick, Bart., (gr. Mr. W. Pilgrim), won the 1st prize with a very fine collection.

For 12 varieties of cooking Apples, Mr. R. R. Salmon gained the 1st prize, and H. Potts, Esq. (gr. Mr. J. Fleet), the 2nd. For six varieties, Mr. W. G. Townsend Currie and Mr. T. Day won the 1st and 2nd prizes respectively.

The two sections devoted to single dishes contained about 70 classes, and many of the fruits shown were extremely fine. Sir George Meyrick gained the Society's Silver Medal for a splendid dish of Peasgood's Nonesuch Apples.

In the class for two bunches of Black Grapes Sir George Meyrick—who showed Black Alicante—gained the 1st prize; 2nd W. Droonsfield, Esq. (gr. Mr. W. May). In the class for two white varieties, James Amphlett, Esq. (gr. Mr. R. Jones) was placed 1st with Muscat of Alexandria.

Gold Medals were awarded to the Duke of Westminster, Eton Hall (gr. Mr. N. F. Barnes) for a table of splendid Apples and Pears arranged with Chrysanthemum blooms; W. Richardson Moss, Esq. (gr. Mr. W. E. Sharp) for a table of Cypripediums arranged with Ferns and Palms; and Messrs. Mc Hattie & Co., for an exhibit of Chrysanthemums, Salvias, and Carnations.

LANCASTER CHRYSANTHEMUM.

November 13.—This annual show proved a great success. Owing to Lord Ashton's non-competitive exhibit not being forthcoming on this occasion, it was possible to get the whole of the Chrysanthemum classes in the Alexandra Hall, the vegetables, window plants, and Primulas being staged in an adjoining room. There was a slight decrease in the number of entries compared with last year.

Lord Ashton's Cup, offered in the group classes, was won by Sir Norval W. Helme, Springfield Hall (gr., Mr. T. Atkinson); 2nd, J. W. Pickard, Esq. (gr. Mr. Lambert).

Mr. H. L. Storey (gr. Mr. Roberts) staged an exceptionally fine group of stove and greenhouse plants.

Fruit was a strong section, and vegetables were probably the best ever seen at this show.

In the open class for cut Chrysanthemums Mrs. Porritt, Grange, secured the "Lady Storey" rose bowl offered for 18 Japanese blooms; 2nd, Mr. W. W. Brocklehurst, Macclesfield. Mrs. Porritt was also 1st in the classes for twelve blooms, six blooms, three white blooms and three yellow blooms. Mr. E. Frank, Schelford, Cheshire, showed the best three blooms of any variety. The 1st prize for three distinct vases of Chrysanthemums was won by Mr. J. G. Martin, Grange.

In the class for four vases of single varieties Mr. E. G. Clark, Lancaster, was awarded the 1st prize: he staged splendid specimens of Kitty Bourne, Metta, Bronze Pagram, and Florence King, the best singles in the show. He also won the 1st prize for two vases and four vases of decorative varieties, being followed by Mr. E. Storey in each class.

Sir N. W. Helme was easily 1st in the classes for three Japanese, three decorative, and three single varieties in the plant classes.

In the amateur classes the principal prize-winners were Messrs. H. Jackson, F. S. Curtis, J. G. Martin, G. Holmes, T. Huntington, E. Boardley, and R. Willacy.

In the fruit classes the winners were Messrs. W. Robinson, W. Orr, W. Parkinson, J. Crossfield & Son, E. Frank, Mrs. Fenton, and Mr. W. W. Brocklehurst; vegetables were best shown by Messrs. J. Sharp, T. Brighouse, A. Stretch, T. Fenton, J. Gregson, and R. Seddon.

BANBURY CHRYSANTHEMUM.

November 13, 14.—The annual exhibition of the above society was held in the Town Hall, Banbury, on these dates.

The "Banbury" Challenge Cup was offered in the open class for nine vases of Chrysanthemums, not fewer than eight varieties, arranged with foliage. The cup was won by Sir S. Scott, Bart., M.P., Westbury Manor (gr. Mr. F. Tapper); 2nd, Lord North, Wroxton Abbey, Banbury (gr. Mr. E. R. Janes).

For 12 blooms of distinct varieties, the 1st prize was awarded to Rev. W. B. Bradford, Broughton Rectory (gr. Mr. A. W. Sadler), and this gentleman also excelled in the class for six blooms, distinct.

The best collection of 18 distinct varieties was shown by Sir S. Scott, Bt., M.P.; 2nd, Mr. W. C. Cartwright, Aynbo Park (gr. Mr. S. Brown).

Sir S. Scott was also placed 1st for 12 distinct varieties.

For six blooms of any variety, the 1st prize was awarded to Mr. J. B. Akroyd, Birdingbury Hall (gr. Mr. F. Daniels); 2nd, Sir S. Scott, who showed the best 12 blooms of Incurved varieties. The best six blooms of one variety of Incurved were shown by Mr. J. B. Akroyd; 2nd, Sir S. Scott.

Lady Knightly, Fawsley, staged the finest six vases of single Chrysanthemums, distinct.

The best six vases of decorative Chrysanthemums, distinct, were shown by H. Boxold, Esq. (gr. Mr. W. Rawlings).

The "Coronation" Challenge Cup, value £10 10s., was offered for a table of winter-flowering plants, other than Chrysanthemums. It was won by Lord North; 2nd, Mrs. Myers.

The "Banbury Cross" Challenge Cup, offered for a table of winter-flowering and foliage plants, Orchids excluded, was also won by Lord North.

Fruit.—The society's challenge cup, value £15 15s., was offered in the class for a dessert table, decorated with six dishes of fruit (to include one bunch each Black and White Grapes), cut flowers and foliage. The finest exhibit was staged by Mr. W. C. Cartwright; 2nd, Lady Knightly.

Lord North showed the best six dishes of culinary apples and the best six dishes of dessert varieties. This exhibitor won eight 1st and six 2nd prizes, including two cups.

Mr. W. C. Cartwright won the society's challenge cup outright.

COVENTRY CHRYSANTHEMUM.

November 14, 15, 16.—A satisfactory feature of the 18th annual exhibition of the Coventry and District Chrysanthemum Society was the increased number of entries, for there have been fewer exhibits in some classes of late years.

The Countess of Craven gained the 1st prize for three bunches of Grapes. In the open classes for a group of Chrysanthemums there was only one exhibitor, Mr. W. Finch, Coventry. In the class for a group of miscellaneous foliage and flowering plants, exclusive of Chrysanthemums, Hugh Rotherham, Esq. Keresley Grange (gr. Mr. G. Griffin), secured the chief award; 2nd, C. Vernon Pugh, Esq. (gr. Mr. T. Kemp). There were some very attractive displays of Gloire de Lorraine Begonias, for which F. Foster, Esq. (gr. Mr. J. Mills), was awarded the 1st prize, whilst Captain Starkey, of Leamington (gr. Mr. S. Blackburn), was placed 1st for table plants. Captain Starkey was also a successful exhibitor of Apples and Pears. In the classes for cut blooms of Chrysanthemums the Countess of Craven secured no fewer than four 1st prizes.

In the class for a circular group of Chrysanthemums 8 feet in diameter, open to gentlemen not employing more than two gardeners regularly and residing within 12 miles of Coventry, J. P. Ward, Esq., Coventry, was placed 1st. A. Hoyle, Esq., gained the principal award for three vases of Incurved Chrysanthemums, whilst H. Mitchell, Esq. (gr. Mr. T. Batchelor) won in the similar class for Japanese Chrysanthemums. Mr. H. Mitchell showed the best collection of vegetables in the open class.

Mr. H. L. Curzons exhibited 100 dishes of fruit. Among the trade exhibits was a particularly meritorious display of fruit by the Exors. of Thomas Webb, Coventry. F. Twist, Esq. (gr. Mr. W. Hicks), showed fine bunches of Grapes in a non-competitive exhibit.

LEEDS PAXTON CHRYSANTHEMUM.

November 15-16.—The exhibition of this society was held on these dates, in the Albert Hall, Leeds.

In the Open Class for 36 blooms, 18 Incurved and 18 Japanese varieties, the 1st prize was awarded to Arthur James, Esq., Coton House, Rugby (gr. Mr. A. Chandler); 2nd, Alderman Penrose Green, Esq. (gr. Mr. C. Shaw); 3rd, C. Watson, Esq. (gr. Mr. Carter). Mr. A. Chandler was successful for 12 Japanese varieties; also for 12 Incurved varieties.

In the Local Classes, Mr. C. Shaw was awarded the 1st prize for 24 blooms, including 12 Incurved and 12 Japanese varieties; 2nd, Mr. Fred Norman. Other prize winners in the local class were Messrs. C. Shaw, Carter, Norman, Bell (gr. to —. Oxley, Esq.), W. N. Hague Smith (gr. to Greenwood, Esq.).

Plants.—C. Fulford, Esq., Headingley Castle (gr. Mr. H. Harrison), was the only exhibitor in the class for a group of miscellaneous plants, and was awarded the 1st prize.

E. O. Simpson, Esq., Hazlewood Castle (gr. Mr. A. Lupton), exhibited six fine specimens of Begonia Glore De Lorraine. These were awarded the N.E.H.S. Medal. The Bronze Medal of this society was awarded for Cyclamen exhibited by W. D. Cliffe, Esq., Meanwood Towers (gr. W. N. Hague). This exhibitor, Mr. Blakey (Howden), and Mr. Groundwell (Leeds) were the principal prize winners in the vegetable classes.

ECCLES AND PENDLETON CHRYSANTHEMUM.

November 8, 9.—This exhibition was held in the Town Hall, Eccles, which is not large enough for the convenience of both exhibitors and visitors. In consequence of crowding the flowers were not seen to advantage.

In the cut bloom section four good collections were staged in the class for 24 blooms of 12 Japanese and 12 Incurved varieties, Sir Gilbert Greenall, Bart., Warrington (gr. Mr. C. Goves), the winner of last year's prize in this class, was again successful. His best blooms were (*Incurved*) Pantia Ralli, J. Hygate, Mrs. B. Hankey, Mrs. R. H. Hall, Romance, Marjorie Shield, and Daisy Southern. (*Japanese*), Lady Talbot, Eclipse, President Viger, Lady Talbot, Hon. Mrs. Lopes, and Frances Jolliffe. The 2nd prize was awarded to Sir W. H. Tate, Bart, Woolton, Liverpool (gr. Mr. G. Haigh), his blooms of Buttercup and Hon. Mrs. Lopes being of high merit. 3rd, H. Beck, Esq., Huyton (gr. Mr. J. Copper). Mr. Goves continued his successes throughout the remaining classes, winning in the classes for (1) 24 Japanese blooms in not fewer than 12 varieties; (2) 12 Incurved varieties distinct; (3) 12 Japanese blooms, distinct; and (4) 12 blooms, six Incurved and six Japanese varieties. Mr. C. Goves received the award of merit offered for the best Japanese bloom in this section with the variety President Viger.

In the gardeners' classes James Brown, Esq., Heaton Mersey (gr. Mr. J. W. Smith), won the challenge cup offered for 18 Japanese blooms arranged in six vases. Mr. Smith was also successful in the classes for 12 Japanese blooms; 12 Incurved blooms, and 12 blooms (six Japanese and six Incurved). Viscount Brackley (gr. Mr. W. Byrom) showed the best six Japanese varieties and the best six vases of naturally-grown flowers. Scott Forbes, Esq. (gr. Mr. W. Holmes), showed the best six Incurved and the best six Japanese blooms. Mr. Smith received a certificate of merit for the variety Mrs. A. T. Miller.

In the plant section there were six exhibitors in the class for half-circular groups, each 9 feet by 6 feet. Mr. J. W. Smith was awarded the 1st prize. 2nd, Miss G. Agnew (gr. Mr. W. Palethorpe). Mr. Smith was again successful for three pot plants of Japanese Chrysanthemums, and won the premier position in three other classes, staging well-flowered plants in each case. Mr. W. Holmes was the winner of the 1st prize in the class for three plants not disbudded. For six table plants T. C. Ansdale, Esq. (gr. Mr. A. E. Fox), was successful, and he also excelled in the classes for six pots of Roman Hyacinths and six pots of Begonia Gloire de Lorraine.

The non-competitive exhibits included Palms from the Earl and Countess of Ellesmere's garden. Messrs. Dickson & Robinson, Manchester, arranged a choice collection of autumn flowers. Messrs. Dickson, Brown & Tait, Manchester, contributed fine spikes of Lily of the Valley and Begonias. Messrs. Frank Dicks & Co. showed Palms, Heath, and Potatos.

DERBY CHRYSANTHEMUM.

November 8, 9.—The annual exhibition of the above society was held at Derby on these dates. The exhibition was one of the best of recent years; ideal weather prevailed, and there was an increased attendance.

The 1st prizes in the two classes for groups of Chrysanthemums arranged for quality and effect were won by Mr. J. H. Coley, Duffield, and T. Potter, Derby, respectively. In the cut bloom classes the 1st prize for six vases of Japanese varieties was won by Mr. W. Sherwin, Locko Park, and for six vases of single Chrysanthemums by Mr. J. H. Coley, Duffield. In the class for 18 Japanese blooms, Messrs. F. Meakin, Derby, J. H. Coley, and W. Sherwin were the successful competitors, whilst for 12 Japanese blooms Mr. W. Sherwin was placed 1st. In the class for 12 Incurved blooms, Mr. J. Wood, Alvaston, was awarded the 1st prize. Mrs. Orton, Longford Hall, arranged the best table decoration, and Mr. J. Wood the best large vase of Chrysanthemums. Mr. J. H. Coley was awarded a special prize for his bloom of Lady Talbot, which was the premier bloom in the show.

RAYLEIGH AND DISTRICT HORTICULTURAL.

November 8, 9.—The annual autumn exhibition of the above society was held on these dates, and was a great improvement on former shows. The exhibits of vegetables were very good, but Apples and Pears were the principal features. Successful exhibitors of fruit in the open classes were Mr. F. Langstone, Great Wakering, and Mr. S. Taylor, Alpha Nursery, Rayleigh. Mr. Langstone was awarded the 1st prize in the class for six dishes of dessert Apples, Mr. Taylor being a close 2nd. Mr. Langstone also excelled in a similar class for culinary varieties, and again Mr. Taylor was placed 2nd. Mr. Taylor showed the best six dishes of Pears. Among the non-competitive exhibits, Mr. W. A. Voss, Eastwood Road, Rayleigh, staged 16 baskets and dishes of Apples and seven dishes of Pears; the fruits were of excellent quality. Mr. Langstone showed numerous dishes of excellent Apples and Pears. Dr. Burrows, Rayleigh House, also contributed a fine collection of fruit, and Mr. Jordison, The Nurseries, Hall Bridge, showed two shallow baskets containing about five dozen even, well-coloured fruits each of Carter's Sunrise and Comet Tomatos. Messrs. W. B. Rand & Sons, Down Hall Road, Rayleigh, showed extra fine fruits of Cucumbers.

WATFORD HORTICULTURAL.

November 12.—The third autumn exhibition of this society took place on this date and proved a great success. Fifty competitors staged 370 exhibits, compared with 250 of the previous year, and there were several honorary and trade displays, principally of flowers and vegetables—there being a rather small quantity of fruit.

The premier Chrysanthemum in the show was a bloom of the variety Lady Talbot, shown by Mr. E. Taylor, Colney Park. A collection of vegetables from the gardens of Loudwater, Rickmansworth, the residence of Mr. J. Kerr, won the Silver Medal offered for the best competitive exhibit in the show. Mr. T. F. Stannett, Radlett, won the Royal Horticultural Society's Bronze Medal for a group of 24 Japanese Chrysanthemums. The Countess of Clarendon gave a Silver Cup for the best table of autumn flowers and tints, this being won by Mr. W. J. Pritchard, Elstree. The President's Cup, offered in the allotment and garden classes, was won by Mr. J. Franklin.

Honorary Exhibits.—Hon. Vicary Gibbs, Aldenham House, Elstree (gr. Mr. E. Beckett), exhibited 36 varieties of single Chrysanthemums. Lady Clarendon showed a small collection of Apples and Pears.

WEST OF ENGLAND CHRYSANTHEMUM.

November 12.—This society opened its annual show in the Guildhall, Plymouth, on this date, and the exhibition was one of the most successful and comprehensive that have been held in recent years. Cut blooms were staged in large numbers, and were distinctly in advance of those shown in former seasons. The groups were graceful and effective, and many of the pot-plants evidenced the highest culture.

In the class for 24 Japanese blooms the 1st prize was won by Lady Buller, on whose stand the varieties Lady Talbot, F. S. Vallis, Rose Pockett, W. Turner, and Master David were very fine.

For 12 Japanese blooms the 1st prize was won by Mr. T. B. Bradshaw, whose specimens of Hon. Mrs. Lopes and Mrs. David Syme were very good.

In the class for 12 vases of single Chrysanthemums the 1st prize was won by Mr. T. B. Bradshaw, but he was beaten in the local class for the Silver-gilt Medal by Mrs. Bainbridge.

The 1st prize for a group of stove and greenhouse plants was won by this lady with an excellently-arranged and very elegant group.

Excellent salads in variety were shown by Mrs. Bainbridge, who easily won the 1st prize.

For a group of single Chrysanthemums the 1st prize was won by Dr. Burke with a well-arranged collection of plants bearing fresh and attractive flowers.

The premier exhibit of four specimen Chrysanthemums was shown by Mr. E. J. Hannaford, who also won the 1st prize for a white Japanese variety.

For one Japanese variety of any other colour the 1st prize was won by Mr. G. Hoskin.

The best Salvias, Chinese Primulas, Primula stellata, Zonal Pelargoniums, and six table plants were shown by Mrs. Bainbridge.

The exhibits of fruit were very fine. In the class for 24 dishes Mr. H. St. Maur was awarded the 1st prize. Vegetables were also very good.

Non-competitive Exhibits.—The nurserymen's exhibits were excellent, and added considerably to the attractions of the show. The Devon Rosery Co., Torquay, was awarded a Gold Medal for a superb show of nearly 150 varieties of fruit, of which 118 were Apples. The King's Acre Nurseries, Hereford, also received a Gold Medal for a collection of fruit. Messrs. Sutton & Sons, Reading, staged a select collection of vegetables, which were very well set up and were remarkable for their excellent quality and freedom from coarseness. A Gold Medal was awarded this firm. Messrs. Robert Veitch & Son, Exeter, showed Pancratium macrostephana, Euonymus europæus, Ilex camelliæfolia, Stransvæsia undulata, Cotoneaster angustifolia, C. pannosa, Eugenia Ugnii, Nerine Bowdenii and Nerine hybrids, Physalis Bunyardii, Grevillea longifolia, Orchids, and winter-flowering Carnations. (Silver Medal.)

KILMARNOCK CHRYSANTHEMUM.

November 15.—This annual show was held in the Agricultural Hall, Kilmarnock, on the foregoing date. Both cut blooms and pot plants of Chrysanthemums were good, and the exhibits of other plants and fruits compared well with those at previous shows.

In the gardeners' classes for cut Chrysanthemums the principal one was for 12 Japanese blooms. W. Graham, Esq., Crosbie Tower (gr. Mr. Jas. Muir), was awarded the 1st prize; 2nd, A. W. Crookston, Esq., Ballochmyle (gr. Mr. P. Anderson). A. W. Crookston, Esq., was placed 1st for six Japanese blooms, two vases of a white Japanese variety, and six and three vases respectively of "exhibition" Chrysanthemums, the exhibits in each case being very good. W. Baird, Esq., showed the best three vases of decorative varieties. W. Graham, Esq., excelled in the classes for three vases of single varieties, six vases of stove or greenhouse flowers, and six tubes of Chrysanthemums. Mr. D. Walker, Kay Park Terrace, showed the finest Carnation.

In the pot-plant classes the best table arranged for decorative effect was shown by Sir W. H. Houldsworth, Coodham (gr. Mr. J. M'Gran); 2nd, Mrs. Mann Thomson, Dalkeith

In the classes for plants the principal prizewinners were W. Baird, Esq., Cambusdoon; Mrs. Kennedy, Howard Street, Kilmarnock; Mr. A. J. Ferguson, Mr. J. Cochran, High Glencairn Street; Mr. A. Methven, Galston; W. Baird, Esq., Sir W. H. Houldsworth, Bart., and Colonel Blair, of Blair (gr. Mr. W. Mair).

In the fruit classes Apples were remarkably fine. Mr. Thomas Smith, Dundonald Road, Kilmarnock, carried off all the 1st prizes for these fruits. Mr. G. Clark, London Road, Kilmarnock, was placed 1st for black Grapes, and W. Graham, Esq., Crosbie Tower, for white Grapes.

Non-competitive Exhibit.—Messrs. W. and T. Samson, nurserymen and seedsmen, Kilmarnock, exhibited pot-plants, cut flowers, and floral designs.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

November 11.—The monthly meeting of this society was held at the Royal Horticultural Society's Hall, Westminster, on this date. Mr. Chas. H. Curtis presided. Fifty-five new members were elected, bringing the membership of the society up to 1,900. The sick pay for the month amounted to £39 2s. Several members withdrew, under Rule 19, double the amount of interest standing to their credit. The sub-committee's report was confirmed, and the Secretary reported on the return of the National Insurance cards.

MARKETS.

COVENT GARDEN, *November 20.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	2 6- 4 0
Azalea, per dozen bunches	3 -6 4 0
Bouvardia, per dz. bunches	6 0- 7 0
Camellias, white, per dozen	2 0- 2 6
Carnations, per dozen blooms, best American varieties	1 6- 2 6
— smaller, per doz. blooms	12 0-15 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaison, p. doz. blooms:	
— — pink	8 0-15 0
Chrysanthemums, per dozen:	
— white	1 6- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze	1 0- 2 6
— white, per doz. bunches	6 0- 9 0
— coloured	5 0- 8 0
— Singles in variety, per doz. bunches	12 0-18 0
Daisies (Michaelmas), various	3 0- 4 0
Eucharis, per dozen	2 6- 3 0
Freesia, white, per doz. bunches	2 6- 3 0
Gardenias, per box of 15 and 18 blooms	3 0- 4 0
Gerbera Hybrid, p. doz.	1 6 —
Honesty, per bunch	1 0- 1 6
Hyacinth Roman, per dz. bnchs.	12 0 15 0
Lapagerias, white, per dozen	2 6 —
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 6- 3 0
— — short	2 0- 2 6

	s.d. s.d.
Lilium lancifolium alba, long	1 6- 1 9
— — short	1 6- 1 9
— speciosum rubrum, per dz.:	
— long	1 6- 1 9
— short	1 0- 1 3
Lily of the Valley, pr. dz. bnchs.:	
— extra special	12 0-15 0
Lily of the Valley. per dozen bnchs:	
— special	9 0-10 0
— ordinary	6 0- 8 0
Mignonette, per doz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	10 0-12 0
— Cattleya Harrisonæ, p. doz.	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum	3 0- 4 0
Pelargoniums, p. doz. bunches	4 0- 5 0
— Double Scarlet	6 0- 8 0
Roses, 12 blooms:	
— Mrs. Ward	2 6 —
— Bridesmaid,	2 6- 3 0
— C. Mermet	2 6- 3 0
— Liberty	3 0- 5 0
— Madame A. Chatenay	2 6- 4 0
— Niphetos	1 6- 2 0
— Richmond	3 0- 5 0
— Sunburst	5 0- 7 0
— Sunrise	2 6 —
— Lady Roberts	2 6 —
— Lady Hillingdon	1 6- 2 6
— Franz Deegen	3 0- 4 0
— Kaiserine	2 0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Stephanotis (72 pips)	3 6- 4 0
Tuberose, p. doz. blooms, long	0 6- 0 8
— — short	0 3- 0 4
Violets, per dozen bunches	1 6- 4 0

French Flowers: Average Wholesale Prices.

	s.d. s.d.
Anemone, double pink, per doz.	2 6- 3 0
Lilac, white, per bunch	3 6- 4 0
Marguerite, yellow, per doz. bnchs	1 6- 1 9
Mimosa, pr. bunch	0 9- 1 0
Narcissus, Paper White, pr. pad, 48 bunches	12 0-14 0

	s.d. s.d.
Narcissus, Soleil d'Or, per doz.	3 0- 3 6
Ranunculus, dble scarlet, per dz. bunches	8 0- 9 0
Roses, Safrano, bx. of 24 blooms	3 0 —
Violets, per pad of 48 and 60 bchs.	6 0- 7 0
— Parma, large bunches, each	2 6- 3 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0 12 0
Berberis, natural, per doz. bnchs	3 0- 4 0

	s.d. s.d.
Carnation foliage, doz. bunches	3 0 —
Croton foliage, various, dz. bchs.	12 0 15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, gross bnchs.	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeli-	

	s.d. s.d.
Croton, per dozen	18 0-30 0
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, p. dz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica hyemalis	15 0-18 0
— nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0
— — in thumbs	3 6- 4 0
— — 60's	6 0- 8 0
Ferns, in thumbs, per 100	8 0-12 0

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Ferns, choicer sorts, per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0 42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	18 0-21 0

	s.d. s.d.
Lilium lancifolium alba. in pts., dz.	18 0-21 0
— longiflorum, p. dozen	18 0-24 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per dozen	10 0-12 0
Spiræa japonica, per dozen pots	10 0 12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 5 0
— Cox's Orange, ½ bushel	4 0- 6 0
— Cooking, per bushel	2 0- 4 0
— Wenatchee, p. case	7 0-10 6
— American, brls.	15 6-32 0
— Californian Newtowns, case	7 0- 8 0
— Nova Scotian, per barrel	13 6-17 0
— Oregon, Newtown Pipp., cs.	9 6-10 6
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 8- 1 0
— Red coloured	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Dates, per dozen	7 0 —
Figs (Italian), bxs.	0 6- 1 0
Cranberries, p. case	9 0 11 0
Grape Fruit, case:	
— 96's	15 0-16 0
— 80's	
— 64's	
— 54's	
— per dozen	6 0 —
Grapes (English), per lb.:	
— Canon Hall	2 0- 5 0
— Muscats	2 0 5 0
— Gros Colman	0 8- 2 0
— Black Alicante	0 6 1 6
— Gros Maroc	1 0- 1 6
— Almeria, barrel	12 0-18 0
— Lisbon, case	7 0- 8 6
Lemons, per case:	
— Malaga	16 0 —
— Messina, case	8 6-18 0

	s.d. s.d.
Lychees, per box	1 6 —
Medlars, per crate	4 0 —
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt.	48 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 2½ 0 3
— Chestnuts, bg.	16 0 24 0
— Walnuts per dozen lbs.	2 6- 6 0
— — French, per bag	7 0- 8 0
Oranges:	
— Jamaica, case	10 0-13 0
— Mandarines, p. box	1 0- 1 6
Peaches	
— Canadian, per box	2 6- 3 6
— Californian, p. tray	4 0 —
Pears:	
— French, pr. box	3 0 —
— per crate	6 0 8 0
— English, ½ brls.	1 0 3 0
— Doyenné du Comice, dozen	2 0- 4 0
— Dessert, per ½ bushel	3 6 6 6
— Californian, p. case	9 0-14 6
— Doyenné du Comice, p. case	12 0-14 6
— Dutch Catillac, ½ bushel	3 6 —
— per barrel	7 0- 8 0
Pineapples, St. Michael	2 0- 4 0
Plums:	
— (Californian), crate	12 6-15 0
Pomegranates, per case	7 0- 8 0
— per box	2 6 —
Quinces, ½ bushel	5 0- 8 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	3 9- 4 3
Artichokes (Globe), per dozen	1 9 2 6
— English	0 6- 1 0
— ground, ½ bus.	1 0 —
— Batavia, p. dz.	0 6 1 6
Beans:	
— French, per lb.	0 6 0 9
— Guernsey, lb.	0 6- 0 9
— Madeira, per handle	2 0 —
Beetroot, per bushel	1 6 —
Cabbages, p. tally	2 6
— boxes	1 0 2 0
— Red, per dozen	1 0
Carrots (English), pr. doz. bun.	1 6- 2 6
— dirty, per bag	2 6 —
— washed, bag	3 0
Cauliflowers per — tally	3 0- 5 0
Celery, per dozen	12 0 15 0
— dirty	6 0- 8 0
Celeriac, per doz.	2 0- 3 0
Cucumbers, per flat	7 0- 9 0
Endive, per dozen	0 6- 1 0
— French p. doz.	1 6 —
Greens, per bushel	1 0 —
— bags	1 0 2 0
Herbs (sweet), packets., per gross	7 0
Horseradish, 12 bundles	12 0 —
Leeks, per doz.	1 6- 2 0
Lettuce (English), Cos, per box	1 0 —
Cabbage, p. b.	1 6 —

	s.d. s.d.
Lettuce, French, p. doz.	1 3 —
Mint, p. dz. bnchs.	3 0 —
Mushrooms, cultivated, per lb.	1 0- 1 6
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag	2 0 —
— per bushel	2 0- 3 0
— Picklers, p. bag	4 0 —
— (Spring), per doz. bunches	4 0 —
— (Spanish). case	5 0- 6 0
— Dutch, bags	2 9- 3 0
Parsley, per doz. bunches	2 0 —
Parsnips, per bag	2 6- 3 0
— per bushel	1 0 —
Radishes (English) per dozen	0 10- 1 0
Sage, per dozen	1 6 —
Savoys, per. tally	4 0 —
Seakale, punnets	2 0- 2 6
Spinach, ½ bushel	1 0- 1 6
Sprouts, ½ bushel	1 0 —
— per bushel	1 6 —
— bags	1 6- 2 0
Scotch Kale, busl.	1 0 —
Tomatos, p. dz. lbs.:	
— (English)	2 6- 4 0
— seconds	1 0- 1 3
— (Canary) per bundle	10 0 14 0
Turnips (English), per dz. bunches	1 3- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Turnip tops, bushel	1 0 —
Watercress, p. dz. bunches	0 4- 0 6

Remarks.—The market is well supplied with English Apples, both dessert and cooking varieties. Consignments of Apples from overseas are increasing, and the fruits are arriving in an excellent condition from all sources. This week's shipments included per s.s. "New York" 9,760 bar-

packages, including Pears. Pears from all sources consist chiefly of the varieties Doyenné du Comice, Winter Nelis, and Keiffer. English Gros Colman and Black Alicante Grapes are arriving in excellent condition, and are meeting with a fairly good demand. Selected bunches of Muscat of Alexandria are scarcer and in better demand. Cobnuts are still plentiful, but English Walnuts are finished, and consignments of French Walnuts are smaller. French and Italian Chestnuts are very plentiful. Mushrooms are arriving in considerable quantities, principally from the Worthing district. Supplies of English Tomatos are decreasing daily, but the supply of these fruits from Teneriffe is increasing weekly and the Tomatos show improved quality. Beans from Guernsey and Madeira continue a good supply. Asparagus (Paris Green), in bundles of 40 heads, is now obtainable at moderate prices. Trade in ordinary vegetables has been slow during the past week, supplies being very heavy.—*E. H. Rider, Covent Garden, November 20, 1912.*

Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 4 6
Kents	4 0- 5 0
Blacklands	3 6- 3 9
Lincolns	3 6- 5 0
King Edward	4 0- 4 9

	per bag. s.d. s.d.
Dutch	2 9- 3 6
Belgian	3 0- 3 9
German	3 6- 4 0
Dunbars	6 0- 6 6

Remarks.—Trade is slightly better. The consignments of English Potatos are small, but there are very large quantities of foreign Potatos on the market. Best quality English tubers are very scarce Prices remain about the same as last week. *Edward J. Newborn, Covent Garden and St. Pancras, November 20, 1912.*

DEBATING SOCIETIES.

IPSWICH GARDENERS'.—At the meeting of this association held on the 23rd ult., a lecture on "The Relationship Between Science and Methods Practised in Fruit Tree Culture" was given by Mr. J. Arthur, a delegate from the Stowmarket Association. Mr. T. E. Mayhew was in the chair. At the outset the lecturer stated that failures were not entirely due to climatic and local conditions. He proceeded to review the methods of propagation, including budding and grafting, and dealt with stocks and their physical peculiarities. With regard to pruning as commonly practised, the lecturer was in favour of allowing greater freedom of growth to render slower the flow of sap and insure its more equal distribution. The lecturer also dealt with the training of fruit trees, and emphasised the necessity of summer pruning.

CHELMSFORD & DISTRICT GARDENERS'.—A meeting of this society was held on the 1st inst.; Mr. Edwards presided, and about 60 members were present. Mr. A. Turner, of the Institute of Agriculture, gave a lecture on "The Why and Wherefore of Watering." The lecturer described (with the aid of diagrams) the passage of water through the plant to the leaves, and described the process of transpiration. The lecture was illustrated by a number of experiments.

WARGRAVE GARDENERS'.—At the meeting of this society, held on the 30th ult., a lecture was given by Mr. G. Stanton, entitled "The Tints of Autumn." The various ways tinted leaves could be used in decorations, vases, epergnes, wreaths, &c., were explained, and how to press and dry them. Mr. Stanton gave a long list of trees, shrubs and other plants which provided the richest leaf colouring.

READING GARDENERS'.—The usual fortnightly meeting of this association was held in the Abbey Hall, on Monday, the 4th inst. The President (Mr. F. B. Parfitt) occupied the chair, and there was a large attendance of members. The lecturer appointed for the evening was a delegate from the Bristol Society, who at the last moment was unfortunately prevented from attending. His place was, however, filled by Mr. I. House, and the subject selected was "Hardy Perennials." In the first part of his paper Mr. House defined the term "hardy perennial herbaceous plants." and stated that bulbous plants should not be admissible in a class for hardy herbaceous plants, nor any of doubtful hardiness. Certain plants said Mr. House are best left undisturbed for several years, such as, Aster Amellus, Dictamnus Fraxinella and Pæonies, whilst others are better for annual or biennial replanting.

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending November 20.

A very sunless week.—The weather during the past week has been variable in temperature. On the warmest day the highest reading in the thermometer screen was 53°, and on the coldest night the exposed thermometer registered 7° of frost. The ground is at the present time 1° colder than is seasonable both at 1 and 2 feet deep. A quarter of an inch of rain fell on the 13th, but since then there has been no rain worth mentioning. The percolation through both the soil gauges has become smaller as the week advanced, and yesterday there was no measurable percolation through the gauge on which short grass is growing, and only a very small quantity through the bare soil gauge. The sun shone on an average for 10 minutes a day, which is nearly 1¾ hours a day short of the average for the same period in November. On the five consecutive days ending the 16th no sunshine at all was recorded. Light airs and calms alone prevailed until the 19th, when towards evening the winds became rather high. For the windiest hour the mean velocity was 15 miles—direction W. There was about a seasonable amount of moisture in the air at 3 o'clock in the afternoon. *E. M., Berkhamsted, November 20, 1912.*

CATALOGUES RECEIVED.

Herd Brothers, Market Square, Penrith—Forest, Ornamental and Fruit Trees.

GARDENING APPOINTMENTS.

[Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. L. CHANTLER, for the past 10½ years Gardener to H. J. WILLIAMS, Esq., Hookstile House, South Godstone, Surrey, as Gardener to H. de H. WHATTON, Esq., Rockley House, Marlborough, Wiltshire.

Mr. JOHN NIBBS, for the past year Gardener to Lieut.-Colonel O'SHAUGHNESSY, Kidmore House, Kidmore End, Reading, Berkshire, as Gardener to G. A. STOCKFELD, Esq., The Elms, Taplow, Buckinghamshire.

Mr. F. HARRISON, for the past 4 years Foreman at Rushton Hall Gardens, Kettering, and previously Foreman at Busbridge Hall Gardens, Godalming, as Gardener to Sir JOHN SMILEY, Barton Hall, Bury St. Edmunds.

Mr. C. W. CAPP, for the past 12 months Gardener to the late F. RILEY SMITH, Esq., Barton Hall, Bury St. Edmunds, as Gardener to Mrs. RILEY SMITH, Wetherby Grange, Wetherby, Yorkshire.

Mr. R. ISHERWOOD, for the past 9½ years Gardener to Captain J. H. CUTHBERT, D.S.O., Beaufront Castle, Hexham, as Gardener to M. O. ROBERTS, Esq., Easton Hall, Grantham.

Mr. T. DALGLEISH, for the past 2 years Outside Foreman at Blairdrummond, Perthshire, as Gardener to W. B. DUNLOP, Esq., Seton Castle, Longniddry, East Lothian.

MR. DONALD MCINNES, for a number of years Foreman at Glarnis Castle Gardens, as Gardener to W. D. GRAHAM MENZIES, Esq., Hallyburton, Coupar-Angus.

MR. ALEX. INNES, late Gardener at Hallyburton, Coupar-Angus, as Nursery Manager to Messrs. D. and W. CROLL, Broughty Ferry.

Mr. W. C. UPHILL, for 1 year Gardener to A. EDWARDS, Esq., Forest View, Salisbury, as Gardener and Bailiff to Colonel Brittan, Failand Hill, Failand, Bristol. (Thanks for 1s. for R.G.O.F. box.—EDS.)

Mr. A. E. WELCH, for 1 year Gardener at Fox Hill House, Keston, Kent, as Gardener to G. C. ELLIOT, Esq., Hull Place, Sholden, Deal. (Thanks for 1s. for R.G.O.F. box.—EDS.)

Mr. J. GAMMON, for the past 2½ years Gardener to R. E. S. THOMAS, Esq., Wormington Grange, Broadway, Worcester, as Gardener to Mrs. BOUGHTON-KNIGHT, St. Mary's Knoll, Ludlow, Shropshire. (Thanks for 1s. for R.G.O.F. box.—EDS.)

Obituary.

W. B. TEGETMEIER.—Mr. Tegetmeier, the distinguished naturalist, died on November 19, at the advanced age of 97. A man of wide attainments, Mr. Tegetmeier was known chiefly by his observations and writings on pigeons and poultry. He held the post of poultry editor of the *Field* for more than 40 years, and as his correspondence with Darwin and his various writings show, Mr. Tegetmeier possessed a profound practical and scientific knowledge of the subjects on which he was for so long a recognised authority. So long ago as 1854, he published a volume on *Profitable Poultry,* which was followed 13 years later by *The Poultry Book.*. The late naturalist was interested especially in the breeding of animals, in which branch of science he carried out numerous experiments, not a few of which were cited by Darwin in *The Origin of Species* and in *Animals and Plants under Domestication.*

ALEXANDER FRASER.—We regret to record the death of this well-known gardener, at Edinburgh. Mr. Fraser was for many years gardener at Drumduan, Forres. He retired from this post about a year ago, and settled in Edinburgh, where several of his family have resided for some years. Deceased was a prominent member of the Forres Chrysanthemum Society.

JOHN ELLIOTT BURTON.—We learn with regret of the death, at Twickenham, on the 11th inst., of John Elliott Burton, in his 80th year. Mr. Burton was a native of Flitwick, Bedfordshire, and commenced his gardening career in the Duke of Bedford's gardens at Woburn Abbey. He was subsequently appointed gardener to Lord John Russell, at Rodboro' Manor, Gloucestershire, and later to Sir Edward Dean Paul, Bart., Cambridge House, Twickenham. The funeral took place at Twickenham Cemetery, on the 16th inst.

JOHN KINNAIRD.—Amidst every manifestation of regret, the funeral of Mr. John Kinnaird, market gardener, Burnieboozle, Aberdeen, took place on Monday, the 18th inst., in Allenvale Cemetery, Aberdeen. For nearly three generations the members of the Kinnaird family have been connected with the market-gardening industry in Aberdeen, and at the annual shows of the Royal Horticultural Society of Aberdeen deceased invariably took a prominent place in the prize list. He passed away at the comparatively early age of 58 years, being survived by a widow, a son—Mr. John Kinnaird, who was associated with him in the business—and a daughter.

ENQUIRY.

MOLE IN ROCKERY.—Can any reader advise me how to catch a mole which has its headquarters in my rockery It does not get into the ground, but lives behind the pieces of stone. *F.*

Answers to Correspondents

⁂ *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

ERRATUM.—(Sterilised soil experiment). In fig. 166, p. 372, for "Tomatos" read "Cucumbers."

MARGUERITE FOR WINDOW BOXES: *E. L. G., Chicago.* The dwarf strain of summer-flowering Marguerite is most suitable for the purpose.

NAMES OF FRUITS: *Wool.* 1, Allington Pippin; 2, Roundway's Magnum Bonum; 3, Baumann's Reinette.—*E. C.* Pears: 1, decayed; 3, Vicar of Winkfield; Apples: 2, Franklin's Golden Pippin; 1, Ashmead's Kernel Improved.—*Old Subscriber.* 1, Marie Benoist; 2, Doyenné du Comice; 3, no fruit; 4, Allington Pippin.—*E. E.* 1, Hanwell Souring; 2, Annie Elizabeth; 3, Prince Bismarck; 4, Welford Park Nonesuch; 5, Blenheim Pippin; 6, Pitmaston Nonpareil; 7, Glory of the West.—*W. M. B.* Pyrus japonica (Chelmsford Wonder).—*W. Leith.* 1, Doyenné du Comice; 2, Cornish Gilliflower.—*McMillar.* Doyenné du Comice.—*Sender unknown* (the fruits were packed in one of Messrs. Bull & Son's boxes. 1, Small's Admirable; 2, Ecklinville; 3, Golden Noble; 4 and 8, Prince Bismarck; 5, Ribston Pippin; 6, Stirling Castle; 7, Lord Grosvenor; 9, Warner's Seedling; 10, Sturmer Pippin; 11, Scarlet Nonpareil; 12, not recognised; 13, Flower of Herts.; 14, Northern Greening; two 15, large green fruit Lord Derby, small one Margil; 16, Adams's Pearmain; 17, Waltham Abbey; 18, Dutch Mignonne (Reinette du Caux); 19, Gascoyne's Scarlet Seedling; 20, Pine Golden Pippin; 21, Chaumontelle; 22, Catillac; 23, not recognised; 24, Joséphine de Malines; 25, Napoleon III; 26, 27, 28, 31, 32, no fruits; 29, Beurré Rance; 30, not recognised; 33, Winter Nelis.—*J. B., Thirsk.* 11, Marie Louise; 12, Josephine de Malines; 13, Winter Rousselet; two other fruits quite decayed.—*J. M.* Doyenné du Comice.—*E. G. Langford.* Beauty of Kent.

NAMES OF PLANTS: *Gardener, Herts.* Hæmanthus albiflos.—*T.* Leucothoë Catesbæi.—*J. M. S.* 1, Azara microphylla; 2, Cornus capitata, commonly called Benthamia fragifera in gardens.—*J. P.* Cotoneaster.—*M. T.* 1, Liparis Ugandæ; 2, Polystachya Ottoniana; 3, Bifrenaria aurantiaca.

POTATOS TURNING BLACK WHEN COOKED: *A.* The cause of the cooked Potatos being black is probably due to the tubers remaining too long in the ground. Next season lift them as soon as the haulm is ripe or before, even if the skins are liable to become rubbed a little. Heavy soils are not suitable for Potatos, especially if the ground is not well drained: this year the succession of damp weather during growth may have had some effect upon the quality.

ROSES FOR PLANTING IN BEDS: *Anxious.* You

about 6 feet wide, quality of flower and freedom of flowering being of more importance than colour. You are quite right in omitting Frau Karl Druschki and Hugh Dickson, for both these Roses, beautiful as they are, are quite unsuited for beds. They look well in early summer, but at no other period; their long, waving autumn growths make them quite impossible as bedding Roses. Moreover, you do not want single Roses or Tea varieties. Your list for consideration, which is as follows: (1) Caroline Testout, (2) Dr. J. Campbell Hall, (3) General McArthur, (4) Killarney, (5) Lady Ashtown, (6) Lady Pirrie, (7) La Tosca, (8) Mme. Abel Chatenay, (9) Mme. Mélanie Soupert, (10) Mme. Ravary, (11) Mrs. Alfred Tate, (12) Pharisaer, (13) Paul Lédé, (14) Richmond, (15) Avoca, (16) Captain Hayward, (17) The Lyon Rose, and (18) Mme. Ségond Weber, is a great help, as it points to the type of Roses you require, and, taken all round, is a good list. We think the first 14 varieties will do very well. Avoca, however, we cannot advise you to use. It is a perfect and lovely flower, but its growth is like that of Hugh Dickson, "only more so," by which we mean that its autumn growths are even longer and more straggling than those of Hugh Dickson, and if treated as a cut-back, it is not nearly so free in flowering. To get many flowers from Avoca, it should be pegged down, and even then the autumn flowering is not very free. Captain Hayward, again, might be dispensed with, for, although it is not a bad bedding Rose, it has flowering periods, one in summer and the other in early autumn, and there is a good part of the season in which it is flowerless. The Lyon Rose is a beautiful variety, but it is too dangerous to use in a prominent position like a bed, for should it get a touch of black spot (as it has done this year), the whole of the leaves will fall, and the bed becomes bare and unsightly early in August, and so continues for the rest of the season. Mme. Ségond Weber we feel more doubt about; it is a beautiful Rose and free enough in flowering, but it is very easily spoilt by the first shower of rain, and in a wet district, such as the north-west of England, we hesitate to recommend it. In place of these four, we are inclined to advise Mrs. David McKee, Mrs. E. G. Hill, Mrs. Edward Powell and Prince de Bulgarie. Mrs. David McKee is a thoroughly good garden Rose, lemon-yellow in colour, flowering well even now (mid-November). Mrs. E. G. Hill is a most useful Rose, and more continuous than any Rose of tolerable shape except Richmond. We are aware some growers have not succeeded with it, but have not been able to examine the conditions in which it was cultivated. It does best with us in half shade. Mrs. Edward Powell is very free and continuous; there is a slight tinge of blue in the red, but it is not unpleasing. Should, however, this be objected to, Liberty might be substituted. Prince de Bulgarie is a pale-coloured flower with apricot centre; it is quite a good garden plant, but does not like shade or rain. If a larger Rose than this is wanted, we would select Mrs. Theodore Roosevelt, which is quite remarkable for the number of good blooms it produces. Paul Lédé, which is among the first 14 in the above list, is a good garden Rose, especially early in the season; but Mme. Léon Pain is a better-shaped Rose, and is rather more continuously good through the season.

WATER-CULTURE OF HYACINTHS: *A.* There is no reason why Hyacinths should not do well in glasses at Brighton as in any other place. Instead of rain-water, which is not to be recommended, try ordinary tap water; the addition of lime will be an advantage. Place a few lumps of charcoal in the vessels and stand them in a dark cupboard until growth commences, then gradually inure the plants to the light. Have the base of the bulb almost touching the water, which should be changed every three weeks or so.

Communications Received.—A. G.—H. J. Y.—G. R.—Subscriber—T. B.—A. J. F., Spa—Exhibitor—A. P. R.—T. R. C., your communication has been forwarded—G. M. T.—H. P. L., Thornton Heath—W. P. R.—F. W. P.—W. T.—J. G.—E. H. J.—A Constant Reader—J. N.—C. E. M.—J. L. W., Faversham—Enquirer—Summerfield—H. C. L.—L. & M., Ltd.—Nursery Employee—P. C.—H. V. L.—L. de C., Gand—F. K. W.—W. F. S.—W. G. S.

THE
Gardeners' Chronicle

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WINTER FLOWERS AT ASCOTT.

Mr. Leopold de Rothschild's gardens at Leighton Buzzard are particularly famous for the bright tints of berry and foliage to be seen in winter throughout the extensive grounds, and for the showy flowers in the plant houses during the same period. The present gardener, Mr. John Jennings, has managed the gardens for a great number of years, and his skilful cultivation and wide knowledge of plants have enabled him to introduce fresh features almost every season.

The views from the homely mansion, the central portion of which is an original English homestead of 1606, show in every direction the beautiful effects to be obtained in winter by careful planting. Colour is provided by the blue tints of Piceas, the bright yellow of tall specimens of Cupressus Lawsoniana lutea; purple, red and rose by the foliage of various species, and all these colours are intermixed with the countless shades of green of the various trees and shrubs, and the bright variegation of the Privets and Hollies. In a distant rocky dell the tall, silver plumes of Pampas Grass contrast with the bright-scarlet berries of the Hollies and the orange colour of the berry-laden Sea Buckthorn, while at the edge of the old orchard a tree of an unknown and primitive Apple still bears its load of small, yellow fruits. All berry-bearing trees and shrubs are heavily cropped this season, a fact which, according to ancient lore, presages a hard winter. But, as Mrs. Leopold de Rothschild truly remarked, it tells more plainly of a past season favourable for the setting and development of the fruits than of a rigorous winter to follow.

In the plant houses winter-flowering Carnations occupy several large, span-roofed structures. The plants are grown chiefly on two plans, one set being in pots and the others planted in beds. The plants now commencing to give their fine blooms were struck last January, potted on and retained in the houses until May, when they were placed on ash-beds in the open ground, and at the end of September or beginning of October taken into the houses which they now occupy. Looking at the fine heads of bloom and bud on the large specimens, which are alike throughout, it seems marvellous that they should have attained such perfection in so short a time. The other method is to put the strong young plants out in August in the central beds and side staging, to remain in the houses for winter blooming for two winters, when they are in turn replaced by young plants. The houses are planted in rotation, those plants now in bloom being partly in their first year, and the others in their second season. The whole of the occupants of the houses are in excellent condition, the bushes, as they may be called, bearing flowers and buds in great profusion. It is noticeable that the quality and size of the blooms of well-known varieties are much better than are seen ordinarily. Mr. Jennings has noticed that, even in plants propagated from the same stock, some give better blooms than others, and he always propagates from the best.

Among the best varieties are Enchantress (white, pink and rose-coloured varieties), Pink Delight, White and Pink Lawson, White Perfection, Beacon and Britannia (scarlet), May Day (pink), Carola (a dark red), Gloriosa (pink), Mikado (a slate-blue), Winona (rose-pink), Mrs. Carl Meyer and Mrs. Leopold de Rothschild.

In some of the houses it is interesting to note a number of old and well-known plants—often seen in gardens as occasional specimens—which at Ascott have been worked up in batches for winter-flowering, and with excellent effect. Among these are Statice profusa, which occupies one side of a house, and gives a mass of bright-blue colour, which will continue well into next summer. Another plant is Plumbago rosea, which is generally seen in gardens as a pillar-trailer, or a straggling plant trained round a globe. At Ascott, large numbers are grown in 6-inch pots, each furnished with many shoots about 18 inches to 2 feet in height, the upper third densely set with bright carmine-rose flowers. The plants are cut down annually, and the species makes a very good subject for decorative purposes in winter.

Callicarpa purpurea is cultivated to form pretty pot plants, and its decorative berries contribute to the winter show. It is usually seen as a straggling specimen, but at Ascott cuttings are rooted, and the growths stopped when about 2 feet high. They afterwards produce several sprays, which in time flower and produce their charming Tyrian-blue berries.

The large Rose house of many spans, after supplying a wealth of bloom, still has a quantity of buds to develop throughout the winter. Those plants now growing in beds, on the ground, will be removed and planted on benches of soil, raised on earthenware supports, so as to allow of the passage of air beneath. This method gives a more equal temperature between the top and the root than does planting in the basement on the natural earth.

Taking a rapid glance at the contents of some of the houses, we find a house of Cyclamen Salmon King (salmon-rose with dark eye) in bloom, with plenty of buds to follow; the next house contains Begonia socotrana, its pretty rose-coloured flowers showing well above the fine orbicular green foliage.

Another house contains Spiræas and Eupatoriums, and the lofty Chrysanthemum house has a great show of the best varieties. The most noteworthy amongst these latter is the attractive variety Sylvia Slade, a showy, rose-purple single flower with clear white ring round the yellow centre. This also appears very attractive in the decorations in the mansion.

A batch of scarlet Salvias and a house of Begonia Gloire de Sceaux next present themselves; in the latter house a fine effect above the bronzy-purple foliage being made by the clear, blue flowers of Ipomœa cœrulea, which climbs each of the rafters.

A house of Begonia Gloire de Lorraine and B. Mrs. Leopold de Rothschild is a mass of bloom, and the houses of B. Winter Cheer and B. John Heal are equally bright. Palms, Dracænas, Codiæums and other foliage plants are all well cultivated. The Pelargonium houses are masses of colour, the centre bed in one being entirely of the dark scarlet-double Raspail. A batch of Coleus thyrsoideus will give bright-blue flowers later. A number of plants of Cypripedium insigne are in full bloom. Primula obconica of the best strain makes a fine show, and various other batches of showy winter flowers were observed. A grand stock of "Malmaison" Carnations, and a profusion of Violets are also to be noticed. It is satisfactory to be able to add that Mr. Leopold de Rothschild and his gardener take great interest in every detail, and thus there is much pleasure derived from the plants during their growth. We do not doubt Mr. Rothschild when he states that success in many directions has been attained only after not a few failures. *B.*

NEW OR NOTEWORTHY PLANTS.

SINOMENIUM DIVERSIFOLIUM.

(See Fig. 178. p. 411.)

The above is a new name, so far as the generic part of it is concerned, for a plant that is in cultivation under the appellation of Cocculus variiformis. By whom the latter was given is uncertain, though possibly I may be partly responsible for it. But the plant has a history dating back in botanical literature to 1867, when Miquel described it under the name of Cocculus diversifolius, founding the species on Japanese specimens. Passing over the intermediate vicissitudes of this plant, Mr. E. H. Wilson and I had to deal with it in 1906, when we were describing a selection of his novelties for the Kew *Bulletin*. Both he and Dr. A. Henry had collected specimens of it in various localities in Central and Western China. On comparing these specimens with those from Japan, and investigating the nomenclature of the species, we discovered that there was a valid Mexican Cocculus diversifolius of much earlier date. Accordingly we renamed the Chino-Japanese plant Cocculus heterophyllus, without testing the correctness of its being placed in the genus Cocculus. And we may have at first proposed the name variiformis, afterwards rejecting it for heterophyllus, as more appropriate; but I find no record of it, published or unpublished. Turning to Dr. L. Diels's excellent monograph of the whole of the Menispermaceæ in Engler's *Pflanzenreich* (1910), I find that he has founded a new genus on our plant, calling it Sinomenium, derived from Sina (China) and mēn (moon) = Chinese moon-seed. In Diels's classification, Sinomenium is placed next to Menispermum canadense, one of the very few other members in cultivation of this large and interesting, though by no means showy, family. And there seems to be good grounds for giving it separate generic rank. Messrs. James Veitch & Sons raised this new climber from seed collected by Mr. E. H. Wilson.

Mr. Worthington Smith's sketch in fig. 178 was prepared from specimens furnished by Mr. P. D. Williams, Lanarth, St. Keverne, Cornwall, from a plant some 20 feet high, which flowered for the first time this year on a north-east wall. Mr. Williams states that the foliage shows great variation, the leaves being of totally different types.

The name diversifolium signalises great variability in the shape of the leaves; which variability occurs sometimes on the same branch and sometimes on different branches. Unlike that which obtains in the majority of heterophyllous plants, the variously-shaped leaves are borne on the flowering branches, and cannot be classed as juvenile (or barren-shoot) and adult forms. In the Kew Herbarium there are specimens with ovate leaves having a truncate base; others with a cordate base; others orbicular-cordate; others with a three-lobed apex, and others palmately five-lobed.

The specimen figured bears only male flowers, and all the flowering specimens in the Kew Herbarium which were examined were male; hence the female plant must be rare. Male flowers consist of six sepals in two series; six petals, very small and enfolding singly the filaments of six of the nine stamens, in a similar manner to the Rhamnaceæ. *W. Botting Hemsley.*

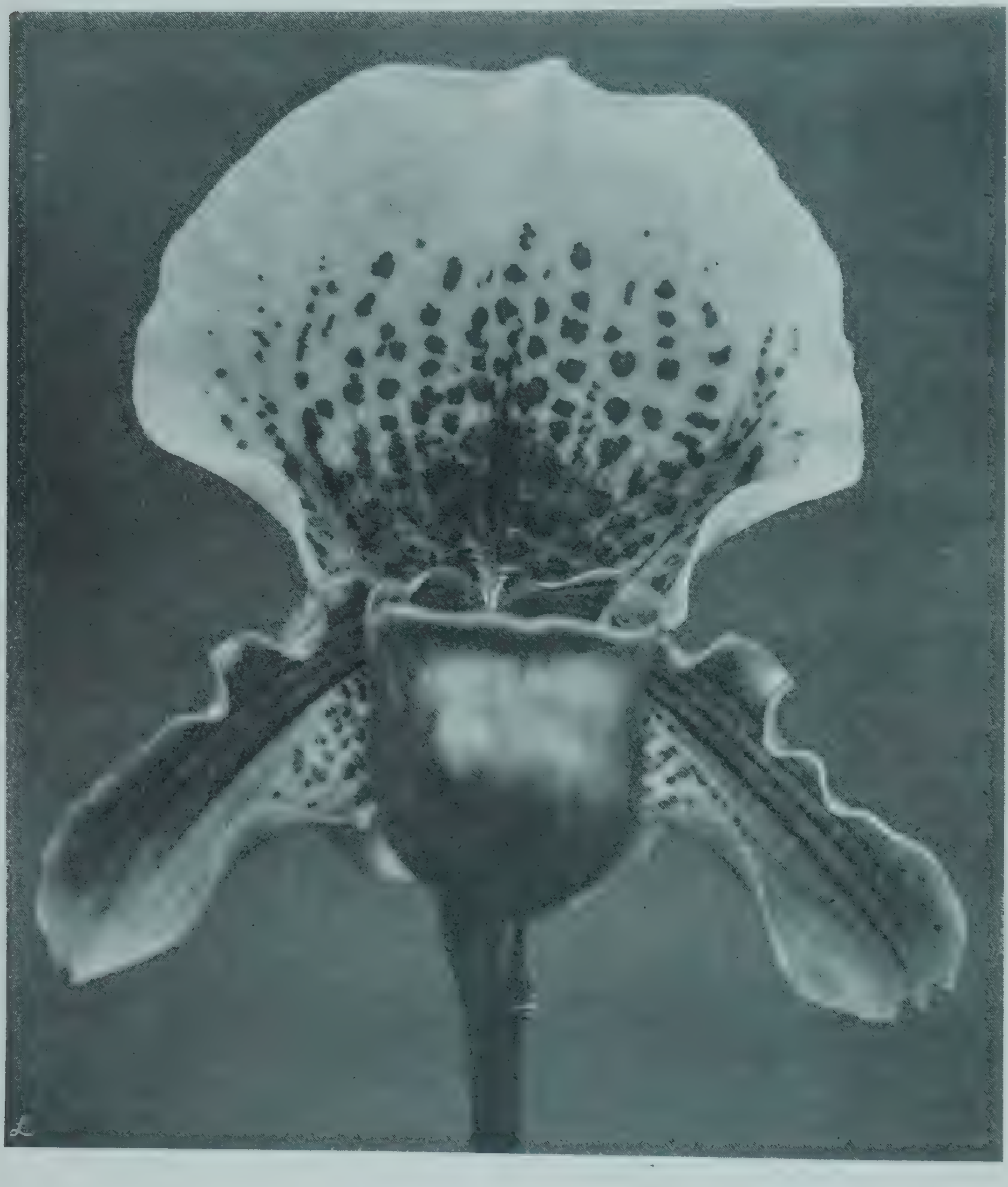


Fig. 174.—Cypripedium × Latona. [*Photograph by F. Waldeck.*

(Received R.H.S. Award of Merit on the 19th inst.)

ORCHID NOTES AND GLEANINGS.

LÆLIO-CATTLEYA CORNELIA.

A very pretty hybrid between Cattleya labiata and Lælia pumila has just flowered with Mr. Jas. Hudson (gr. to Leopold de Rothschild, Esq., Gunnersbury House, Acton). The flower is 6 inches across and each petal 2 inches wide; both sepals and petals are silver-white tinged with rose-pink. The tube of the labellum is pink outside and chrome-yellow at the base, the broadly-expanded crimped front being of a bright purplish-crimson. The cross was first raised and flowered by Messrs. Jas. Veitch & Sons, and noted in the *Gardeners' Chronicle*, December 2, 1893, so that the fact that it is winter-flowering is established, and this renders the hybrid the more desirable.

STANHOPEA PLATYCERAS.

This is one of the most beautiful of Stanhopeas, its large, elegantly-formed flower having the sepals and petals of a pale cream-yellow spotted with rose-purple, the boat-shaped basal part of the lip maroon-purple, the horns of the middle portion and the front lobe whitish with purple markings. It flowered in Lord Rothschild's gardens in 1907, and received an Award of Merit at the Royal Horticultural Society's meeting on September 3, in that year, the plant having been imported with Cattleya Warscewiczii. It was originally described by the late Professor Reichenbach in the *Gardeners' Chronicle*, Jan. 11, 1868, p. 27, but although it has been so long known it has always been a rare plant. A specimen is in flower with Mr. Sidney Flory, Tracy's Nursery, Twickenham, the same plant having bloomed three times this year. The true Stanhopea inodora is also in flower.

CATTLEYA DIONYSIUS.

This very beautiful hybrid between Cattleya Fabia alba (labiata alba × Dowiana aurea) and C. Warscewiczii var. Frau Mélanie Beyrodt was shown by C. J. Phillips, Esq., The Glebe, Sevenoaks (gr. Mr. Bucknell), under the provisional name C. Harrisiana at a meeting of the Royal Horticultural Society on October 8, last, when it was awarded a First-class Certificate. At the same time it was intimated that a name, other than that under which it was shown, should be selected. Mr. Phillips readily adopted the more convenient name given above, and this appears on the records of the Society. It is a charming flower of fine size and substance, with white sepals and petals delicately flushed in places with pink. The finely-expanded labellum is ruby-purple, with gold coloured disc and veining at the base.

CYPRIPEDIUM × LATONA.

Our illustration (see fig. 174) represents the hybrid Cypripedium for which Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander), received an Award of Merit at the Royal Horticultural Society's meeting on November 19 last. It was raised at Westonbirt by crossing C. Niobe (Spicerianum × Fairrieanum) and C. Alcibiades (Leeanum × Monsieur de Curte). The flower is of good shape and substance, the broad white sepal being blotched with rose-purple. The petals and lip have a yellowish ground tinged and spotted with dark mahogany-red.

FOREIGN CORRESPONDENCE.

MIMULUS ROSEUS.

Referring to a note on this plant on page 191 of this journal, I should like to say that Mimulus roseus, Douglas, syn. M. Lewisii, Pursh. is a good species, and occurs in the Sierras, from Central California northwards and eastward to Montana. No wonder that this species is hardy in Scotland. I should very much like to get this plant for trial here. *M. Buysman, Jardin Botanique, Lawang, Java.*

THE FORCING OF TULIPS.

The idea is prevalent that for forcing purposes Tulip bulbs must be large in order to give the best results, but there never was a greater fallacy. If they are of a reasonable size, solid, and the dark-coloured outside skin in a healthy condition (which shows they have not been heated) nothing more is needed. In fact, it is often the case that a small, ripe bulb grown on "heavy" soils will give infinitely better results than a large bulb grown in the more sandy situations. Solidity, combined with a general healthy appearance, is the best criterion in buying bulbs.

If they are purchased either from Holland or other sources, they should be examined immediately on arrival, and stored in a cool, dry place until they are needed for boxing or potting.

Receptacles of various sorts are used in which to plant bulbs for forcing purposes, but we will assume that boxes 20 inches long, 13 inches broad, and 3½ inches deep are to be used. If they have been employed for growing other kinds of plants they should be thoroughly washed or sterilised to destroy the spores of fungi which are ever ready to spring into life so soon as the conditions are favourable. Many of these disease-producing fungi—if they do not mean complete disaster—are the cause of disappointment to the grower, and a menace to the reputation of the firm which supplied the bulbs.

Nearly any kind of soil is suitable for supplying a rooting medium if it be clean and not overcharged with artificial manures, but a well-prepared loam is undoubtedly the best. Soil previously used for growing Cucumbers or Melons, &c., which often contains a quantity of unused manure, should never be used alone, and if it is mixed with other soil the whole should be sterilised by steam or one of the many chemical preparations to ensure thorough cleanliness and freedom from fungous and other pests.

A quantity of well-rotted manure should next be procured for covering the bottoms of the boxes, or failing that a good decomposed leaf-mould. If the latter be used it should be sterilised in order to destroy worms, millipedes, the eggs of small snails, and the numerous kinds of life which naturally carry on the work of decomposition, but are deadly to the tender roots of bulbs.

These preparations ought to be made some time before they are needed, so that any ill effects of the sterilisation may disappear.

When everything is ready—particular care should be taken to see that the drainage of the boxes is sufficient—a covering of the manure or leaf-mould should be placed in the bottom of the box, say, about ½ inch deep, then soil should be put in loosely to half fill the box. Take the bulb between the thumb and two forefingers and press it moderately firmly into the soil. This ensures that there are no "air spaces" between the bottom of the bulb and the soil. Fill the box with soil loosely to the top, press down the latter with the points of the fingers—not the palm of the hand—and "boxing" is complete.

Where any other kind of receptacle is used the same directions apply, except that the bulb should always be the same distance from the surface. If the bulb is level with the finished surface, or about ½ inch below, it is in the right position, and on no account should it be planted any deeper.

The boxes should then be placed in a warm, sheltered position, thoroughly soaked with water, and covered to a depth of 3 or 4 inches with ashes which have been weathered for some time to allow any injurious substances to escape into the atmosphere. Particular attention should be given to watering. It is probable that more Tulips fail through being allowed—through carelessness or want of knowledge—to become dry at the roots when standing under ashes than from all other causes combined. If they are allowed to become dry the greater percentage will produce the malformed flowers with which most of us are familiar during the early part of the year.

It does not follow, however, that all malformed flowers are caused by dryness when the bulb is forming young roots with which to nourish the embryo flower, but dryness is certainly the most usual cause.

The directions given so far have one object in view: to encourage the bulb to form a large quantity of healthy roots, so that when the plants are placed in the genial atmosphere of the forcing house they will quickly respond, and give satisfactory results.

Where a fairly large quantity is necessary in order to keep up a continuous supply of flowers during a long season, and a house can be set apart for the purpose, ideal conditions can be maintained. But few places are in this happy position, and the bulbs have often to be grown along with other subjects which—as often as not—require different treatment. It is for those so placed that the following directions are given, and anyone having a house to spare can modify them to suit the altered conditions.

The "staging" should have a covering of some moisture-retaining material, without this it is impossible to obtain the best results. For the early batches—by early is meant up to the end of January—a little, and only a little, bottom heat is necessary. A covering of thick canvas should be nailed to the roof of the house inside, and taken up the house high enough to allow it to fall to the front of the staging. This will make a compartment inside the house which will have the direct rays of light broken sufficient to cause the bulbs to develop flowers rapidly, and yet will not be so dark as to cause the development of anæmic-looking foliage.

The temperature should be from 65° to 70°F. during mild weather, allowing a fall of 5° or even 10° during severe frost, so that the pipes need never be kept abnormally hot to maintain the temperature sufficiently high.

When everything is in readiness, and the bulbs are showing a fair quantity of young roots, the boxes should be carried carefully into the house and placed under the canvas. Light sprinklings of water should be given to wash away any ashes which may be adhering to the tender points, and afterwards twice a day until the flower-buds are well up. It is only in extreme cases that they require watering at the roots more than once or twice, and water should never be given unless it is needed. In cutting the flowers the bulb may be pulled up, and split with a knife down the side of the flower-stem which allows about 1 inch more stalk to the flower.

If these directions are carried out in conjunction with those given in the accompanying table, the best possible results will be obtained at a minimum cost, and the labour is much less than under the old method of placing the boxes under the staging and gradually bringing them to the light. *T. W.*

Name of Variety.	No. in Box.	Nov.	Dec.					Jan.				Feb.				Mar.				Apr.		
		26	3	10	17	24	31	7	14	21	28	4	11	18	25	4	11	18	25	1	8	15
Duc Van Thol, scarlet	70	✲	✲	✲	✲	✲	✲	✲	✲													
Thos. Moore, orange	70	✲	✲	✲	✲	✲	✲	✲														
Fred Moore, terra cotta	70	✲	✲	✲	✲	✲	✲	✲	✲	✲												
Duc Van Thol, Max., white	70	✲	✲	✲	✲	✲	✲															
La Reine, white	70	...	...	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲
Rose Gris-de-lin, rose	70	...	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲
Pottebakker, white	70	✲	✲	✲	✲																	
Rosamundi	60	✲	✲	✲	✲	✲	✲															
Yellow Prince, golden yellow	60	...	...	..	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲
Mon. Trésor, yellow	70	✲	✲	✲	✲	✲																
Proserpine, rose	60	✲	✲	✲	✲	✲																
Prince of Austria, orange scarlet ...	60	...	...	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲
Couleur Cardinal, bronze scarlet ...	60	...	...	...	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲
Cramoise Brilliant, scarlet	60	...	...	..	...	...	..	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲
Murillo (doubles), pink	60	...	...	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲
Lucretia, rosy pink	60	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲							
Tournesol, red and yellow	60	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲							
Imperator, Rubrorum, scarlet	60	...	..	...	...	...	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲					
Couronne d' Or, yellow	60	..	...	...	...	..	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲	✲

The ✲ indicates the dates on which it is safe to commence forcing the different varieties.

CULTURAL NOTES.

RHUBARB FOR FORCING.

Whereas with Asparagus exposure of the roots to the air spells ruin, the very opposite is the case with Rhubarb, for it is those roots which have been exposed to the atmosphere, and particularly to frost, that force the best. For the earliest forcing the necessary roots should be lifted without delay so that they may have a miniature winter before being introduced to the forcing house. During the autumn the roots lifted for exposure are best when laid in an open shed, because the heavy rains of the season would defeat, in a measure, the object in view. It is only the kinds of Rhubarb which naturally start into growth early which force well, and it is useless to lift roots of any of the late kinds for forcing purposes. Such varieties, when subjected to heat, grow very slowly and only produce thin, flavourless stalks. Of the early varieties Daws's Champion is the best for growing out-of-doors and for forcing. Even so early as at Christmas forced roots freely produce stout stalks of bright colour which are well flavoured. Reading Ruby, Hawke's Champagne, and Royal Albert are four good early varieties which also force well. Too often no special preparations are made for supplying the roots for forcing purposes, but promising clumps are lifted from the Rhubarb bed. This is not as it should be: the proper plan is to keep a separate stock for early forcing, and, as the roots which have been lifted and forced are of no further use, enough young plants should be annually raised to ultimately take their places. This may be done by division of the roots, or by sowing seeds of one or more of the early varieties. In the latter case it will be found that all the seedlings do not come true, so all the coarsest, late individuals should be thrown away, unless wanted for other purposes. Raising from seed has also the advantage that there is always a probability of raising a new and improved kind. If seeds are sown in heat early in the year the seedlings may be planted in a border towards the end of May, and will become large plants by the end of the season; but if the seed-sowing cannot be done in a warm house, it may be done in a frame, and in this case the seedlings should be kept in pots during the first year. After the middle of January Rhubarb may be forced in the open by placing large pots over the crowns and heaping fermenting materials around and over them. This is an economical method, for the roots are not exhausted, but may be left in the ground when the forcing is finished. From now until the period mentioned the forcing is best done in a hot-house, as it is difficult to maintain a steady heat out-of-doors. But Rhubarb is easily forced, and, in the absence of a proper forcing house, the roots when placed in boxes of light soil will force readily in a warm greenhouse. Brightly-coloured stalks are the result of exposure to the light, but as the flavour is better and there is a sufficiency of colour for most tastes when the forcing is done in semi-darkness the boxes may well be placed under the staging and covered with a loose heap of clean straw. *A. C. B.*

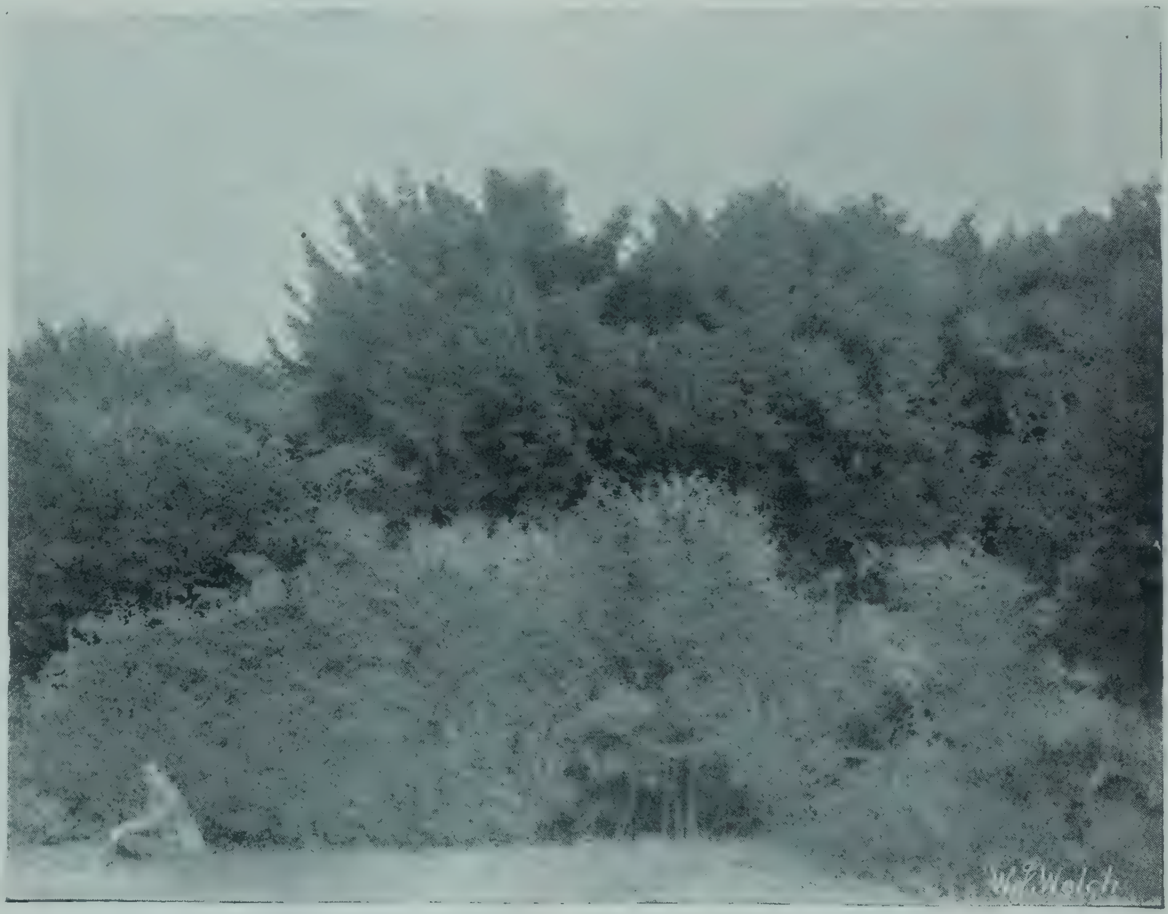
NOTES ON THE VEGETATION OF THE DOWNS.

While the neighbourhood of Box Hill is well known to botanists, the vegetation of the Leatherhead Downs seems hardly to have received the attention it deserves, at any rate in connection with the study of plant associations. Here may be seen excellent examples of the Yew woods, which are characteristic of the North and South Downs, and in this locality, at least, they appear to represent the original vegetation before it was greatly modified by man. Tansley and Rankin* state that the origin of the Yew woods is not clear, and that they occupy situations quite similar to those of the typical Beech woods, i.e., the fairly steep sides of the chalk downs, and in some cases the bottoms of dry chalk valleys. They suggest that they may originate in the following way: "If a Beech wood possessing numerous Yews is destroyed by total felling of the dominant trees, or if it degenerates owing to various causes, chalk scrub and chalk grassland, in which Yews are prominent, will take its place. The Yews produce seedlings freely under such conditions, and the young trees, probably owing to their poisonous foliage, are largely, if not wholly, immune from the attacks of rabbits and other animals. As soon as a locally-closed community of Yews is formed, competitors are almost entirely excluded, owing to the very deep shade cast by the trees. In this way local Yew groves might be formed, and an extension of the process might lead to the formation of extensive, nearly pure Yew woods, since the intervening scrub and grass association would be gradually destroyed by the extension of the Yew. The process would, no doubt, be slow, owing to the tardy growth of the trees. On the other hand, it would be very sure, because the equipment of the Yew for this kind cf competition is overwhelming. Nothing but the formation of a very dense scrub of other species or the felling of the Yew trees would be likely to arrest it. The explanation given is in accordance with the observed facts, but at present it lacks corroboration or direct verification. It is possible that other factors are operative, and it may be that the habitat of the Yew wood really differs from that of the Beech wood, though we have no clue to such a difference."

While the above explanation may be the true one in certain instances, it seems more likely to the writers that the reverse process has taken place in many cases: that Beech woods possessing numerous Yews have partially replaced pure Yew woods or chalk scrub in which Yews are prominent. The Yew can exist in situations from which the Beech is excluded, namely, on very steep slopes in almost pure chalk, as, for instance, on the western flank of Box Hill. On the southern escarpment of the North Downs, in places between Dorking and Guildford, mixed Beech and Yew woods may be seen on the gentler slopes and the bottoms of lateral valleys, whereas the steeper slopes are covered with a pure Yew wood. There can be little doubt that the soil, except in very steep places, is gradually improved by the action of the Yews, so that in course of time it becomes suitable for colonisation by the Beech.

On the steep, open hillside, covered with close chalk pasture, the Beech cannot establish itself. Where scrub occurs on the chalk escarpment, however, in the neighbourhood of Beech woods, one may see seedling Beeches springing up underneath the shrubs of the Whitebeam (Pyrus Aria), Sloe, Hawthorn, Wayfaring tree (Viburnum Lantana), Privet, Holly, Dogwood, Juniper and Yew. The shrubs mentioned frequently occur in groups on the escarpment for the same reason, namely, that the bare soil underneath a shrub is a favourable situation for the successful germination of large seeds, which cannot establish themselves on the close and unbroken turf.

Many steep slopes on the chalk escarpment are covered with an almost pure Juniper scrub, which now occupies a much smaller area than formerly. On the Chiltern Hills we have studied the vegetation of the escarpment for miles, and have seen various stages in the disappearance of Juniper scrub. In one enclosed pasture, where sheep were grazing, a few moribund bushes, showing traces of fire, were observed. In the course of a few years these will have disappeared, and there will be nothing to indicate the former existence of the Juniper association in this locality. Elsewhere the Juniper had been entirely exterminated in an enclosed pasture, but was found on the margin of a Beech wood which crowned the hill above it. In a third locality an extensive Juniper scrub was seen, in the upper part of which young Beeches had sprung up at the base of some of the Juniper bushes. The development of the Beech in this instance results in the death of the Juniper under which it germinates. Various stages in this process could be seen, the Juniper bushes being healthy, moribund or dead, according to the state of development of the Beeches beside them.



[*Photograph by J. Hutchinson.*

Fig. 175.—Outskirts of a Yew wood on the Leatherhead Downs.

A list of the characteristic shrubs and climbers of the chalk scrub is given by Tansley and Rankin†. Two species which might be added are the Yew and the Black Bryony (Tamus communis). The list, as amended, includes the following erect shrubs:—Holly, Spindle tree, Buckthorn, Feld Maple, Sloe, Whitebeam, Hawthorn, Dogwood, Elder, Guelder Rose, Wayfaring tree, Privet, Spurge Laurel, Box, Hazel, Goat Willow, Butcher's Broom, Juniper and Yew. Scrambling shrubs are represented by species of Bramble and Rose; woody climbers by Clematis, Ivy, Honeysuckle and Woody Nightshade; herbaceous climbers by the two species of Bryony.

A striking feature of the list is that 21 out of the 26 genera have fleshy fruits (in the Spindle tree the fruit-wall is dry and the fleshy part is the orange aril surrounding the seed). It can hardly be supposed that this is fortuitous, and it seems a legitimate conclusion that birds are the active agents in the regeneration and extension of the chalk scrub. The Maple, Goat Willow, and Clematis have fruits or seeds adapted to distribution by wind, and the Hazel by squirrels, whilst the Box appears to have fewer facilities for seed dispersal at a distance, but this is counterbalanced by the immunity from rabbits enjoyed by its seedlings.

According to the view here put forward, the chalk scrub has generally replaced open chalk pasture, and in its turn has been succeeded in many cases by Yew woods or Beech woods with Yews. It is not, of course, denied that it may have arisen in some instances from the degeneration of Beech and Yew woods, but the facts seem to point in the other direction in the instances which have come under our observation.

A characteristic view of the outskirts of a Yew wood on the Leatherhead Downs is shown in fig. 175. Immediately behind the figure is a dense mass of Privet, which extends to the centre of the photograph, where it is succeeded on the right by a slightly taller bush of the Spindle tree (Euonymus europæus). Above the Privet can be seen a tall and slender Elder tree, which has managed to spring up and hold its own, in spite of the dense shade cast by the Yews, which form a continuous mass behind it. The photograph includes on the extreme right (not quite in focus) a part of a tall bush of Guelder Rose (Viburnum Opulus) with Privet beneath it.

The Elder is well equipped by means of its extremely rapid growth for establishing itself amongst fairly close associations of Yew or Box. A sheltered coombe in the Chiltern Hills, which we hope to describe on a future occasion, is filled with a luxuriant growth of Box trees in all stages of development, from seedlings to old, much-branched trees with trunks 8 inches in diameter. The only tree which has obtained any great place amongst the Box is the Elder, which occurs gregariously at the bottom of the coombe and as isolated specimens here and there in the Box thickets, where an old tree has fallen to the ground, leaving an open space.

Another view of the outskirts of the same Yew wood is shown in fig. 176, in a place where the undergrowth is represented only by a solitary dead Juniper bush with a young Privet beneath it. To the right of the Juniper is a sunny patch indicating the existence of a small, clear space behind the large Yew which nearly fills the picture. In such intervals between the trees, the Black Bryony has a chance of establishing itself, and twines from branch to branch to a considerable height.

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* Tansley, *Types of British Vegetation* (1911), 170–171.

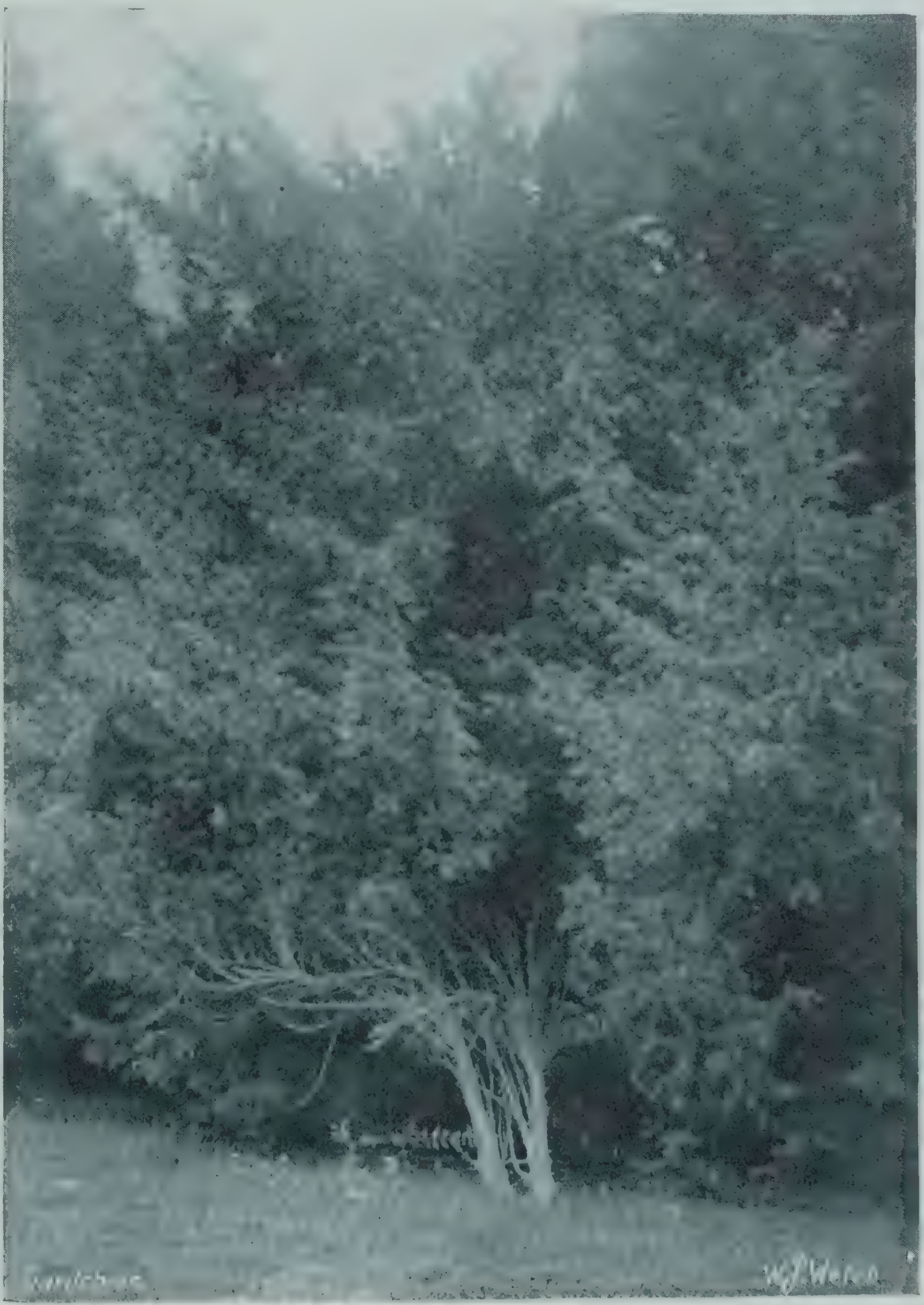
† Tansley, l.c. 171.

The history of the dead Juniper may be read from fig. 176. Before the Yew which now overshadows it had attained its present growth, the Juniper flourished and grew upright to a height of about 3 feet. As the branches of the Yew began to overhang it, the left-hand stem and a branch of the right-hand one turned outwards (to the left in the illustration) in search of the light, which they were in danger of losing. The struggle must have gone on for many years, judging by the size of the horizontal part of the stem, until it terminated in the death of the Juniper. The lower habit of growth of the Privet makes it more successful in forming undergrowth at the outskirts of Yew woods, as there is considerably more light near the ground than a few feet up.

Besides the patches of Yew wood on the Leatherhead Downs, there are large thickets rich in species. In quite a small one 11 species were noted, including erect shrubs, trees and climbers, namely, Clematis, Spindle tree, Buckthorn, Dog Rose, Dogwood, Wayfaring tree, Privet, Ash, Hazel, Birch and Juniper. Larger thickets close by included Box, Yew, Brambles and White Bryony in addition. The great abundance of the Spindle tree is a noteworthy feature of this locality. It is possible, however, that it may be due in some measure to planting.

Charming natural groups of shrubs may be observed, one of which is shown in fig. 177. In front are small examples of the Wayfaring tree (Viburnum Lantana); behind and above it comes a mass of Dogwood literally laden with fruits, and above all are the delicate branchlets and foliage of a Spindle tree.

The herbaceous vegetation composing the chalk pasture in this locality presents features of at least equal interest, which we hope to describe in another article. *T. A. Sprague and J. Hutchinson.*



[*Photograph by J. Hutchinson.*

FIG. 176.—JUNIPER TREE ON THE DOWNS NEAR LEATHERHEAD KILLED BY OVERHANGING YEW; YOUNG PLANT OF PRIVET BENEATH.

NEW ROSES.—IV.

(Continued from p. 386.)

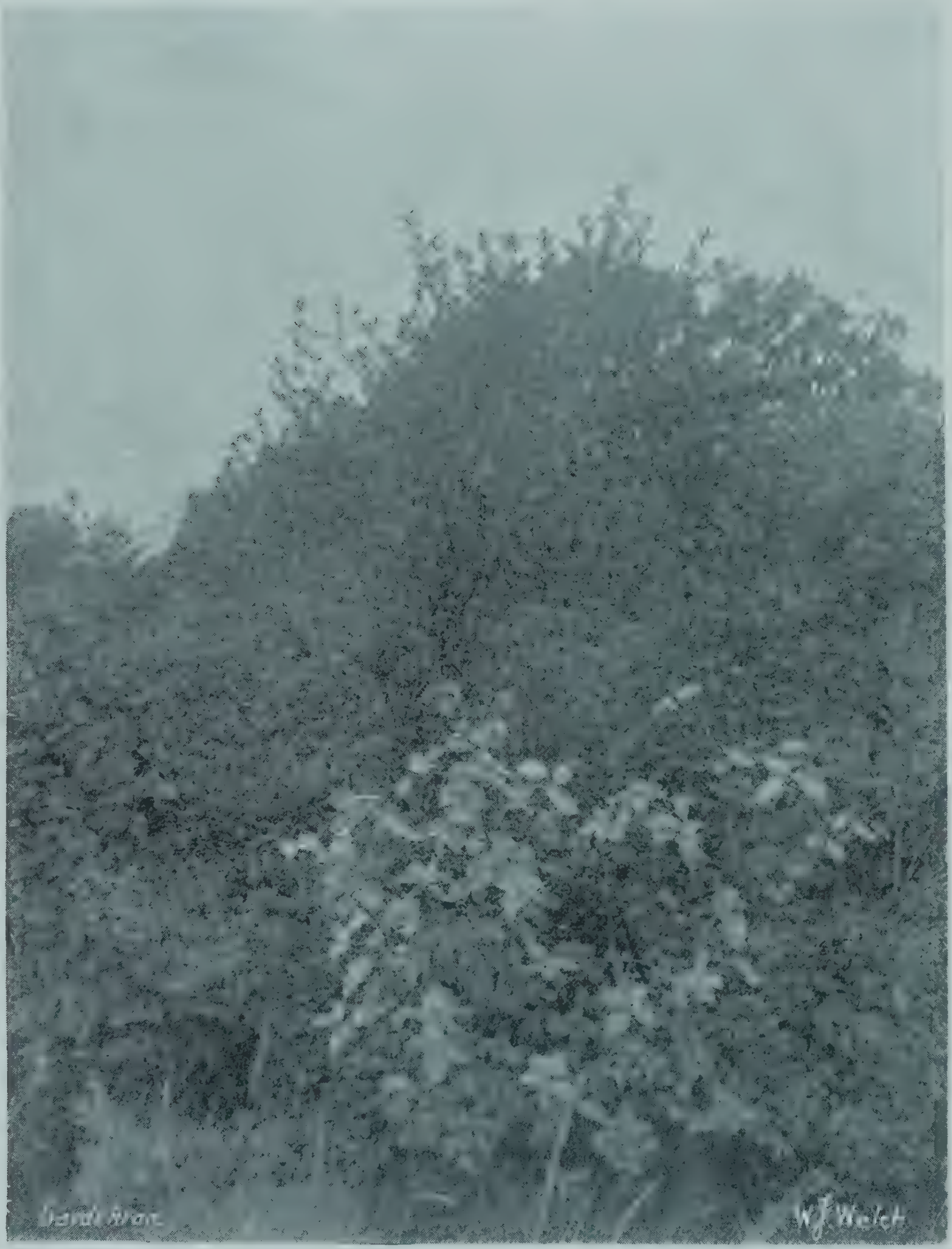
TEA-SCENTED ROSES.

THE great development of the Hybrid Tea Roses in recent years and their quality of continuity in flowering, has produced such a revolution in the Rose garden, and has attracted so much attention, that the improvement that has taken place in other classes of Roses has received perhaps less attention than it has deserved. Nevertheless, quietly and unobtrusively, there have been introduced into our gardens valuable additions belonging to other groups, and notably in the Tea-scented section. The Tea Roses—the aristocrats of the Rose garden—possess a delicacy and refinement which is all their own, and will surely continue to appeal to the connoisseur. Fifty years ago their beauty was fully appreciated, but they were too difficult to grow out-of doors in this country. Shirley Hibberd was driven to have recourse to glass to grow most of the Teas of his day, and the great advance that has taken place in this section has been in the direction of obtaining a strain with greater hardiness, capable of withstanding our English winters. Apart from the Dijon Teas, we had Homère (1859), Marie van Houtte (1871), Anna Olivier (1872), Perle des Jardins (1874), Mme. Lambard (1877), and perhaps a few others which are still good garden Roses, fairly hardy and reliable, but we shall probably not be far wrong if we take the introduction of Maman Cochet in 1893 as the date of the great modern advance of the Tea Rose. Since then we have had such useful garden and exhibition Roses as White Maman Cochet (1897), Mrs. Edward Mawley (1899), Corallina and Sulphurea (1900), Mme. Jules Gravereaux (1901), Lady Roberts, Mme. Antoine Mari, Mme. Jean Dupuy, and Souvenir de Pierre Notting (1902), Paula (1903), Mrs. A. Byass (1904), Comtesse de Saxe and Mme. Constant Soupert (1905), Mrs. Myles Kennedy (1906) and Harry Kirk (1907), which brings me to the date at which I am commencing my review of the new Roses. The noticeable feature of all the Roses I have mentioned is their comparative hardiness and ability to withstand the rigours of our English climate. No doubt this result has been attained to some extent at the expense of the purity of the strain, but if we get (as I think we do) plants which we can grow in our gardens, possessing the delicate colouring and perfect form of the older Teas, we need not complain of the blot on the 'scutcheon. I may be asked what is the specific distinction between the Hybrid Tea and the Tea Rose. My impression is that the actual line of distinction is even less marked than that between the Hybrid Tea and Hybrid Perpetual. The typical Hybrid Perpetual has very green foliage, and in early summer puts up a stem with numerous side buds carrying a bunch of flowers at the top, a process which it repeats, but with stronger growth in autumn. In the Hybrid Tea the foliage is generally more or less red when young; the plant throws a stem for its early-summer growth, often with a single flower at the top, and this is immediately followed by a strong loose panicle carrying flowers down the greater part of its length, which flowers successively, furnishing the late July and August blossoming, and is followed by fresh flowering growths from September onwards. The upper surface of the leaf varies from the "matt" or dull texture of the Hybrid Perpetual to the shiny surface typical of the Tea Roses. In the Teas the method of flowering resembles that described previously for the Hybrid Teas, one or more strong panicles being thrown up for the second flowering. They differ from the Hybrid Teas chiefly in the greater excitability of their buds, which usually commence to grow out before the terminal flower has matured. The wood buds on these flowering panicles are very much fewer than in the Hybrid Perpetuals, and are situated at longer intervals on the stems. In the typical Tea Rose the leaf surface on the upper side is always of the glossy character found in R. indica, and the young growths are beautiful shades of red and brown. Probably few would have much difficulty in distinguishing a typical Tea Rose from a typical Hybrid Tea, but modern hybridisation has produced many varieties which are intermediate between the two sections and whose proper position is difficult to determine.

Down to the present the National Rose Society has not attempted to determine the position of these doubtful hybrids, but has accepted them as members of the section in which the raisers happen to have placed them on their introduction. It is therefore not surprising to find among the Tea Roses varieties which some think might more properly find a place among the

Roses of some other section. To the writer it would seem not unreasonable if Roses like Harry Kirk and Mrs. Myles Kennedy were grouped with the Hybrid Teas, while Princesse de Sagan, Betty Berkeley, and a few others might be placed among the Chinas.

However, this is a long digression, and I come back to those Tea Roses introduced in or since 1908 which I have tried in my own garden with more or less satisfactory results.



[*Photograph by J. Hutchinson.*

FIG. 177.—GROUP OF SPINDLE TREE, DOGWOOD AND WAYFARING TREE ON THE LEATHERHEAD DOWNS.
(See p. 405.)

NEW TEA-SCENTED ROSES.

ALEXANDER HILL GRAY (T., A. Dickson & Sons, 1911). This Rose made its debut at the shows some year or two before its introduction to commerce, and so, though only a last year's Rose, it has become tolerably familiar to many rosarians. It is a beautiful flower, and may well be described as a fuller and more pointed Mme. Hoste. Like this Rose, it is of lemon-yellow colour, perhaps rather deeper in the centre; it appears to grow well, but as, down to the present, I have only grown it in pots, I cannot speak of its hardiness. It certainly makes a good pot plant, and has a considerable Tea perfume.

ALICE DE ROTHSCHILD (T., A. Dickson & Sons, 1910). This is another yellow Rose rather deeper in colour than the last but not quite so full. I think it will make a good garden and bedding Rose. It seems rather taller than A. H. Gray.

HUGO ROLLER (T., Wm. Paul & Son, 1908) is a decorative Rose, not large enough for exhibition, but very pretty in the early summer. Its colour is lemon-yellow with a deep picotee edge of rose colour, not altogether unlike a small Marie van Houtte, with a deeper-coloured edging. It is not quite so good a grower as I could wish, and therefore not everyone's Rose, but those who have room to spare should grow a few plants.

LADY HILLINGDON (T., Lowe and Shawyer, 1910). This is a most beautiful Rose, which everyone who can grow a Tea Rose should possess. It is said to be the result of a cross between Papa Gontier and Mme. Hoste. The colour is a bright fawn-yellow suffused with orange, that is when the flower is at its best, but no doubt the colour varies considerably, and I have always had a number of flowers in which the colour is much paler, and it is then less interesting. Often one will get bright and dingy flowers on the same stalk, sometimes the crown flower will be bright and the side ones dull, and sometimes their position will be reversed. I incline to think the weather has something to do with the matter, and that I get more bright-coloured flowers in fine, warm weather. It makes a beautiful bedding Rose, and is almost worth growing in a bed for the beauty of its foliage, which retains the bronzy-red of the young growths for an unusually long time. The colour of the foliage, moreover, harmonises with and sets off that of the flowers. With me it has proved an excellent grower, and for a Tea Rose has a very erect habit. The flowers are not very full, but long and beautifully shaped, and are very useful for cutting, as they can be had on long stalks and last well in water. They will open well even in wet weather. It is excellent in pots, and, though I have not tried it as a standard, many of my friends tell me it does well when so grown. *White Rose.*

(To be continued.)

FORESTRY.

THE MANAGEMENT OF DECAYING TREES.

WHEN the value of old trees in an ornamental or utilitarian sense is taken into account it is remarkable what a small amount of attention they receive when subjected to accident or disease. In the great majority of cases injury to root, stem or branch is the direct cause of decay, and this is particularly the case with old trees, the generally enfeebled condition of which greatly facilitates the spread of disease. Branches that have been broken over by the wind are undoubtedly the main cause of decay, though injuries to the root or stem, as by frost, lightning, timber-haulage or other accidents are fertile means of bringing about a diseased and unhealthy condition of the trees. Probably the Elm suffers more from wind damage and disease than any other tree, though the Oak is by no means exempt, and examples of the former are, unfortunately, but too common in almost every public and private park throughout the country.

In and around London diseased and gradually dying out specimens of the Elm, Willow, Mulberry, Lime, Catalpa and other trees are frequently to be seen, and in 9 out of every 10 cases the origin of disease can be clearly traced to the neglect of wounds that have been brought about by falling branches. From various other causes, too, such as atmospheric conditions, poverty or poisoning of the soil, and the attacks of insect- and fungous-pests, town trees may become "stag-headed" and unhealthy, and if not attended to may die out altogether.

Broken branches.—Both for the sake of appearance and for the health of the tree broken and twisted branches should be attended to with as little delay as possible, the main point being to prevent water from lodging in the wound and so setting up disease. This is especially necessary when the branch has been broken close to the main stem or one of the heavy limbs, and when, in all likelihood if unattended to, disease would be carried direct into the main trunk. Perhaps old Elm trees suffer most in this way, owing to the brittle nature of the wood, which causes it to snap readily, and also to the fact that this tree is more apt to be affected by disease and heart rot than most other species. Not only are the branches readily broken by the wind, but what is known as "branch-shedding" often takes place during still, hot weather, and without the slightest warning. The point at which a branch has been broken over should be made quite smooth, first by aid of a sharp saw, and afterwards by the pruning knife or chisel, care being taken that the bark around the wounds is neither injured nor loosened, and that it comes close up to the saw mark. A coat of paint, or, preferably, coal tar, may then be applied, both pruning and painting being carried out during dry weather. A broken branch should never be sawn over on the horizontal, but always in a sloping direction, so that water may pass off rapidly. When, as is often the case, a portion of the trunk is carried away by the falling limb, the difficulty of dressing and otherwise attending to the wound is greatly increased. But in all cases smoothness of surface and prevention of ingress of water are the principal points to be observed in the treatment.

Hollow trunks.—Probably the simplest, certainly the cheapest, method of dealing with diseased and hollow trunks is to clean out thoroughly all dead and decaying matter, the interior being scraped and swept with a rough brush, so that the loose, rotting wood is removed. When quite dry the interior of the trunk should be painted with one or, preferably, two coats of creosote and filled up with a composition of one part of Portland cement to three of clean gravel and sand, the surface coating containing the largest quantity of cement. A coat of coal tar on top of the dry creosote goes far in making the concrete keep firm to the wood. When a fairly healthy tree is being operated upon, and when the bark is likely to grow over the exposed surface, the concrete should only be brought up on a level with the underside of the living bark. Sometimes brickbats, broken small, are used instead of gravel, but for various reasons cement is preferable.

The concrete surface may be prevented from cracking by applying annually a coat of paint, which for appearance sake may be of a similar colour to that of the bark of the tree. The growth of fungus on a tree stem is always an indication that disease is present.

Injured bark.—All loose and injured bark should be carefully cut away, and the wood, when perfectly dry, coated with coal tar. In removing the injured portions, cut well back to the living bark so as to ensure rapid and uniform healing. Should the wood from which the bark has been removed be injured in any way, the pruning chisel may be requisitioned, and all that is damaged carefully cut away before the tar is applied. Loose bark is most frequently brought about by injury from a passing cart or wheelbarrow, or careless felling, but in not a few instances may be the direct result of frost, lightning or unfavourable soil and situation.

Root injury.—This is a frequent cause of trouble, especially on lawn and standard trees, and may be the result of a knock or injury from a passing cart, roller, or mowing machine. When fungus has permeated the roots, little can be done to save the tree, but with superficial injuries, remedies, if applied in time, are generally followed by good and lasting results. Roots which run near the surface are most often open to injuries, and are, fortunately, most readily attended to. The soil should be removed from around the decaying root, the diseased portion with the loose bark cut back to the healthy wood, and the whole painted, first with an antiseptic, and finally, when quite dry, with coal tar. Should the tree have suffered much in health from the injuries, branch pruning and enriching the soil amongst the roots will often be found beneficial.

Other causes of decay.—As well as the above, there are many other causes that bring about an unhealthy condition or the death of a tree. Some of these are natural decay, impoverished soil, stagnant moisture, the attacks of insect and fungoid pests and piling earth around the stem. The latter is a fruitful cause of decay and death, and if the soil is of sufficient depth the trees may succumb in from eighteen months to two years. Stagnant moisture is usually readily removed, while natural decay and a "stag-headed" condition may in some cases be successfully dealt with by timely and judicious pruning and by substituting fresh soil for the spent material amongst the tree roots.

From the above it will be seen that, if taken in time, tree wounds are by no means difficult to deal with, nor is the work entailed by so doing of a costly description, and this being the case, there is no reason why specimens that are of particular value in an ornamental or useful sense, or such as are of historic interest or with interesting associations, should not, when accident befalls them, receive prompt and careful attention in order to ward off disease and death. *A. D. Webster.*

ROGUES IN SWEET PEAS.

[An outline of the paper by Major C. C. Hurst, Director of the Burbage Experiment Station, read at the Fourth Sweet Pea Conference, October 17, 1912 (see report in *Gardeners' Chronicle*, October 26).]

The difficulty of securing true stocks of the Spencer forms of Sweet Peas causes concern to raisers, growers and distributors of seed. The large numbers in which rogues make their appearance in certain stocks of Sweet Peas may be seen from the table (Table 1), which contains a record, expressed in percentages, of those which occurred in commercial stocks in the National Trials and in the Mendelian stocks—all grown at the Burbage Experiment Station in 1912.

The commercial stocks (see Table 1A) comprise 150 varieties grown from seed sent out in 1911-12 by the leading growers and distributors. The plants in the National Trials (Table 1B) consisted for the most part of novelties and superior forms submitted by raisers to the Floral Committee of the National Sweet Pea Society (1912).

The pure-line (Mendelian) stocks (Table 1c) comprised 13 leading varieties in 12 distinct colours. Each pure line was grown from seed saved from a single plant pure (homozygous) for colour and Spencer form. The flowers of the seed-bearing parent plants were not covered, and the parent plants were isolated from one another only in so far that blue sap-flowered plants were grown 100 yards from the others; the whites and creams were planted together at one end of the group of red sap-coloured plants, and the yellow sap-coloured plants were grown at the other end.

TABLE I.

Type and Colour Rogues in Sweet Peas.

—	Stocks.	No. of Plants Grown.	Type Rogues.		Dominant Colour Rogues.		Recessive Colour Rogues.	
			Total.	Per cent.	Total.	Per cent.	Total.	Per cent.
A.—Commercial Stocks ...	206	3,939	272		82		137	
				6.9		2.1		3.4
B.—National Trials ...	254	5,106	316		106		208	
				6.1		2.1		4.0
C.—Mendelian Stocks ...	43	8,840	—		53		—	
				—		0.5		—

Forms of Rogues in Sweet Peas.

Two kinds of rogues occur in Sweet Peas—type rogues and colour rogues. The type rogue bears flowers which are not true to the Spencer form. The characters of the Spencer type are:—large flowers (except in some salmon and scarlet shades), standard and wings waved or frilled, and an open keel. The condition of the keel distinguishes the Spencer from the old grandiflora type. In the latter the keel is closed, and the stamens and pistil are clamped together at the apex of the keel; in the Spencer type the keel is loose and open at the apex, hence the pollen is shed within the keel and the pistil protrudes therefrom.

The type rogues enumerated in the above table are Sweet Peas with clamped as opposed to open keel. Among them occur plants which depart from normality in other directions, e.g., in possessing hooded or erect standards; but no matter what be their other characteristics all the type rogues agree in the possession of the clamped keel.

The colour rogue is, as the name implies, untrue to colour; for example (as illustrated in Table 2) among orange-scarlet stocks, e.g., Thomas Stevenson or Edna Unwin, there may occur plants with deep pink or dark mauve flowers.

TABLE II.

Analysis of the Rogues of Table 1 (c).

The 53 rogues of Table 1 (c) all occurred among orange-scarlet stocks of Sweet Pea, viz.:—

Variety.	Plants.	True.	Rogues.	Colours.
Thomas Stevenson—				
4 stocks of seed =	663	663	—	—
1 stock	97	95	2	1 deep pink 1 orange pink
1 stock	55	54	1	deep pink
1 stock	120	118	2	deep pink
Edna Unwin—				
1 stock	148	148	—	—
1 stock	286	238	48	dark mauve
Totals {9 stocks of 2 varieties =	1,369	1,316	53	—

The Significance of Type Rogues.

Inspection of Table 1 shows that whereas a considerable number of type rogues occurred in the trials of commercial stocks and also in the national stocks, none occurred in the plants grown from pure line seed. Now it has been shown by Major Hurst that clamped keel is a simple dominant to open or Spencerian keel. That is to say, a cross between two plants each pure for one of these characters gives rise to offspring, the F_1 generation, all characterised by clamped keel. In the next generation produced by self-fertilising F_1 plants, the plants with clamped-keeled and open-keeled flowers will occur in the proportion of three of the former to one of the latter, and, as is familiar to students of Mendelism, of the three clamped-keeled plants, one is pure to that character and two are impure. The impure or heterozygous plants yield on self-fertilisation three dominant clamp-keeled to one recessive open-keeled.

Hence it is at once apparent that the type rogues of Table 1 are due to the presence in the stud-stock of plants homozygous or heterozygous for this character. That this is the explanation is shown by the fact that the Mendelian lines (Table 1c) bred by Major Hurst contain no type rogues. The moral is clear. To eliminate all type rogues pure-line breeding is necessary. This is easy in the Sweet Pea because it is self-fertilised, and all that is necessary is that the seed of individual plants should be harvested separately, and that the seed which is to be used for stock purposes should be sown in separate groups, one group for the seed of each individual plant. Rogues must be eliminated as soon as they appear, and thus the several lines are purified. How far cross-fertilisation by the agency of insects may introduce anew the clamp character cannot be stated definitely; that the risk of such crossing occurs will be evident immediately, but that it is not considerable is indicated by the fact that no type rogues appeared in the pure line plants (Table 1c). Isolation will help to preserve the seed-producing stock from the danger of crossing with a clamp-keeled variety.

It is, of course, just possible that the real character may prove to depend on more than one factor, and, if this prove to be the case—though it is not likely—a reconstruction of clamp-keel by crossing two open-keel plants may occur. This contingency, however, may be disregarded for the present, and growers may obtain from the foregoing observations a fair assurance that it rests within their powers to eliminate type-rogues from their pedigree stocks.

The Significance of Colour Rogues.

In order to appreciate the significance of colour rogues, we must again make appeal to our knowledge of the Mendelian factors which determine coloration in Sweet Peas.

As the result of the researches of Bateson and Punnett and of Major Hurst, it is known that purple bicolors are dominant to all other colours in Sweet Peas, and that cream is recessive to white and also to coloured flowers. Of the series —purple bicolor maroon, crimson, pink-tinged white, white and cream—each colour is dominant to those which succeed it in the series.

Of other colours, orange and salmon shades are dominant to white or cream and recessive to pink or crimson; purple and blue shades are dominant to red shades; purple-maroon is dominant to maroon; maroon to mauve and lavender; and lavender to deep and pale blue. If, therefore, it be remembered that any cross between one colour form and another below it in this series results in the production in the first generation of flowers of the colour of the higher member of the series used in the cross, we can apply the Mendelian knowledge to an analysis of colour-rogues.

Viewed in the light of this knowledge, the colour-rogues show themselves as indicated in Tables 1 and 2 to be either dominant or recessive rogues. Thus, the colour-rogues described in Table 2 are all dominant, that is, the colour of the rogues—deep pink, orange-pink, dark mauve—stands higher in the series than does the typical orange-scarlet of Thomas Stevenson or Edna Unwin, in stocks of which these rogues appeared.

Of the colour-rogues, 219, which appeared among the commercial stocks, there were (Table 1A) 82 of the dominant and 137 recessive type, and a similar proportion, viz., 106 dominant to 208 recessive, was exhibited by the rogues which appeared in the National trials (Table 1B) of new and superior varieties.

Such dominant rogues may owe their origin to one of two causes. The less likely cause may be indicated first.

The colour of a purple (bicolour) Sweet Pea depends on the presence of three factors, which may be represented by the capital letters C, R, and B (small letters being used to indicate the absence of these factors). If the B factor be absent the colour is of a red shade; if it be present with the C and R factors, the colour is purple. If either C or R be absent no colour is exhibited by the flower. Hence it is evident that a cream Sweet Pea may have one of several constitutions. For if C, R and B are all absent cream results, or if C be absent and only R and B are present (c R B) the flower is nevertheless cream: similarly if the constitution be C and B the flower is cream coloured.

Wherefore, if we imagine two cream-coloured Sweet Peas of the following constitutions:—C r b and c R B, then if they are crossed with one another they give rise to a plant with the constitution C c R r B b. Such a plant possesses, albeit in a heterozygous state, the three factors C R B. It therefore bears flowers of a purple colour. Such reversionary purples have, in point of fact, been produced by the mating together of whites or creams. Therefore a similar origin of dominant rogues in the experiments under review is not precluded.

Bearing in mind this possibility, and returning to an examination of the colour-rogues of Table 1, it is discovered, if the 82 dominant rogues are classified, that 43 are in the salmon section, and, further, that 35 of the 43 are rosy-salmon rogues in Stirling Stent. Now all these 35 are also type rogues, possessed, that is to say, of the clamped keel. Their origin is therefore clear, and such dominant colour rogues appear to be due to the same cause as that which gives rise to type rogues.

These 43 rogues having been accounted for, there remain 39 dominant rogues (82 — 43) to be investigated.

They are to be attributed to cross fertilisation, and in this connection it is interesting to observe that they are most numerous in the cream section, that is, in that section in which not only would cross-fertilisation with a coloured form lead inevitably to the production of colour, but in which also crossing between two creams *might*, as indicated already, lead to colour in the F_1. Hence it is to be concluded that dominant colour rogues are of two kinds. One kind, which it is easy to eliminate, is due to the presence of mixed seed in the stock. The other, which it is difficult to eliminate, is due to cross-fertilisation through the agency of some insect, the leaf-cutter bee, or other. Since covering of the flowers is impracticable, the only precaution to be taken consists in growing a stock as far away as possible from any other type of Sweet Pea, and in spacing the plants as far away as possible from one another.

RECESSIVE COLOUR ROGUES.

Since the colours of Sweet Peas form a series, the members of which stand as dominants to those which succeed them, it follows that, just as some dominant rogues are due to mixed stock, so recessive rogues may be due to the same cause. Further, of the 137 recessive rogues in Table I, no fewer than 78 occur in the cream, pink, and deep pink sections. Many of this number are traceable to varieties such as Miriam Beaver, Syeira Lee, and Audrey Crier. Now these are known to be heterozygous varieties, hence no amount of rogueing or pure line breeding will fix them. If they are required they must be built up afresh each generation.

PRACTICAL APPLICATIONS.

(1) Pure line breeding reduces the number of rogues. Thus, whereas the rogues in Table I, A and B, are about 100 per 1,000, those in Table C are about 5 per 1,000.

(2) Covering, though it would, together with pure line breeding, result in the elimination of all rogues, is not commercially practicable.

(3) Therefore pure line breeding and as much isolation as possible are to be recommended. These ends may be secured in the following way:

(a) Save all stock seed from single plants grown not less than 3 feet apart each way.

(b) For stock seed use only plants from a true breeding (homozygous) stock.

(3) When growing bulk seed, let the stock seed from each single plant be sown separately, but side by side. Then the stocks in which rogues appear may be dealt with separately.

(4) Grow each colour at least 100 yards from another.

(5) Eradicate all type rogues with clamped keels, and allow none to be on or near the seed grounds.

The Week's Work.

THE FLOWER GARDEN.

By J. G. WESTON, Gardener to Lady NORTHCOTE, Eastwell Park, Kent.

EARLY - FLOWERING GLADIOLI.—Gladioli of the Colvillei section bloom in June and July, when cut flowers are greatly appreciated. The corms mature early in the season, and start into growth again in the autumn. If they are not planted already, the work should be done without delay, as the corms deteriorate if left for too long out of the ground. Choose a warm, well-drained border with soil of a fairly light or sandy nature. Wet, heavy ground should be made more porous by adding old potting soil, leaf-mould, or manure from a spent Mushroom bed. If the situation is a damp one, the beds should be raised slightly above the ground level. The white Colvillei "The Bride" is grown in very large quantities; other beautiful varieties are Peach Blossom, Crimson Queen, Ackermann, Ne Plus Ultra, Rosy Queen, Pink Perfection, Fire King, and rosea maculata.

BORDER CARNATIONS.—Carnations in beds and borders should be examined at intervals during the winter, and, if they have become loosened in the soil through frost, made firm again; this work should be done when the soil is fairly dry. When this has been done, the soil on the surface should be stirred lightly with the hoe. By attending to the plants in these matters, they will make clean, healthy growth in the spring. Field mice are often destructive to Carnations; if these pests appear, set traps and take other precautions to destroy them. Light dustings of soot will tend to make the foliage distasteful to vermin of all kinds, as well as provide food for the roots. Plants growing in pots or boxes in cold frames should have an abundance of fresh air at all times. Plenty of ventilation is very necessary during dull, mild days of autumn, when the atmosphere is charged with moisture, for close, damp conditions favour the spread of "rust" and other diseases.

MONTBRETIA.—These plants are best lifted and stored for the winter if the soil is wet and heavy. The corms should be dug up and placed in boxes filled with moderately dry soil, or they may be stored in ashes in a frame. Annual lifting of the plants enables the grower to trench and manure the ground thoroughly before replanting.

HARDY CYCLAMEN.—Hardy Cyclamen are often planted on the rockery, but they also do well in shady corners, or on banks under trees. They grow best in sandy loam and leaf-mould mixed with crushed mortar. Established plants are benefited by a top-dressing of fine, light soil, but the ground should be left undisturbed as much as possible, in order to allow the seedlings to develop.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS, Aldenham House, Hertfordshire.

OLD POTTING SOIL. — I have in former calendars emphasised the importance of storing a quantity of soil in a dry place for filling seed-boxes in the New Year, and for use in transplanting seedlings early in the season. At Aldenham we save the old soil from the potting sheds and store it in a heap in an open shed, where it is sifted during wet weather. This fine soil is excellent for use in transplanting Onions, Leeks, Cauliflowers, Parsley, and similar vegetables. It may also be used for filling seed pans, though I prefer new soil for that purpose. Manure from spent Mushroom beds is also valuable for many purposes, such as mixing with potting soil; the larger portions may be used as drainage material for the boxes, and will serve the double purpose of providing food to the roots.

LEAF-MOULD.—The value of leaf-mould for potting purposes cannot be over-estimated, and each year a heap should be got together in some out-of-the-way place. The leaves should be turned two or three times during the winter. At Aldenham we place portable frames on heaps of leaves for forcing early crops. We have just finished filling an enclosure made of stout planks with fallen leaves. Half of the old heap has been carted away for mixing with the garden soil. A good proportion of the other half will be placed in the Potato trenches. The material will be turned once or twice during the winter and mixed with lime.

LOAM FROM PASTURE. — If the turves are devoid of fibrous material or otherwise poor in quality, it is a good plan to place a layer of fresh manure between them when they are stacked. Wireworm is often present in pasture land, and should be destroyed by charring the turves. Where plenty of rough wood is available this may easily be done by making a ridge and placing the turves grass-downwards on either side, and allowing them to become thoroughly hot, afterwards mixing the charcoal and wood ashes with the loam. Loam from an old pasture land is excellent material for mixing with the ordinary soil of the garden, and especially in the case of light land.

TOOLS.—As work in the kitchen garden is not pressing at this season the various tools should be overhauled, and any deficiencies made good. The tools belonging to the several departments should be marked by a number as well as the initials of the owner. Each tool house or shed should be under the charge of a responsible member of the staff. A list should be hung up in the shed giving the number of each implement and its owner's name. The tool house should receive a thorough cleansing, lime-washing the walls if necessary.

ARTIFICIAL MANURES. — A special place should be set apart for storing fertilisers where they may be obtained easily and kept tidy. Bins are very useful for the purpose and also for storing soot. If the manures are intended to remain in the bags, the latter should be placed on a trellis or at least something to keep them off the ground, otherwise the sacks will soon become rotten. The mouths of the bags should be kept closed.

LIQUID MANURE.—Much valuable manure is often lost in the liquid that drains from farm buildings. This should be caught in a tank, which need not have a capacity of more than a few hundred gallons, and may be constructed cheaply. A pump fixed to the tank will be found a great advantage.

DRAINING WET LAND.—Land intended for use as a kitchen garden should not be water-logged. Low-lying, retentive soils should be drained, and of the many methods nothing is better than drain pipes set in a suitable trench, and covered with coarse brickbats or similar materials.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

CHRYSANTHEMUMS.—The majority of plants of the large-flowering varieties have been cut down. The stools, if placed in a light, airy house as advised a week or two ago, will furnish suitable shoots for cuttings. For general purposes, the first and second weeks in December are the best period for rooting the cuttings. The propagation frame or case should be slightly warmed, and kept closed to prevent the cuttings from flagging, but it is advisable to admit a little air in the frames each evening to allow superfluous moisture to escape, closing the frames again in the morning. It must be remembered that the strongest cuttings do not always make the best plants, and small to medium-sized shoots of a fairly hard nature are much to be preferred. Such shoots as I have described root more freely than those of a gross nature, whilst cuttings that are coarse often make 5 or 6 inches of top growth before they commence to form roots. The rust disease is not so prevalent as a few years ago, but it is advisable, in view of the wet season, to dip the shoots in a solution of sulphide of potassium at a strength of $\frac{1}{2}$ ounce to one gallon of water. Most of the large Japanese varieties should be propagated at this season, but good plants may be obtained from cuttings rooted as late as February, which is quite early enough for the majority of sorts that are grown as bush plants, including the single varieties. If it is intended to delay the propagation of these plants until February, it is advisable to remove all the shoots down to the ground level, as this will ensure a quantity of strong, healthy cuttings at the time they are required. The character of the season has a marked influence upon certain varieties of Chrysanthemum, but some are little affected by cold and wet or hot and dry conditions. These latter varieties are the best for general cultivation, and such as the following :—Lady Talbot, Reginald Vallis, F. S. Vallis, Mrs. A. T. Miller, White Queen, Mrs. L. Thorn, Frances Jolliffe, Hon. Mrs. Lopes, Miss Annie Nicoll, Master James, Mrs. R. Luxford, Evangeline, Mrs. G. C. Kelly, Mrs. R. A. Witty, Colonel E. C. Converse, William Turner, Mrs. Gilbert Drabble, Fred Chandler, D. B. Crane, Kara Dow, Queenie Chandler, Eclipse, Bessie Godfrey, Francis Rowe, Miss A. E. Roope, Thomas Lunt, His Majesty, and Miss A. Finch. Amongst the finer of the newer varieties I may enumerate Miss E. Surry (pink), Mrs. G. Lloyd Wigg (yellow), Bob Pulling (yellow), Hon. Mr. John Ward (a primrose sport from White Queen), Master Rex (old gold or amber), Primrose Queen, Mrs. Thomas Stevenson (an improved D. B. Crane), Ivernia (rosy-bronze), Mrs. W. T. Smith (white), Queen Mary (white), Miss May Fox (white with a green centre), and Miss Joan Miller (pink). These varieties have been exhibited in excellent condition at the shows, and each gives promise of advance on existing varieties. Good late-blooming, medium-sized Japanese varieties are found in M. Paola Radaelli, Mme. G. Rivol, Mrs. W. Iggulden, Superb, Mme. R. Cadbury, Edith Jameson, Miss A. M. Falkner, Mrs. A. M. Falkner, E. G. Mocatta, William Turner, December Gold, Mrs. Gilbert Drabble, and Mrs. W. T. Smith. For a supply of cut blooms for decorative purposes those grown by the market nurserymen flower freely and possess the finest colours. Choice varieties of this type are Market Red, Mrs. W. Roots, Captain Julian, Mrs. McNeece, Soleil d'Octobre, H. W. Thorp, Freda Bedford, Thomas Page, Moneymaker, Source d'Or, Mrs. Greenfield, Mrs. A. T. Miller, White Queen, Emperor, Mrs. W. Buckbee, A. J. Balfour, Winter Cheer, December Gold, Mrs. D. Syme, Kathleen May, William Turner, Maud Jefferies, Foxhunter, True Gold, and Heston Bronze. Among the numerous single varieties the following are to be recommended: Robert Milner, Canary Bird, Mrs. Tresham Gilbey, Mary Richardson, Sylvia Slade, Hilda Lawrence, Charles Kingsley, Ceddie Mason, Bronze, White and Pink Pagram, Cinnamon, Marjorie Lloyd, Mrs. W. G. Garner, Miss May Thorne, Mrs. W. Higgs, Merstham Jewel, Hubert Williams, Mensa and Pictor, whilst a few of the best of the newer varieties are Ideality, Mrs. Loo Thompson, Sussex Yellow, Dazzler, Sydney Laurence, Portia, Royalty, Snow Queen, and Joey Saunders.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to Lady NUNBURNHOLME, Warter Priory, Yorkshire.

MANURING.—The weather during the past month has been very wet, and ground operations have been carried out with considerable difficulty, especially on heavy soils. It will be well to examine the fruit trees, to ascertain which are in need of manure, so that the dung may be wheeled to the stations directly frost occurs. Fruit trees that bear freely soon become exhausted unless they are well manured every year or two, but no hard and fast rule can be laid down as to the quantity to apply, for certain soils require much more manure than others. The experienced fruit-grower can easily tell when trees are growing in exhausted soil by the deterioration to be observed in the size and quality of the fruit, and also in the growth. Mulchings of farmyard manure will prove most useful, but wood ashes, lime, and chemical manures containing potash may also be employed. If this work is attended to each autumn it will not be a difficult matter to keep the trees in a healthy condition, for robust trees are not so liable to become infested with insect and fungous pests as those allowed to suffer neglect. Remove the soil to a depth of 4 or 6 inches before applying the manure and replace with rich, fine loam mixed with wood ashes and lime rubble. When the mulching of manure is applied place a layer of soil about 2 inches deep on the top to prevent birds from scratching it about. In cases of wet, heavy soils, it may be better to defer applying the mulch until the spring, and give a dressing of soot, lime, or kainit and superphosphate in equal parts at the rate of 2 to 4 lbs. to each tree, according to the size of the latter. Fork the surface soil of all fruit borders lightly after the pruning and training of the trees are completed, first gathering up the prunings and burning them. Bush fruits, including Raspberries, are greatly benefited by a good dressing of manure at this season. Old trees in orchards are also benefited by a liberal surface mulch; the winter rains will wash the manurial properties down to the roots. Proceed with the root-pruning and lifting of fruit trees as recommended in the Calendars for September 20 and 27, as the sooner this work is completed the better will be the result, and the soil is now in a suitable condition for the operations. Attend to the top-dressing and renovating of wall trees whilst the weather remains favourable.

FRUITS UNDER GLASS.

By E. HARRISS, Gardener to Lady WANTAGE, Lockinge House, Wantage, Berkshire.

WINTER CUCUMBERS.—It is not an easy matter to maintain a supply of Cucumbers through the winter. One of the chief points to observe is cleanliness. Not only should the glass be kept quite clean, but also the walls and woodwork in the house. Should red spider appear on the plants, cut off the infested leaves and syringe the remainder of the foliage with a solution of soft soap and sulphur. Stop and tie the shoots regularly, and train them well apart over the trellis, so that the leaves are exposed to the light. The roots will not need watering more than once or twice a week, but keep the surface of the bed moist by syringing. Stimulants should be applied with moderation; a small quantity of concentrated fertiliser sprinkled over the surface of the bed occasionally will be all that is needed. Cover the roots with turfy loam and leaf-mould as often as they appear in quantity on the surface. Keep the atmosphere sweet by opening the top ventilators a little whenever the weather is favourable. A minimum temperature of 70° will be suitable, but during frosty weather the temperature may drop to 65°, and at such times the houses should be covered with mats or tiffany to obviate the use of excessive fire-heat. Syringe the plants only when the weather is bright. If "spot" disease appears on the leaves, discontinue syringing, but keep the atmosphere moist by damping the bare surfaces in the house.

PINEAPPLES.—An effort should be made to have a few ripe Pines at Christmas, and, if necessary, the ripening of the fruits may be hastened by placing the plants at the warmer end of a stove. Only plants that are swelling their fruits need high temperatures during the winter: all other plants should enjoy a period of rest for the next two months. It will not be necessary to employ much fire-heat if the roofs of the houses are covered with some material during the night. Do not afford water to the roots unless moisture is absolutely necessary, for it is best to keep the plants which are resting on the dry side, those that are planted near to the hot-water pipes should be examined frequently. Do not use cold water, but first warm it to the same degree as the temperature of the house. Syringing will not be necessary often, but the walls and paths should be damped occasionally to promote atmospheric moisture. A little air may be admitted through the top ventilators before noon whenever the weather is favourable. A temperature varying between 60° and 65° will be warm enough for successional plants and suckers, but fruiting specimens should be grown in a moist atmosphere with a minimum temperature of 70°.

QUEEN PINES.—Plants intended for fruiting next summer should be placed in the forcing house about the middle of next month. In the meantime, the structure should be washed thoroughly and the walls lime-washed. A low, well-heated pit facing south is most suitable. The materials for the hotbed should be prepared in readiness. Before plunging the plants in the hotbed, remove two or three of the lower leaves and topdress the roots with pieces of fibrous loam, crushed bones and artificial manure. Select plants with stout leaves, thick collars, and open centres as these are the most likely to produce fruit. When plunged, the tops of the plants should be quite near to the glass, which should be kept clean.

THE ORCHID HOUSES.

By J. COLLIER, Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey.

CYPRIPEDIUM. — Plants of the flat-leaved section of Cypripedium, including C. Lowii, C. Rothschildianum, C. lævigatum, C. Parishii, and C. stonei, are rooting freely and may, if necessary, be repotted. Specimens requiring increased rooting space should be turned out of their receptacles and the old drainage materials removed from between the roots, disentangling the latter as much as possible but taking care not to break or damage them. Remove also some of the old compost from the surface. Select a pot large enough to accommodate the plant for two seasons, and place a few clean crocks over the bottom for drainage. Hold the plant in position in the centre of the pan, and work more crocks around and between the roots to half the depth of the pot, which should then be filled level to the rim with compost, consisting of equal parts Osmunda fibre, Sphagnum-moss, and fibrous loam from which all the small particles have been removed, mixed with a quantity of crushed crocks and silver sand. Plants of the Selenipedium section, such as C. calurum, C. cardinale, C. Sedenii, C. macrophyllum, and C. leucorrhodum, that need repotting may be dealt with in a similar manner, but in their case the crowns of the plants should be placed slightly below the rim of the pot in order to allow space for watering. After the repotting is completed water should be applied very sparingly for some time, but when the roots have established themselves in the new compost they should be kept moist at all times. In winter see that moisture does not settle in the centres of the young growths or in the axils of the leaves, as this may set up decay.

PLEONE. — As plants of P. lagenaria, P. concolor, P. maculata, P. præcox, and P. Wallichiana pass out of flower they should be repotted, and this is best done when new roots are developing from the bases of the young shoots. Ordinary shallow Orchid pans without side holes are the most suitable receptacles for these plants. The old compost should be shaken from the roots, and all dead portions of the latter cut away. The plants may be made up in clumps of about one dozen pseudo-bulbs in a 6-inch pan, or they may be broken up and the finest bulbs selected and potted together. The smaller specimens that are not likely to bloom soon may be grown on for another season. The potting mixture may consist of equal parts fibrous loam and peat mixed with chopped Sphagnum-moss, some finely-crushed crocks and silver sand. The pans should be filled one-third their depth with clean crocks for drainage, covering these with a layer of Sphagnum-moss and some of the compost. Place the pseudo-bulbs evenly over the surface, leaving sufficient space between each plant to allow for the full season's growth. Work the soil around and amongst the roots, so that the pseudo-bulbs are fixed firmly in position. For a few weeks after potting the roots will require very little water, but when the shoots are growing vigorously the supply of moisture should be increased gradually until the roots and leaves are fully developed, when water may be applied copiously. During the winter months the plants should be placed on a shelf near to the roof-glass, or suspended in a light position in an intermediate house. In the spring and until the growths are fully developed they will do best in a house a few degrees warmer than the intermediate structure. The cooler-growing varieties, such as P. humilis, P. Hookeri, and P. yunnanensis, succeed best when suspended from the roof of the Odontoglossum house. These plants have completed their season's growth, and require only sufficient water to prevent the pseudo-bulbs from shrivelling. The repotting may be done after the flowering season is past.

GARDENING CONFERENCE AT VIENNA. — A conference on horticulture and allied subjects is to be held at Vienna from December 9 to 14 inclusive, under the auspices of the Vienna Horticultural Society. The fee will be K.5 (about 4s.) for members and K.10 for non-members. The subjects for discussion include methods of culture, new plants, and Mendelism. There will also be visits to various gardens and social functions.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plant for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

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Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS FOR DECEMBER.

MONDAY, DECEMBER 2—
Nat. Chrys. Soc. Floral Com. meet.

TUESDAY, DECEMBER 3—
Royal Hort. Soc. Coms. meet and Perpetual-flowering Carnation Soc. Sh. (2 days). (Lecture prepared by Mme. Tzikos St. Leger on "The Vegetation of the Islands of Lake Maggiore.") Scottish Hort. Assoc. meet. Hort. Club Dinner and meet.

THURSDAY, DECEMBER 5—Linnean Soc. meet.

SATURDAY, DECEMBER 7—
Soc. Française d'Hort. de Londres meet.

MONDAY, DECEMBER 9—
United Hort. Benefit and Prov. Soc. Com. meet.

WEDNESDAY, DECEMBER 11—
North of England Hort. Soc. meet. at Leeds.

MONDAY, DECEMBER 16—
Nat. Chrys. Soc. Executive Com. meet.

TUESDAY, DECEMBER 17—
Royal Hort. Soc. Coms. meet (no exhibition).

WEDNESDAY, DECEMBER 18—
Royal Meteorological Soc. meet.

THURSDAY, DECEMBER 19—Linnean Soc. meet.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—41·5.

ACTUAL TEMPERATURES:—
LONDON.—*Wednesday, November 27* (6 P.M.) Max. 42°; Min. 37°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, November 28* (10 A.M.): Bar. 29·7°; Temp. 37°; *Weather*—Overcast.
PROVINCES.—*Wednesday, November 27*: Max. 43° Ireland, West Coast; Min. 34° Aberdeen.

SALES FOR THE ENSUING WEEK.

MONDAY—
Bulbs, at 12; Roses at 1.30; by Protheroe & Morris, at 67 & 68, Cheapside, E.C.

MONDAY AND WEDNESDAY—
Rose Trees, Shrubs, Liliums, Dutch Bulbs. &c., at Stevens's Auction Rooms, 38, King Street, Covent Garden, W.C., at 12.30.

TUESDAY—
Bulbs, at Protheroe & Morris' Rooms, at 12.

WEDNESDAY—
Bulbs, Herbaceous Plants, &c., at 12; Roses, at 1.30; Palms and Plants, at 5; at Protheroe & Morris' Rooms.
Sale, of the Stove and Greenhouse Plants, at Clare House, West Malling, Kent, by Protheroe & Morris, at 1.

FRIDAY—
Roses, at Protheroe & Morris' Rooms, at 12.30.
Orchids, at Protheroe & Morris' Rooms, at 12.45.
The Mushroom Spawn Manufactory Fruit Farm and Market Garden adjoining Twyford Abbey, Park Royal, W., at the Mart, London, E.C., by Protheroe & Morris, at 2.

"Rogues." There are few subjects of more interest to the growers and raisers of plants than the origin of rogues; that is to say, of plants which show in habit, colour, or other character a departure from the type. Despite the care which is bestowed by seed-raisers on the purification of their strains, rogues are apt to appear and to cause annoyance to the gardener and concern and loss to the raiser of seed. No one who is aware of the enormous amount of care which is taken by commercial houses to secure pure stocks of seed will be inclined to attribute the occurrence of rogues to any act of carelessness on the part of the raisers, and although some people may be inclined to despair of discovering means of banishing rogues completely from our stocks of seed, such despair is not reasonable. Before we earn the right to pessimism on this subject, we must first exhaust every means of inquiry into the scientific status of rogues. Above all, it is important to discover whether their occurrence is inevitable or preventable, and, if the latter, what are the means whereby rogues may be excluded from seed stocks.

Such inquiries are now on foot, and the results obtained already show that in certain cases at all events the origin of rogues is not a mystery only to be deplored, but a natural consequence of imperfect methods of seed-raising. Wherein the present methods are imperfect may be seen from a study of the report which we publish of the results of Major Hurst's experiments with Sweet Peas.

A brief summary of Major Hurst's observations was published in these columns (October 26) in the report of the annual meeting of the Sweet Pea Society, and a full account of his paper which was read before the members of the Society will appear in the Sweet Pea Society's *Annual*. Nevertheless, the paper is of such moment, and has such important bearings on the occurrence of rogues in all kinds of cultivated plants, that we give, on another page, a full outline of Major Hurst's results, together with sufficient experimental detail to enable the reader to grasp the conclusions and to draw and apply the moral arrived at by him in his illuminating studies.

Methods of Forcing. It is now a matter of common knowledge that certain plants may be forced to flower prematurely, either by exposing them to the vapour of ether or by immersion in warm water. In the case of either method—that of etherisation or of the warm bath—the plants which are to be forced must be in the resting state, and the treatment must be continued for a certain time. Recent experiments have shown that the warm bath method may be applied more widely than seemed possible when Molisch first introduced the process. Other experiments indicate that similar results may be obtained by yet another process, and we propose in the present article to give an account of the results of these two separate lines of experimentation.

From a contribution to Möeller's *Deutsche Gaerten-Zeitung*, it appears that the warm-bath treatment is successful, not only in the case of Lilac, but also with many other plants, such as Laburnum, Magnolia, the decorative Prunus and Pyrus species, such as Prunus triloba and Pyrus Malus Scheideckeri, Hawthorn and Viburnum Opulus.

Further, the warm bath produces its effect not only on those plants the flower-buds of which are borne on the old wood, which buds are therefore present at the time of immersion; but it is operative also in plants, such as Hydrangeas and Roses, which bear their flower-buds in the young wood—which buds are not differentiated at bath-time.

For the former class of plants the temperature of the bath should be from 30-35° C. (82-95° F.), and the subjects should be immersed for from 15-18 hours. For plants of the latter class, the temperature should be somewhat lower—about 25° C. (77° F.), and the plant should remain in the warm water for 18 or 20 hours.

The effect of the treatment on Roses of forcing varieties, for example, those of the Polyantha section and also such sorts as Ulrich Brunner and Schneekönigin, is that the subsequent time for flowering is reduced from 12 or 13 to 9 or 10 weeks. The Roses are brought, after the bath, into a house with a temperature of 50° F., which temperature is raised gradually, as development proceeds, to about 60° F. Hydrangeas also come into flower two weeks earlier as the result of the warm bath. Success with Azaleas and Rhododendrons has not yet been achieved, for the immersion, although it induces the swelling of the flower-buds, has the ill effect of causing the leaves to turn brown and to drop. It is possible that with these plants the method of injection may prove more successful. In this method a few drops of warm water are forced by means of a syringe into the stem at the base of the flowering-buds.

The roots of plants which are to be subjected to the warm bath must be healthy and fairly dry. The plants in pots or with a dry ball of earth are inverted in the tub, so that the water reaches only to the rim of the pot, and does not cover the roots. A wooden tub or tank serves for the bath, and the required temperature may be obtained and maintained by means of a heating coil submerged in the vessel. After the bath the plants may be placed at once in the forcing house. For subjects which are required to be brought more slowly to the flowering stage, a bath at lower temperature (59-64° F.) proves efficacious.

The latest method for preparing plants for forcing is the method of watering with a nutritive solution, which method is described by Mr. Lakon in the *Botanische Zeitung*. The nutritive solution employed is that known in botanical laboratories as Knop's solution, and consists of calcium nitrate (4 parts), magnesium sulphate (1 part), potassium nitrate (1 part), and potassium phosphate (1 part). The salts of potassium and magnesium are first dissolved in water, and the calcium salt is added. The solution should be very dilute, say, at the rate of 0.7 grams of the salts to 2,000 or 3,000 cubic centimetres of spring water or rain water.

The results which Mr. Lakon claims for the new method are striking. Lilac in October, immersed for 12-24 hours in this solution, produced swollen flower-buds within 13 days, and blossomed 17 days after the treatment. On the first day after the "nutritive bath" the leaves of the Lilac begin to expand. Yet more rapid

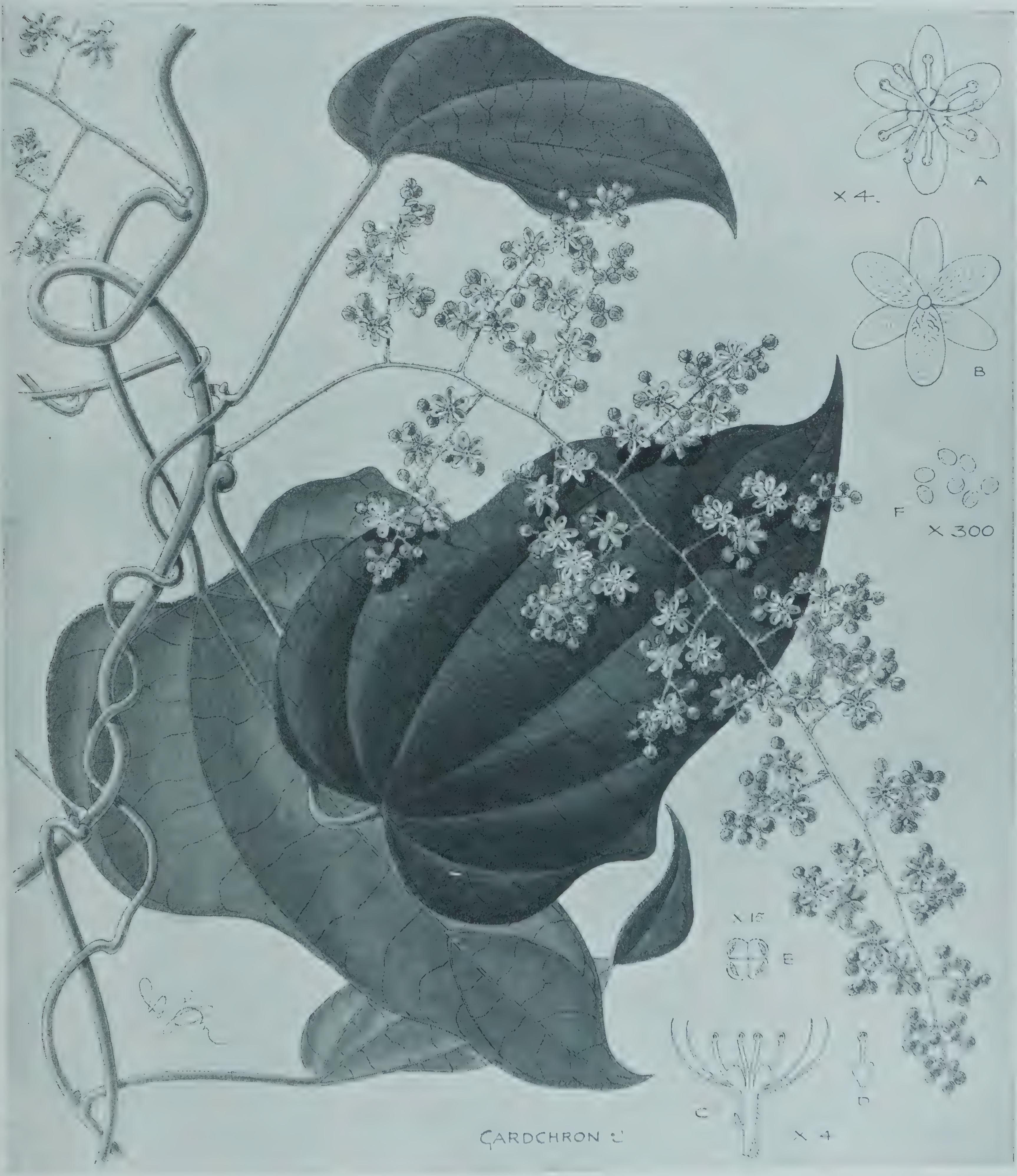


Fig. 178.—Sinomenium diversifolium ♂ (Cocculus variiformis).

A, a male flower, seen from above; B, the same, seen from below; C, a diagrammatic, longitudinal section of a male flower; D, a stamen enclosed by a folded petal; E, an anther; F, pollen.

(See text on p. 402.)

flowering is obtained by first drying the branches for three days in an oven at 26° C. (78.8° F.), and then plunging them in the "nutritive bath." Lilac subjected to this treatment developed all its leaves in the course of six days. The common Beech, treated on December 2, had its leaves well expanded 25 days afterwards, and, as pointed out by Mr. G. T. Grignan (*Revue Horticole*, 1912, p. 422), this fact is the more remarkable in that the Beech does not respond well to either etherisation or the ordinary warm-bath treatment.

The mere watering of pot plants with the nutritive solution suffices, according to Mr. Lakon, to hasten the production of flowers.

ROYAL HORTICULTURAL SOCIETY. — The next meeting of the Committees of this Society will take place on December 3, in the Vincent Square Hall. At 3 p.m. a lecture by Mme. DE TZIKOS ST. LEGER, on "The Vegetation of the Island of St. Leger in Lago Maggiore," will be read.

——— A series of drawings of Irises, made by Mr. F. H. ROUND for Mr. W. R. DYKES's new book on the Genus Iris, will be shown by the Cambridge University Press, together with copies of the volume.

HORTICULTURAL CLUB. — The next house dinner of the club will take place on Tuesday, December 3, at 6 p.m., at the Hotel Windsor, Victoria Street, Westminster, when Mr. ARTHUR SUTTON will give us a lecture entitled, "My Desert Camping Tour in Mount Sinai," illustrated by 100 limelight views from original photographs taken by the lecturer.

NATIONAL CHRYSANTHEMUM SOCIETY SHOWS, 1913. —The National Chrysanthemum Society will hold two exhibitions at the Crystal Palace in 1913, and the dates have been fixed for October 1 and 2 and November 5, 6 and 7 respectively. The secretary has given early intimation of the dates so that local Chrysanthemum shows may not clash with the National Society's fixtures.

NEW YORK FLOWER SHOW. —[illegible] tional Flower Show (the third of its kind in New York) is to be held in that city next April, from the 5th to the 12th inclusive, under the auspices of the Society of American Florists and Ornamental Horticulturists. The show is to be held in the new Grand Central Palace, Lexington Avenue. The American Rose Society will make awards of certificates and medals. The London address of the committee is 75, Chancery Lane, W.C., where applications for further information should be addressed to the secretary, Mr. A. STAINES MANDERS.

"THE BOTANICAL MAGAZINE."—The issue for November contains illustrations and descriptions of the following plants:—

ERIOPSIS HELENAE, tab. 8462.—This species was first described by Dr. KRANZLIN in *Gardeners' Chronicle*, August 14, 1897, p. 98. Plants were originally introduced by Messrs. SANDER & SON from Peru, and one was presented by Messrs. SANDER to the Royal Gardens, Kew, which flowered in June, 1909, and furnished the materials for the *Botanical Magazine* plate. The large inflorescence consists of numerous yellow flowers with brown margins; the labellum is white with purple spots.

MESEMBRYANTHEMUM PEARSONII, tab. 8463.—This new species was collected by Professor PEARSON during the "Percy Sladen" expedition to the Orange River. The species is closely allied to M. testiculare, but the leaves are much larger and the calix is exserted to about the level of the leaf tips. The flowers are a dull yellow colour and more or less striped with purple; the outer petals are entirely mauve-purple. The flowers remain closed during the day, so that the species is not likely to become a popular garden plant.

CORNUS CONTROVERSA, tab. 8464.—This species was formerly included under C. brachypoda. The plant is quite hardy in this country and forms an elegant, small, deciduous tree. It grows best in a good loamy soil, and needs abundant moisture to develop its full beauty. Although it may be increased by cuttings or layers, seeds give the best results.

IRIS CAROLINIANA, tab. 8465.—This beautiful Iris is a native of North Carolina, and was cultivated first in the Harvard Botanic Garden. Although its affinities are near to I. versicolor, it is quite distinct from a horticultural standpoint. The plant flowers freely on the rock garden at Kew in swampy ground. The flowers are lavender-purple, with darker veining, marked white on the sides, and yellowish in the centre.

COROKIA VIRGATA, tab. 8466.—The specimen from which the *Botanical Magazine* illustration was prepared was raised from a cutting sent by us to Kew, a shoot having been forwarded by a correspondent for identification. The plant is probably the same as the one Mr. CHEESEMAN describes as forming a twiggy bush some 6 or 12 feet high in the North Cape district. The leaves have a white tomentum beneath, but are green above. The inflorescences are terminal and axillary, and the flowers are produced on three-flowered racemes; the petals are yellow. It is probable that the plant will prove hardy in favoured districts in this country.

FLOWER COLOUR CHANGES IN FLAX.—In the course of a paper on the glucosides and enzymes of Flax, which was read by Dr. J. V. EYRE at the Dundee meeting of the British Association, the author stated that seed taken from a blue-flowered crop is said commonly to give rise, when grown in a different climate, to a crop of white-flowered plants. It is probable, however, as was pointed out by Professor BATESON in the discussion which followed Dr. EYRE's paper, that this change of colour is not to be attributed to variation, but rather to the fact that the seed of commercial Flax is not pure for colour character.

NEW HYBRIDS OF ANTHURIUM ANDREANUM.—The striking hybrids of Anthurium Andreanum and A. Scherzerianum raised by Herr BEYRODT form the subject of an article and coloured plate in *Die Gartenwelt* (November 16, 1912). The new hybrids are characterised by their massive single spadix, the white or rose-coloured spathe of which is about 7 inches wide by 10 inches long. As the plate indicates, these Beyrodtianum hybrids are remarkable productions, and though they differ from A. Scherzerianum in producing not 10 or more spadices, but one only, the magnitude of the single spadix more than compensates for its limited floration.

SULPHUR FOR CHRYSANTHEMUMS.—Growers of Chrysanthemums whose plants are apt to suffer from mildew or rust will read with interest the statement made by Mr. MÉKER in *La Revue des Chrysanthémistes* that the incorporation of flowers of sulphur with the compost in which the plants are grown is a sure preventive of disease. Mr. MÉKER recommends the use of sulphur in the proportion of 0.75 per cent., that is, three-quarters of a pound of sulphur to 100 lbs. of compost, and advises the use of sulphur not only in the flowering pots but also in the soil in which cuttings are struck.

BORDEAUX SPRAYING FOR PEACH CURL.—Peach leaf curl is one of the most ubiquitous diseases in this country, and there are few, if any, trees grown in the open that are free from the pest. Some gardeners, indeed, are so accustomed to the complete failure of the crop on trees growing in the garden that they accept the failure as a matter of course, and attribute it to the weather. There is no doubt that a certain amount of failure of Peach trees is due to the attack of the fungus Exoascus deformans, which gives rise to the malformation and discoloration of the leaves, the most obvious signs of infection. Nor is there any doubt that the disease may be kept within bounds, nor that the loss of fertility from this cause may be prevented. Diverse experiments have demonstrated that Bordeaux mixture is an effective agent in the prevention of the disease, or rather, in obviating its worst effects. The most recent trials of this fungicide are those carried out by Mr. C. B. WEEKS, Horticultural Commissioner of Tehema County, California, and published in the *Monthly Bulletin* of the State Commission of Horticulture, California. As the result of his experiments, Mr. WEEKS recommends two sprayings, one in the spring before the green of the leaf appears, and one in the autumn. In the autumn spraying, which may be done between the middle of November and the middle of December, the strength of the Bordeaux mixture may be 7—7—50, that is, 7 lbs. of copper sulphate and 7 lbs. of lime to 50 gallons of water. For the spring spraying, the mixture must be much weaker, as the bursting leaf is very readily injured. The strength at this period should be 2—2—50.

"THE TOWN BEAUTIFUL." — This was the title of a lecture delivered to the Gorgie Flower Society by Mr. J. N. MCHATTIE, the superintendent of the parks and gardens of the city of Edinburgh, on the 20th inst. The society was organised last spring to encourage gardening in the Gorgie district of Edinburgh, which is a very congested one, and it has met with gratifying success. Before exhibiting a series of lantern slides, Mr. MCHATTIE spoke upon the work being done in Edinburgh and other large cities. He thought that mistaken ideas in town-building had continued sufficiently long to have a marked effect upon the physique of the town dweller, and that the cure will be found in exposing our homes, factories, and workshops more perfectly to the influence of pure air. Modern civilisation demanded an assurance that the development of a city should be carried out on enlightened lines, and the public looked to the authorities to increase the beauty of the towns under their control. Those who will not apply new remedies, said Mr. MCHATTIE, must expect to suffer from new evils. If cities are to be beautiful they must be healthy. Health is bound up with individual happiness. In cities like London, Birmingham, Manchester, Edinburgh, and Glasgow, great improvements had taken place in recent years—all making for the improvement of the town and home. The better the people are educated the more beautiful will be the city they wish to live in. The first step the citizen has to take is to improve the aspect of his surroundings. In the series of lantern views, specially prepared for the lecture, Mr. MCHATTIE showed illustrations of many different kinds of window gardening and front-plot gardening as practised in the Gorgie district, the pictures of the prize plots evoking great applause from the audience, who immediately recognised them. In contrast with these, Mr. MCHATTIE showed snapshot pictures of a number of neglected front gardens. A series of very fine slides in colour of the Saughton Park and Princes Street gardens was also shown

Perpetual-flowering Carnation Society.—The winter exhibition of this Society will be held in the Royal Horticultural Hall on Tuesday and Wednesday, December 3 and 4. The non-competitive exhibits will be staged on the Tuesday in conjunction with the R.H.S. exhibition. The annual dinner of the Society will be held at the Holborn Restaurant on the evening of the first day, and will be followed by the annual meeting. On the second day a conference will be held in the Lecture Room of the Royal Horticultural Hall at 3.30 p.m. Mr. J. S. Brunton will preside, and Mr. J. Gardner, of Batsford Park Gardens, Gloucester, will read a paper on "The Culture of Perpetual-flowering Carnations." Mr. W. E. Wallace will open a discussion on the subject.

A Fruit Research Plantation.—The Governors of the South-Eastern Agricultural College, Wye, decided at a meeting held on November 11 to establish a fruit research plantation in the south-eastern district of England, and to administer the plantation with the aid of the grant of £500 which the Board of Agriculture has granted for the purpose.

Agricultural Year-Book.—The International Institute of Agriculture at Rome has just published in French its first International Year-Book of Agricultural Legislation (*Annuaire Internationale de Legislation Agricole,* 1911). which supplies particulars of the principal laws and regulations relating to agriculture throughout the world. The information is classified under the following subjects: (1) agricultural and trade statistics; (2) trade in agricultural products, fertilisers and live stock; (3) finance and Customs duties affecting agriculture; (4) plant production and trade; (5) animal production and trade; (6) agricultural education and institutions; (7) plant diseases, plants and animals injurious to agriculture; (8) agricultural co-operation, insurance and credit; (9) rural property, land colonisation at home; (10) capital and labour in relation to agriculture; (11) rural sanitation and rural administrative control. The full text is given of all fundamental laws, and of others when a summary is not considered sufficient. The volume may be obtained from the Board of Agriculture and Fisheries, 8, Whitehall Place, London, S.W. Price 8s. 4d., post free.

Viburnum coriaceum (see fig. 165, p. 371, November 16).—Respecting this little-known species, Mr. P. D. Williams, Lanarth, Cornwall, informs us that the leaves change from their characteristic grey-white colour whenever touched or slightly bruised. If the bruise is not severe the leaf regains its normal colour the following day.

Publications Received.—***Fruit Growing for Beginners,*** by F. W. Harvey. (London: Country Life, Ltd.) Price 1s.—***The Sweet Pea Notebook,*** by Walter P. Wright. (Walter P. Wright: The Grey House, Lyminge, Folkestone.)—***The Journal of the Royal Horticultural Society.*** (London: Royal Horticultural Society) Price to non-Fellows, 5s.

APPLE PADNALL SEEDLING.

This new culinary Apple (see fig. 179) was submitted by Mr. R. Roberts, Padnall Hall Gardens, Chadwell Heath, before the Fruit and Vegetable Committee of the Royal Horticultural Society on July 3 last, and a deputation was appointed to inspect the tree at Padnall Hall. The report was favourable, and an Award of Merit was granted at the meeting on August 27. The tree is a vigorous grower and it fruits abundantly. Shoots with clusters of large fruits were exhibited at the R.H.S. meeting. It is a greenish-yellow variety, with solid flesh, and of a useful size for culinary purposes.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Hybrid Nomenclature (see pp. 362 and 391).—Mr. R. A. Rolfe cites rules laid down by the earliest sub-committee on Orchid nomenclature of the Royal Horticultural Society, and, although in the main the recommendations have been acted upon at subsequent meetings, some changes have taken place. In the matter of using Latinised names for primary hybrids, the accepted rule is thus set forth in the rules of horticultural nomenclature passed by the International Congress at Brussels, 1910: "The specific name of a hybrid (hybrids between species) *may* be expressed in Latin or in any language that is written in Roman characters. Thus both forms—× Cypripedium nitens and × C. Minotaur—are correct." It will be seen that the choice of a name is optional, and the object of my article was to indicate that the fancy name was the only one which would not give trouble. In support of my remarks on p. 362, November 16, relative to what I consider the unwarranted change of well-established names for Latinised appellations in the *Orchid Stud Book,* I would like to point out that there is a fixed rule against such procedure, which has always existed, and which is set forth in the Brussels Conference rules as follows:—"No one has a right to alter a name or combination of names without weighty reasons founded upon a very thorough knowledge of the facts or upon the necessity of abandoning a nomenclature contrary to the rules." Again, at the end of the rules, Article xvi: "In any case where the rules of horticultural nomenclature would be actually contrary to practice permitted or tolerated at present, they would not have a retrospective action." So far as the first-named paragraph goes, there can be no question about the regularity of the names superseded in the *Orchid Stud Book.* Most of them were adopted by the Orchid Committee of the Royal Horticultural Society, many were awarded Certificates, described and figured in the various periodicals, recorded in the Society's *Journal*, and appear among the nearly 2,000 pictures of certificated Orchids, with the records duly filled in and signed by me as recorder. These names were in accordance with the rules, and had the authority of the Paris Nomenclature Conference. If it were competent for the authors of the *Orchid Stud Book* to proceed in the manner they have done, it would be equally excusable for any set of self-constituted authorities who cared to say that they objected to the old names and also to the names given in the *Orchid Stud Book*, to proceed with a fresh scheme and publish it, and so produce confusion indefinitely. But there is another phase of the question which should deter those who have a desire to give new names, and that is that, to many, the use of such names for sale purposes makes an old plant into a novelty. In that way purchasers at auctions, who do not know that the plants offered under new names (although not with the intention to deceive) are the same as those they have under their original names, may purchase what they do not want. It has been done frequently. The Royal Horticultural Society, in their classification of these horticultural products, must be taken as the highest authority in the world on the subject. The amount of time and care spent on the records of the Awards, the recording in the *Journal* of the Society, and by means of the records of the paintings, is known only to those who take part in the work. In that direction, Mr. J. Gurney Fowler, during the many years which he has been chairman of the Orchid Committee, has given a great amount of time and the closest attention to the minutest details. The work of recording by him is done from my report of the Awards after every meeting, and if there is a letter wrong it has to be put right, ready for the annual enumeration of the certificated plants of the year. Other points are frequently considered, but no change has been made in the names under which the plants were certificated and recorded. And now as to my objection to Latinised names. Such names are almost exclusively personal names, and the well-known rule is that, even for species, a Latinised personal name should not be given unless it be the

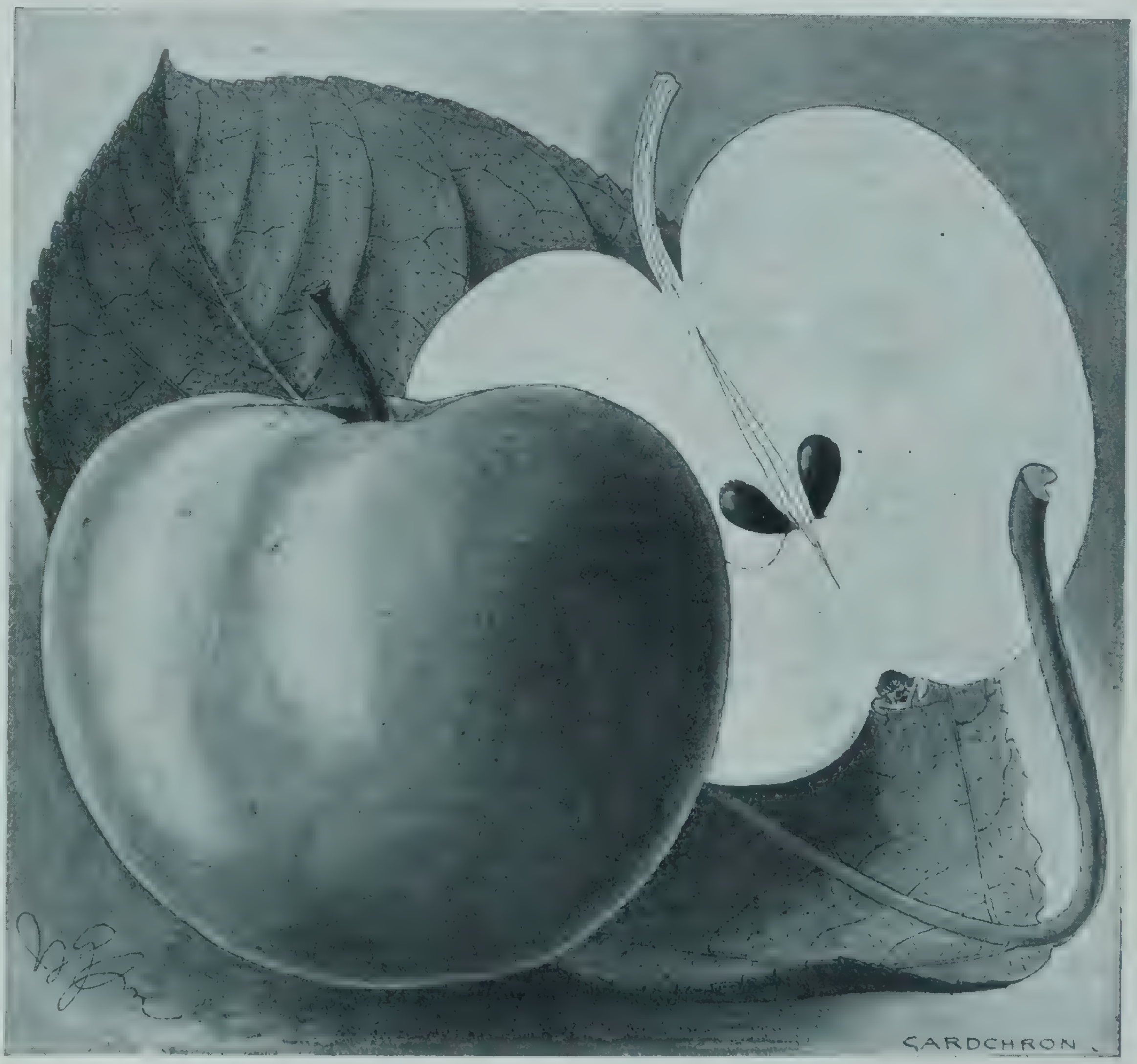


Fig. 179.—Apple Padnall Seedling (reduced).
(R.H.S. Award of Merit on August 27.)

name of the discoverer, introducer, or other person closely connected with its introduction or history. With hybrids we can substitute raiser, &c., and the rules justify the use of Latinised personal names of that kind. But the greater part of such names are complimentary, the persons indicated never having seen the plant. In such cases the better way would be to give the persons name in full—Cattleya John Jones, not Cattleya Jonesii. One reason why fancy names are almost positively necessary is that the indications of hybridity, always prescribed in rules where Latinised names are allowed for primary hybrids, are not generally used, and only experts, even when reading current literature, know which are hybrids and which species; whereas, if the hybrids were named "Neptune," "Minerva," or similar names, they tell their own history. Orchid hybridisation is yet in its infancy. It has a great future in which it can help both science and horticulture, as well as give great pleasure to its devotees. But the thorn in the Rose will always be in evidence unless a simple plan of naming is adopted over which there can be no dispute. *James O'Brien.*

CAMPANULA × PROFUSION.—We are greatly indebted to Mr. Jenkins for his information regarding the parentage of Campanula × Profusion. This is a decidedly attractive Campanula, but I was unaware that Mr. Jenkins recognises that there are two varieties of C. Profusion in cultivation until I read his note. The variety I am best acquainted with is the self-coloured one. There is a remarkable resemblance—one may say similarity—between this and the hybrid Campanula we have known for years as C. haylodgensis, raised, I believe, by the late Mr. Anderson Henry, but which is becoming very scarce. It has the yellowish foliage and the flowers and habit of Profusion, which it resembles so much that most cultivators consider them "too much alike." Mr. Anderson Henry did not seem to be very careful in his parentage records, and it was usually considered that his hybrid was raised from C. pusilla and C. carpathica, or C. garganica and C. carpathica. Now that we have Mr. Jenkins's statement, it seems probable that C. isophylla and C. pyramidalis may have been the parents of Mr. Anderson Henry's hybrid also. C. haylodgensis does not appear to live long in many northern gardens, and this would bear out the suggestion that C. isophylla may have been one of the parents. *S. Arnott.*

AGAVE LEOPOLDII: A PROTEST!—About 30 years ago the late Dr. Killock, who grew a collection of succulent plants in his garden at Stamford Hill, N., raised a hybrid between Agave filifera and a form of A. schidigera which he called princeps. As the seedlings thus obtained differed somewhat from each other, he divided them into two groups, naming them Leopold and Leopold II. I saw the plants in Dr. Killock's garden, and they varied in length and width of leaf and in the length and curliness of the white marginal filaments. They were in time distributed, Kew getting a share, and when Dr. Killock died in 1903, his son presented to Kew a number of fine specimen succulents, among them being several of the hybrid Agave. There does not appear to be any reason for doubting the record of the origin of these plants. In August, 1893, a First-class Certificate was awarded to A. Leopold II by the Royal Horticultural Society, in whose *Journal* it is described as "a cross between A. schidigera princeps and A. filifera. It has long, narrow, sharply-pointed, dull-green leaves, from the edges of which come white, curly, hair-like filaments. The growth of the plant is compact and handsome." If A. filifera and A. schidigera are distinct species, then A. Leopoldii is a true hybrid; if they are nothing more than forms of one species, it is what is termed a cross. Baker, in his *Handbook of Amaryllideæ,* does not describe A. schidigera, merely stating that it has the "habit of A. filifera, from which it differs by the white, marginal filæ being flattened, not subulate." A. filifera is known to be variable, and it might even include A. schidigera. I find the name of A. Leopoldii in a printed list of succulent plants grown by J. T. Peacock, dated 1878, and, of course, the name is now well established in gardens. In October last year a plant of A. Leopoldii flowered in the Kew collection, and a drawing of it was made which has lately been published in the *Botanical Magazine* (t. 8,451), not, however, as A. Leopoldii, but as A. disceptata. The change of name is there excused on the ground that the characters of the plant "negative the suggestion that it is a hybrid between any two of the Littæas (section of Agave) known to have been in cultivation in any part of Europe. On the contrary, these characters clearly point to its being a perfectly valid species, and, although as to this there is not the same certainty, its characters suggest that it is probably a native of Central America." I am forced to disagree with this statement. There are evidences that A. Leopoldii is very closely related to both A. filifera and A. schidigera; indeed, it might well pass for a seedling form of either, and as the Littæa section of Agave is either Mexican or Arizonian, there does not appear to be any support for the suggestion that A. Leopoldii is a true species probably from Central America. Be that as it may, even if one admits that Dr. Killock was mistaken as to the origin of the plants he named A. Leopold and A. Leopold II (afterwards altered to A. Leopoldii) it does not justify the substitution of an entirely different name. The name he gave should be allowed to stand. It is bad enough when we are forced by recognised botanical custom to alter the names of garden plants, but in this case there is no need. *W. W.*

ADULTERATED GRAPES. — The practice of spraying or spreading powder on Grapes to imitate bloom, referred to on p. 373, is by no means new, and was formerly practised by exhibitors. Loudon's *Gardener's Magazine,* vol. iii, contains an article by Mr. Robert Gauen, gardener at Millbrook, near Southampton, on "The Art of Ornamenting, Showing, Preserving, and Packing Cucumbers, Grapes, Plums, and other Fruits, whose Principal Beauty consists in their Delicate Bloom." This is an abridgement of a manuscript by Mr. Gauen, and it describes the process of supplying the bloom by means of fine magnesia powder. There is an illustration of the box used for the application of the powder. In another volume a different method of applying a powder for improving the bloom of Grapes for exhibition is also given, together with a contrivance for applying the same. Gauen's article was written in July, 1827. In an editorial note it is stated that "we are glad of the above communication because it supplies what we have long been desirous of laying before our readers. All the information that we were able to gain among the London fruit shops was that yellow Grapes sometimes had their bloom restored by being fumigated with sulphur; and that some fruiterers of little repute were in the habit of dusting them with the powder of the common blue used by laundresses." Gauen's article is interesting, and not the least so is the part relating to the addition of prickles to Cucumbers. *A.*

LATE PEAS.—I am sending you a few pods of Peas from a peck or more gathered to-day. The variety is Gladstone. Our gardens face south-west. *W. H. Masters, Brynderwin Gardens, Hindhead, Surrey, November 23.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

NOVEMBER 19.—*Present:* Mr. E. A. Bowles, M.A. (in the Chair); Dr. A. B. Rendle, Prof. W. Bateson, Messrs. E. M. Holmes, A. Worsley, G. Wilson, R. H. Curtis, A. W. Sutton, W. E. Ledger, W. Hales, W. Fawcett, and F. J. Chittenden (hon. sec.).

Variation in Nephrolepis.—Mr. W. MARSHALL, V.M.H., sent a plant of Nephrolepis exaltata var. todeaoides which, after once repotting, had been allowed to grow as it liked. It had given rise to fronds exactly similar to those of the type of N. exaltata and also to numerous other forms, including todeaoides, some with more, some with less, frequently divided pinnules than that plant. The case of this Fern is a very curious one, paralleled, however, by certain other garden plants. The type was introduced from the tropics about 1793, and gained the reputation of being the most useful of its genus. A few varieties were recognised during the nineteenth century, but it was not until after the beginning of the twentieth century that many made their appearance, and since then they have come thick and fast. The first of them apparently came from America, but others have appeared in England since. The striking exhibit of Messrs. MAY & SON in the Science and Education Section at the Royal International Exhibition showed the origin and course of variation in the plants of this genus in a remarkable manner.

The Glastonbury Thorn.—Mr. W. E. LEDGER showed flowers of the well-known Glastonbury Thorn from his garden at Wimbledon. This variety (Cratægus Oxyacantha var. præcox) apparently flowers on short shoots, which have no definite resting period as in the normal form of the species, where spurs producing flowers in alternate years are the rule, with a definite winter rest. The Committee could call to mind no analogous cases among Apples or Pears, and would be glad to learn of any that may be known.

Drosophyllum lusitanicum.—Mrs. BERGHEIM, of Belsize Park, sent plants of this interesting carnivorous plant. The genus is allied to Drosera, but the foliage is erect in habit, and the glandular tentacles are on the lower (exposed) surface of the leaves instead of the upper, as in Drosera.

Mistleto on Pear.—Sir HARRY VEITCH, V.M.H., sent two branches of Pear in which Mistleto had been sown, to illustrate the difficulty experienced in getting the parasite to establish itself on that tree. In both cases the seed had germinated, but the branches had died, and they were typical of all the infections tried.

Oncidioda × "Marjorie."—Messrs. CHARLESWORTH & Co. sent a plant resulting from a cross between Cochlioda Noezliana and Oncidium Forbesii. Several crosses between members of these genera have now flowered, and Messrs. CHARLESWORTH were awarded a Certificate of Appreciation in 1910 in recognition of their work in demonstrating the possibility of uniting these genera, which, although sufficiently distinct morphologically, are evidently closely allied physiologically.

Ivy leaves diseased.—Mr. E. A. BOWLES showed foliage of Ivy from Waltham Cross having numerous pale brown spots with a purplish margin.

LINNEAN.

NOVEMBER 7.—Professor E. B. Poulton, F.R.S., President, in the Chair.

The first paper was by Dr. R. R. Gates, "On Mutating Œnotheras," which was communicated by Professor J. B. Farmer, F.R.S. The following facts and views regarding mutation as an evolutionary factor were referred to:—

1. Œnothera Lamarckiana has probably undergone crossing in the wild state to the same extent that other open pollinated species intercross.

2. The mutation phenomena are an evidence of germinal instability resulting from crossing, change of climate, or cultivation.

3. Hybrid splitting is inadequate to account for the forms which suddenly appear.

4. Some of the mutants differ from the parent in their physiological adjustments, and this may account for cases of "climatic adaptation," but mutations will not suffice to explain the more complex adaptations which involve inter-relationships between several organisms.

5. Œ. rubricalyx has originated as a heterozygous mutant, but there are obvious difficulties in applying the same explanation to the other mutants of Œnothera.

6. The origin of certain of the mutations, at least (e.g., Œ. lata and Œ. gigas), is intimately concerned with chromosome mechanisms; that of certain others may be concerned with the action of releasing stimuli.

7. Darwinian natural selection always assumed an original environmental change for the organism, either (*a*) a change of climate in a given area, or (*b*) the introduction of new organisms, leading to the gradual modification of the species.

8. But neither chance-wise mutations in all directions, nor the vicissitudes of changing climates and distributions can account for the orderly phylogenies which larger groups of organisms frequently show.

9. There is no single evolutionary factor, but the process is a multifarious one.

The last paper was by Mr. Henry N. Ridley, F.R.S., on a collection of plants from Mount Menuang Gasing, Selangor.

In February, 1912, Mr. C. B. Kloss made an expedition to Mount Menuang Gasing, in Selangor, to collect the fauna and flora of this mountain. In this paper is an account of the expedition and of the plants collected by him in four or five days spent at an altitude of 4,900 feet there.

Menuang Gasing is the most southern high point of the great chain of the granite mountains which form the backbone of the peninsula, and the object of the expedition was to discover whether the high mountain fauna and flora descended as far south as this point. The mountain is 4,900 feet high, and though there are other hills a little to the south of this, it is the highest and most likely to bear the high hill flora. The fauna was found to belong to that of high northern ranges, and the flora shows clearly that it corresponds. Among the characteristic plants found were the Golden Balsam (Impatiens oncidioides, Ridl., Bucklandia populnea, R. Br.), the rare Polyosma parviflora, King, Pratia begonifolia, Lindl., Dilochia Cantleyi, Ridl., and Goodyera gracilis, Hook. fil.

The only mountain south of this one of approximate altitude is Mount Ophir in Malacca; the flora of this is well known, and is very different from that of the main range. Indeed, there is every evidence that Mount Ophir was never connected with the main chain, at least during the period of the evolution of the flora.

One hundred and forty-three species were collected by Mr. Kloss, of which 14 were undescribed : of these the most noteworthy were what is probably the biggest species of the large genus Oberonia, a remarkable species of Blastus, and a new species of Balanophora.

ULSTER HORTICULTURAL.

November 12, 13.—This society's autumn exhibition was held in St. George's Market, Belfast, on these dates. The displays of stove and greenhouse plants were not quite up to the average. Amateurs showed well, especially Mr. Frank Workman and Mr. Charles Duffin.

In the class for a group of Chrysanthemums and foliage plants, 16 feet by 10 feet, Charles Duffin, Esq., Danesfort (gr. Mr. James M'Cormick), was awarded the 1st prize; this exhibitor was also successful for four Crotons, dissimilar.

J. Bradley, Esq., Knock (gr. Mr. Wm. Vance), excelled for a group of single Chrysanthemums and foliage plants, the 2nd prize being awarded to Mrs. Forster Green, Derryvolgie (gr. Mr. A. Smiley).

For a group of stove and greenhouse or forced plants, arranged for effect, Frank Workman, Esq., The Moat (gr. Mr. T. Culbert), secured the premier award. Mr. Workman also excelled in the classes for (1) two Palms or Cycads, and (2) six Crotons, dissimilar.

For six plants, dissimilar, suitable for table decoration, in pots not exceeding 6 inches in diameter, C. W. Dunbar-Buller, Esq., Dunaghadee (gr. Mr. E. Rutherford), was placed 1st.

In the classes for Begonias of the Gloire de Lorraine type, G. Preston, Esq., Antrim Road (gr. Mr. James M'Bride), was successful.

Cut Flowers.

John Jameson, Esq., St. Marnock's (gr. Mr. J. M'Kellar), won many 1st prizes in this section, being successful for (1) 15 vases of Japanese blooms, (2) one vase of Chrysanthemums, (3) 48 Japanese blooms, and in the special colour classes for five blooms each.

For 10 vases of Japanese blooms the 1st prize was awarded to the Countess of Caledon; 2nd, C. Duffin, Esq., who secured the 1st award for one vase of single blooms arranged for effect.

Colonel R. H. Sharman-Crawford, Crawfordsburn (gr. Mr. J. Whytock), proved a successful competitor, winning in the classes for (1) 20 vases of single blooms, (2) one vase of single blooms (any white variety), (3) a similar class for a pink variety; and H. Brown, Esq., won the 1st prize for 10 vases of single varieties.

Fruit and Vegetables.

The exhibits in this section were very good, and the tables of dessert fruit of much interest. Vegetables were well displayed, excellent roots being staged in the farmers' classes, in which W. H. M'Laughlin, Esq., Macedon (gr. Mr. I. Smith), was placed 1st. This exhibitor was also successful for six bunches of Grapes.

For a table of 24 dishes of Apples Mrs. Wm. Coffey excelled.

The 1st prize for 12 dishes of Apples was awarded to the Rt. Hon. Earl of Bessborough, Kilkenny (gr. Mr. T. E. Tomlin).

The Duke of Portland, Welbeck Abbey (gr. Mr. W. Gibson), secured the 1st prize in the class for a collection of 12 kinds of vegetables, and was successful also in the classes for six Onions, six Parsnips, and six Beet.

H. Brown, Esq., Rathmoyle (gr. Mr. J. Taylor), showed the best collection of vegetables of six kinds.

FINCHLEY CHRYSANTHEMUM.

November 13.—The 27th annual exhibition was held on this date in the King Edward Hall.

The principal prize, a Silver Challenge Bowl, presented by the society, and the sum of £2, given by the President (J. J. Ward, Esq.), was won by Miss Wyburn, Hadley Manor (gr. Mr. A. Jones). Competitors were called upon to display four vases of specimen Japanese blooms, distinct, each vase containing five blooms of one variety. Mr. Jones showed F. S. Vallis, F. Chandler, Lady Ryder, and Master Jones, and obtained 17 points. Full points were awarded for F. S. Vallis. Mr. C. H. Gosling was placed 2nd with 15½ points. His vase of A. T. Miller was particularly fine.

Special interest was taken in a new class, in which the President offered a silver rose bowl for the most prettily-arranged floral table decoration of Chrysanthemums with Fern foliage, or any variety of Asparagus. The 1st prize was won by Mrs. R. Grace, jun., whose arrangement was exceedingly artistic.

A striking array of single Chrysanthemums was displayed by W. H. West, who won the five-guinea challenge shield presented by Mr. T. A. Williams.

The show of fruit and vegetables was quite up to the high standard of recent years, Mr. J. Turk won the 1st prize for a collection of vegetables of six distinct kinds.

MANCHESTER CHRYSANTHEMUM.

November 12, 13, 14.—The Royal Horticultural and Botanical Society of Manchester held an autumn exhibition on these dates, and the result was very gratifying.

In the class for nine large-flowering Chrysanthemums L. Breaslauer, Esq. (gr. Mr. J. Sidall), was awarded the 1st prize with medium-sized, well-flowered plants. The same exhibitor was successful for six Japanese blooms.

For six pots of Roman Hyacinths Mr. S. D. Petrocochino was placed 1st; 2nd, Mr. A. R. Jones.

His Honour Judge Bradbury (gr. Mr. W. Bramwell) excelled in the class for eight Chinese Primulas.

The best collection of Orchids shown by an amateur was the exhibit of W. R. Lea, Esq. 2nd, Col. Rutherford.

The chief class for Chrysanthemum blooms was that for 48 specimens, 24 Japanese and 24 Incurved varieties, distinct. There were only two competitors. Pantia Ralli, Esq. (gr. Mr. G. Hunt), staged the winning exhibit, his varieties including :—*(Japanese)* His Majesty, W. Mease, Marie Looms, William Turner, Willie Rawlings, President Viger, Glaucus, and Superb. *(Incurved)* H. Hearn, Amber Beauty, Mrs. R. Judson, and Boccace. 2nd, Sir Gilbert Greenall, Warrington (gr. Mr. C. Goves).

The 1st prize for 24 Incurved blooms in not fewer than 12 varieties was won by Mr. G. Hunt, and he was successful in the class for 12 blooms.

For 36 Japanese blooms in not fewer than 18 varieties Mr. C. Jones, Abergele, secured the premier award, and Lord Sheffield (gr. Mr. W. E. Wright) was the winner for 18 blooms.

In the class for 12 blooms Mr. Wright was also successful.

For 36 miscellaneous blooms Mr. J. Stoney was placed 1st with an assortment of Japanese Incurved and reflexed varieties.

The best exhibit of cut blooms in the nurserymen's class was shown by Mr. W. J. Garner.

In the local classes Mr. C. Goves was 1st for 12 Japanese and for 12 Incurved varieties respectively.

Non-competitive Exhibits.

Gold Medals were awarded to Messrs. J. Cypher & Co., Cheltenham, for a group of flowering and foliage plants, including Orchids. Messrs. Charlesworth & Co., for Orchids, including many choice types of Cattleyas and Odontoglossums. Mr. W. R. Lea, whose collection included fine Cattleyas and Cypripediums. Messrs. Dickson, Brown & Tait for an imposing display of Apples and Pears. Messrs. Clibrans, Altrincham, for winter-flowering Begonias.

Silver-gilt Medal to Col. Rutherford for a collection of Orchids.

Silver Medals to Miss Annie Wood and Mr. A. Warburton for collections of Orchids.

WINCHESTER CHRYSANTHEMUM.

November 13, 14.—This annual exhibition was held on these dates in the Guildhall, Winchester. The exhibits were not so numerous as usual, but those staged were of good quality.

In the class for a group of Chrysanthemums arranged in a space of 8 feet by 7 feet, there were three competitors; Lady Blaine, Barton Mark, Winchester, was placed 1st; 2nd, the Rev. A. G. Bather, Sunnyside, Compton Road, Winchester.

In the class for nine plants, in not fewer than six varieties, each plant to carry not fewer than five blooms, J. A. Fort, Esq., The College, Winchester (gr. Mr. G. Cousens), had the best of four entries, employing such varieties as F. S. Vallis, Lady Talbot, and W. Mease. 2nd, Captain Clayton Mitchell, R.N., West Highlands, Winchester (gr. Mr. C. White).

Mr. Fort was also successful in the class for nine white or yellow-flowered varieties. The 2nd prize was awarded to Mrs. Moorsom, Holyrood, Winchester (gr. Mr. H. Gigg).

Lady Blaine secured the 1st award for single-flowered varieties.

Miscellaneous plants arranged for effect were best contributed by Captain R. J. Arbuthnot, St. Phillip's, Winchester. 2nd, H. Trunmer, Esq., Hockley House, Twyford (gr. Mr. E. Hart).

The best exhibit of two dozen Japanese blooms was shown by E. J. Thal, Esq., Frensham Place, Farnham (gr. Mr. C. Moore). He had fresh, richly-coloured specimens of such varieties as Mrs. Gilbert Drabble, Lady Talbot, Hon. Mrs. Lopes, and W. Turner. 2nd, Matthew Hodgson, Esq., Moreton House, Winchester (gr. Mr. A. J. Marsh).

Incurved varieties were more conspicuous for quality than for numbers. The finer of two exhibits in the class for 20 blooms, in not fewer than 18 varieties, was shown by M. Hodgson, Esq. Pantia Ralli, Mrs. B. Hankey, W. Pascoe, C. H. Curtis, and W. Pascoe were the more noticeable varieties. 2nd, J. E. Thal, Esq. The last-named exhibitor won the leading award for 12 blooms.

There were six entries in the class for a vase filled with Chrysanthemums arranged with natural foliage for effect. J. Liddell, Esq., Sherfield Manor, Basingstoke (gr. Mr. R. Learmouth), was awarded the 1st prize.

The best six single-flowered varieties grown naturally were contributed by the Right Hon. the Earl of Northbrook, Stratton Park, Micheldever (gr. Mr. Henderson), who showed Mensa, Leo, Mrs. Chamberlain, Sylvia Slade, and Old Gold. The 2nd best exhibit was shown by W. H. Myers, Esq., Swanmore Park, Bishop's Waltham (gr. Mr. G. Ellwood).

For decorative varieties, Mr. A. E. Taylor, Winchester, was again the 1st prize-winner, as he has been for many years past. Mrs. Buckbee, Source d'Or and Phœbus were prominent varieties. W. H. Myers, Esq., secured the 2nd award.

In the Carnation classes the best six blooms, each of three varieties, were shown by Donald Niccol, Esq., Burntwood, Winchester (gr. Mr. W. Last), with Carola and Enchantress as his best varieties.

Fruit formed an interesting part of the show. ELLEN Lady SWAYTHLING contributed the best black Grapes (Lady Downes), also the best white bunches in Muscat of Alexandria. Mr. MYERS won the 1st prize for dessert Apples; whilst Lady SWAYTHLING showed the best kitchen varieties. J. LIDDELL, Esq., exhibited the finest Pears in four varieties.

W. H. MYERS, Esq., won the premier prizes for vegetables in Messrs. Sutton & Sons' and Messrs. Toogood's classes.

TRADE EXHIBITS.—Messrs. E. HILLIER & SONS, Winchester, had an excellent display of highly-coloured Apples, Pears, Carnations, Palms, and Begonias.

Messrs. JEFFERY, Winchester, showed Ericas, Pernettyas, Carnations in pots, and shrubs.

Messrs. B. LADHAMS & Co., Shirley, Southampton, staged rock plants in variety.

Messrs. TOOGOOD & SONS, Southampton, put up a fine exhibit of vegetables.

W. H. MYERS, Esq., filled a table with Apples of exceptional colour, arranged with foliage.

BOTANICAL SOCIETY OF EDINBURGH.

NOVEMBER 14.—The first meeting of the Botanical Society of Edinburgh for the session 1912-13 was held on the above date at 5, St. Andrew Square. Dr. A. W. Borthwick, the retiring president, occupied the chair. Sir Archibald Buchan-Hepburn was elected president for the ensuing session. Mr. W. W. Smith was appointed honorary secretary.

The following communications were read:—Mr. E. Holmes Smith, B.Sc., gave a preliminary note on the occurrence of mucilage on the roots of Melastomaceæ; Mr. R. C. Davie, M.A., B.Sc., described the microscopic structure of the leaves of certain Australian Banksias; Dr. Malcolm Wilson gave a preliminary account of a disease in Plums caused by a Cladosporium. A paper explaining the structure of the embryo of Laguncularia racemosa, a Combretaceous Mangrove plant, was read on behalf of Professor Bayley Balfour.

Among the exhibits shown to the members was a series of interesting casuals collected in the neighbourhood of Edinburgh by Mr. James Fraser.

The following plants, new or uncommon, in cultivation were shown from the Royal Botanic Garden, Edinburgh:—

Arenaria picta, Sibth. et Sm., from Asia Minor and Syria.—A pink-flowered species, resembling Tunica Saxifraga.

Cyananthus Forrestii, Diels, a new species from Yunnan.—A small-flowered species with pale lavender flowers and graceful habit.

Erodium Stephanianum, Willd., Eastern China.—A plant of the shores with dark purple flowers.

Gentiana gentilis, Franch., from Yunnan.—An annual free-flowering Gentian with purple-blue flowers.

Lobelia taliensis, Diels, a new species from Yunnan.—Small growing with purple-blue flowers.

Primula pseudocapitata, Ward.—A new undescribed species from Yunnan with rotate capitula, resembling P. capitata, but much smaller.

Psilostrophe Tagetinæ, Kuntze.—A beautiful yellow-flowered Composite from the Southern United States.

Saxifraga turfosa, Eng. and Irmscher.—A new yellow-flowered species from Yunnan allied to S. diversifolia and S. parnassifolia, but distinguished by its long stolons.

Saxifraga sp.—A new Yunnan species with yellow flowers, allied to S. cinerascens, Franch.

Selago spuria, Linn.—A free-flowering, white-flowered species from South Africa.

Stylidium articulatum, R.Br., Australia.—One of the riband-leaved rosette forms of the genus.

Swertia angustifolia, Ham.—A delightful pale lavender-flowered species with spotted petals from the Himalaya.

There were also exhibited specimens of the Tulip disease (Sclerotinia parasitica) and some new Chinese Compositæ collected by Mr. G. Forrest in Yunnan, including the following interesting forms, which it is hoped will soon be in cultivation:—Anaphalis chlamydophylla, Diels; Cremanthodium Forrestii, J. F. Jeffrey; C. nobile, Franch; C. rhodocephalum, Diels; Pertya phylicoides, J. F. Jeffrey; and Saussurea leucoma, Diels.

CHELTENHAM ROOT, FRUIT AND CHRYSANTHEMUM.

NOVEMBER 13, 14.—The 42nd annual show of the above society was held in the Town Hall, Cheltenham, on these dates, and was in all respects an admirable exhibition. Chrysanthemums were superb. The specimen plants were better than for some years past, and the specimen blooms, though less numerous, were of excellent quality. Primulas, Begonias, Cyclamen, Carnations, Salvias, and Violets were shown to perfection. Fruit all round was of good quality, and the classes well filled.

The most attractive feature of the floral section was undoubtedly the collection of Japanese Chrysanthemums shown in six distinct varieties and staged at the entrance to the hall. Mr. G. J. MAYO was successful in winning for the first time the new cup offered by the Mayor and Corporation, having won a similar cup outright. The varieties shown by Mr MAYO were Swanley Giant, Leon Truelli, Rose Ellis, Chelsonia, Mme. Alberta Bertland, and Splendour. The prizes for three distinct varieties were secured by Lady DICK-CUNYNGHAME (1st), Mrs. ST. CLAIR FORD (2nd), and Mr. G. J. MAYO (3rd). Very handsome groups of Chrysanthemums were shown by Mr. MAYO and Mr. G. W. RESTALL, who were placed 1st and 2nd respectively. In the class for six varieties suitable for house or table decoration, Mr. HUGH ANDREWS, of Toddington Manor, was placed 1st, and Messrs. BARRETT & SONS, 2nd. The 1st prize for a collection of Japanese Chrysanthemums and foliage plants was won by Mr. HUGH ANDREWS; 2nd, Mr. E. ADLARD.

In the classes for cut blooms of Japanese varieties, Mr. HUGH ANDREWS, Mr. E. ADLARD, Mrs. ROBINSON, Mr. W. J. GRESSON, and Messrs. J. BARRETT were the prize-winners.

In the open classes for plants, the principal prize-winners were Mr. W. J. GRESSON, Mr. J. HORLICK, Mr. HUGH ANDREWS (for Carnations); Mr. A. DRAKE, Mr. J. HORLICK, Mrs. RATCLIFFE (for Cyclamens); Mrs. RATCLIFFE, Mr. A. DRAKE, Col. FAIRFAX RHODES (for Begonias); Mr. J. PLAYER, Mr. H. O. LORD, Col. FAIRFAX RHODES (for Salvias); Mr. H. ANDREWS, Col. FAIRFAX RHODES, Mr. C. M. FLETCHER (for Primulas); Mr. H. O. LORD, Mr. H. J. TILLEY, and Mrs. ROBINSON (for Violets).

In the fruit classes the chief awards went to Sir PERCY CUNYNGHAME, Messrs. W. J. GRESSON, W. S. R. COX, J. BOTT, G. W. RESTALL, HENRY NEWMAN, F. TAYLOR, J. PLAYER, W. GORDON CANNING, W. J. SPENCER, J. HITCH & SONS, C. M. FLETCHER, H. O. LORD, H. J. TILLEY, HUGH ANDREWS, Col. FAIRFAX RHODES, Mrs. AUBREY, Mrs. RATCLIFFE and Mrs. H. GRAVES.

LIVERPOOL CHRYSANTHEMUM.

NOVEMBER 13, 14.—The annual autumn exhibition of this association was held in the Corn Exchange. Although the available space has been slightly decreased, the Exchange is yet a desirable place of exhibition, and is well lighted. The show was well up to the average of the 32 that have preceded it, and the room was furnished with bright and effective exhibits.

For 36 blooms, 18 Japanese and 18 Incurveds, in not fewer than 12 varieties in each section, there were three competitors. The 1st prize was won by Sir GILBERT GREENALL, Bart., Warrington (gr. Mr. C. Goves), his best flowers being *(Japanese)* William Turner (which secured the N.C.S. certificate as the best Japanese bloom in the exhibition), F. S. Vallis, Frances Jolliffe, Président Viger, Lady Talbot and Hon. Mrs. Lopes; *(Incurved)* G. F. Evans, Mrs. G. Denyer, Marjorie Shields and Romance. 2nd, Sir W. H. TATE, Bart., Woolton (gr. Mr. G. Haigh). His example of Buttercup secured the N.C.S. certificate offered for the best Incurved bloom in the show.

The 1st prize for 18 Incurved blooms in not fewer than 12 varieties was awarded to THOMAS HENSHAW, Esq., West Derby (gr. Mr. J. George); 2nd, A. COOR, Esq., Aigburth (gr. Mr. C. Osborne).

In the class for 12 blooms, Mrs. CLARKE, Allerton (gr. Mr. J. Clark), was the 1st prize winner.

The best 18 Japanese blooms, in not fewer than 12 varieties, were shown by Mr. C. GOVES.

In the class for 12 blooms, J. STONE, Esq., Roby (gr. Mr. D. McKelvie), was placed in the 1st position.

The class for six vases of singles, nine blooms in each vase, brought a charming display, in which Mr. LOO THOMPSON, an amateur, secured the premier award. This exhibit was a pretty feature of the show.

FRUIT.

In the class for a collection of six dishes, F. BIBBY, Esq., Shrewsbury (gr. Mr. J. Taylor), was the 1st prize winner; 2nd, Mr. H. OSBORNE.

The 1st prize for four bunches of Grapes was won by EDMUND LORD, Esq., Rawtenstall (gr. Mr. J. Wright), with bunches of Black Alicante and Muscat of Alexandria.

Black Alicante was best shown in the separate class by W. H. FERNIE, Esq., Thornton Hough (gr. Mr. W. Piper), whilst for any other black variety, Mr. E. R. FINCH was successful.

For two bunches of Muscat of Alexandria, Mr. W. WILSON excelled.

NON-COMPETITIVE EXHIBITS.

Gold Medals were awarded to R. LE DOUX, Esq., West Derby (gr. Mr. J. W. Fletcher), for a collection of Cypripediums; Messrs. R. P. KER & SONS, Liverpool, for Cyclamens backed with Crotons and Palms; Messrs. MANSELL & HATCHER, Rawdon, for Orchids; Messrs. FISHLOCK BROS. for cut blooms in great variety; Messrs. STUART LOW & Co. for Orchids and Carnations.

Silver Medals to the LIVERPOOL ORCHID Co. for Orchids; Mr. W. ROWLANDS for Begonias; Mr. C. A. YOUNG for Carnations; Mr. NORMAN DAVIS for Chrysanthemums; and Mr. H. MIDDLEHURST for Potatos.

BLACKBURN CHRYSANTHEMUM.

NOVEMBER 15, 16.—The annual show of this society was held in the Town Hall, Blackburn, on these dates. The exhibits were more numerous than usual, and overflowed into an adjoining room.

In the class for a group of large-flowering Chrysanthemums two exhibits were staged, both being well arranged. Mr. H. BRADBURN was placed 1st; 2nd, T. MITCHELL ECCLES, Esq. (gr. Mr. J. Pimplott). The 1st prize for a group of single Chrysanthemums was awarded to Mr. PIMPLOTT; 2nd, J. THOMPSON, Esq. (gr. Mr. C. Samways).

For a group of miscellaneous plants Mr. H. TINDWALL, secured the chief award. The 2nd and 3rd awards were won by H. SHUTT, Esq. (gr. Mr. J. Bartlett), and Mr. C. SAMWAYS respectively.

The best group of Orchids staged on a table 8 feet by 4 feet, was shown by Col. J. RUTHERFORD, M.P. (gr. Mr. J. Lupton). For a table of Cypripediums, WILLIAM THORN, Esq. (gr. Mr. A. E. Strafford), was successful with a collection of much merit, artistically arranged with light foliage; 2nd, ALFRED NUTTALL, Esq. (gr. Mr. T. Cass).

There were three entries in the class for a table of Begonias, H. SHUTT, Esq., being awarded the 1st prize.

CUT BLOOMS.—In the class for 24 Incurved Chrysanthemums, not fewer than 18 varieties, A. E. TROOP, Esq. (gr. Mr. R. H. Jones), was placed 1st; his best flowers were Buttercup, Romance and W. H. Thorpe; 2nd, Mr. H. BOYD. Messrs. H. BRADBURN, J. W. WELLS, and R. H. JONES were successful in this order for 12 varieties.

For 24 Japanese blooms, in not fewer than 18 varieties, Capt. FIELDEN, Witton (gr. Mr. H. Boyd), won the 1st prize, the leading blooms shown being Countess of Granard, Hon. Mrs. Lopes, White Queen and Mrs. A. T. Miller; 2nd, Mr. H. BRADBURN; for 12 blooms Messrs. BOYD and PIMPLOTT were placed 1st and 2nd respectively, whilst for three vases Mr. JOHN THOMPSON was successful.

FRUIT AND VEGETABLES.—Exhibits in this section were not very extensive. EDMUND LORD, Esq. (gr. Mr. J. Wright), secured three 1st prizes for Grapes, having the best Black Alicante and Muscat of Alexandria.

Mr. J. BARKER was awarded the 1st prize for a collection of vegetables; 2nd, Mr. H. J. WELLS, who secured the 1st prize for six Onions.

BOLTON CHRYSANTHEMUM.

November 15, 16.—This annual show was held in the Albert Hall, Bolton. The entries were fully up to the average, but there was only one exhibit in the group class, compared with three or four on former occasions.

In the class for 24 blooms, 12 Japanese and 12 Incurved varieties, distinct, Sir **Gilbert Greenall**, Bart., Warrington (gr. Mr. C. Goves), added to his list of many successes of this season. His best blooms were *(Japanese)* F. S. Vallis, Mrs. A. T. Miller, W. A. Etherington, W. Turner; (*Incurved*) Mrs. G. Denyer, Romance, E. F. Evans, and Mrs. Hankey. 2nd, Sir W. H. **Tate**, Bart., Woolton (gr. Mr. G. Haigh).

For 36 Japanese blooms in not fewer than 24 varieties Mr. C. **Jones**, Abergele, won the 1st prize.

The class for six vases of single varieties, distinct, brought a good contest. The prize winners were: 1st, Mr. A. **Adshead**; 2nd, Mr. H. **Shone**; and 3rd, Mr. W. P. **Rylands**.

The premier vase of Carnations was staged by Mr. J. **Entwistle**.

Plants.

As stated above, only one exhibit was staged in the class for a circular group of miscellaneous plants arranged for effect 12 feet in diameter. The exhibitor was J. W. **Makant**, Esq. (gr. Mr. H. Shone), and he was awarded the 1st prize.

A group of naturally-grown Chrysanthemums arranged in a half circle 9 feet by 6 feet, shown by **Gerard S. Peck**, Esq., Heaton (gr. Mr. B. Hardy), was placed 1st; 2nd, Miss **Anna M. Philips**, Prestwich (gr. Mr. D. Wilson).

Mr. D. **Williams** was successful in the similar class for a group of large-flowering Chrysanthemums.

For a table of Orchids Mr. G. H. **Drinkwater** was awarded the 1st prize with a very effective display. Cattleya labiata, Cypripediums in variety, and Oncidium varicosum were well staged on a groundwork of Ferns and Palms. 2nd, J. **McCartney**, Esq. (gr. Mr. W. Holmes).

NATIONAL CHRYSANTHEMUM.

ANNUAL CONFERENCE.

November 20.—There was a large attendance at the annual conference of the National Chrysanthemum Society, which was held at 7 p.m. in the Essex Hall, Strand, London, on the above date, when Dr. Russell, of the Rothampstead Experimental Station, delivered a lecture on "Partial Sterilisation of Soil," which was illustrated by lantern slides.

Dr. Russell said that during the past eight years they had been experimenting at Rothampstead with a method of soil treatment known as partial sterilisation, working with a variety of plants, and he had collected the results of those experiments which deal with Chrysanthemums, and proposed to bring them before the notice of the Society. The lecturer explained that by sterilisation was not meant rendering the soil sterile; rather the reverse, for the various methods employed had the result of increasing the fertility of the soil. The soil is densely inhabited by minute living organisms, some helpful to plant life and others harmful, and laboratory experiments led them to conclude that any method of treatment which killed some, but not all, would be beneficial to soil fertility, and it was a fortunate fact that the injurious organisms were the more easily killed, whilst the essential bacteria were hardier and survived treatment which decimated the others. It was patent that any method which would destroy the harmful denizens of the soil without interfering with the necessary inhabitants would give these latter freer scope to exert their beneficent purposes. Their experiments proved that, by partial sterilisation, this result was achieved, and that the treatment had increased the amount of plant food in the soil. The experiments had been chiefly conducted with exhausted soil—soil in which plants such as Chrysanthemums, Cucumbers, and Tomatos had been grown, and which, in its untreated state, was incapable of producing healthy plants. The lantern slides illustrated the great improvement which resulted from several of the forms of treatment. The experiments started with a necessarily limited number of plants, as near alike as possible, and their treatment, as regards watering, feeding, etc., was as identical as possible. The methods of partial sterilisation followed were heating by steam and treating the soil with various poisons. These may be grouped as follows:—

(1) Formaldehyde, pyridene, and calcium sulphide.

(2) Carbolic, cresol, toluol, petrol, and other tar oils, chiefly waste products.

This is the present order of merit, but, as the experiments are only in their infancy, the order given must be looked upon as being entirely provisional, for at any time future experiments may result in deposing the substances in Group 1 in favour of some other agents. Formaldehyde is the agent to be most generally recommended, for it is a vapour, and so easily permeates the soil. Toluol and petrol, like formaldehyde, are vapours, but they are inflammable and dangerous to use. The tar oils are not successful because they are sticky and do not mix well with the soil. Heating by steam has, so far, been found to be the most satisfactory method, but its results are closely followed by the use of Group 1.

Methods of Application.

Partial sterilisation by steam may be performed by making a structure like a shallow plant pit and placing in it about a cartload of the soil. The sterilising apparatus is shaped like a tined harrow, or like a gridiron (see fig. 180); an open end should project so that the steam may enter. A convenient size of the apparatus has been found to be about 3½ feet long by 2½ feet wide, the piping being 1 inch in diameter. Steam is injected at a pressure well above atmospheric pressure, and the soil heated to a temperature of about 200° Fahr. for 20 to 30 minutes. The soil is then removed and placed in a heap, under cover for choice, to cool slowly. The heating of the soil may be done by dry heat, but it is not so easy to control the heat, and if the soil becomes overheated there is a complete killing of its micro-organisms.

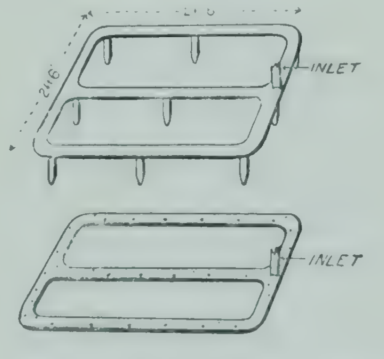


Fig. 180.—The harrow and gridiron methods of sterilising soil.

The poisons may be watered or sprayed on the soil, and the soil be mixed thoroughly. On the Continent, an injector has been used, but not with altogether satisfactory results. The general conclusions regarding the effects of partial sterilisation which may be drawn are that cuttings do not root so readily in the treated as in untreated soil, but this retardation is ultimately made up for, and, once roots have been formed, the plants grow faster and stronger, flower earlier, and produce larger flowers. The root system is also much better, the roots are more abundant, and contain more fibres. The differences between the treated and the untreated soils is not so marked when a very good compost has been used, and the difference can be still further reduced by adding manures. In fact, the treatment takes the place of manure, and plants growing in the treated soil can be grown longer without feeding than is the case with untreated soil. The great advantage of the treatment is that of soil economy, for the same soil may be used over and over again, but, in the case of the private grower who can obtain plenty of manure and good virgin loam, it cannot be said there is any advantage to be obtained from the treating of the soil unless future experiments showed that the flowers proved to be better; nevertheless the methods are of great importance to the commercial grower who has to buy his soil and manure. This is a matter for experiments on a large scale, and it is only by trial and experiment that any progress can be made, and the object of the lecturer was to point out a direction in which experiments may profitably be conducted.

The Discussion.

In reply to Mr. Leach, it was stated that the quantity of chemical required to sufficiently sterilise the soil was 1 part per 1,000. Too much had been used, and, in future experiments, the quantity would be reduced in the endeavour to arrive at the correct minimum. Mr. Leach also asked the average price of formaldehyde, and Dr. Russell replied that it was about 6d. per lb.; the cost would work out at 9d. per ton of soil treated.

Mr. Cull inquired as to the results of adding manures to the treated soil, to which Dr. Russell replied that the use of high manure reduces the effect of the sterilisation.

Mr. Rowbotham asked if sterilisation by frost was as effective as sterilisation by heat, and elicited the reply that experiments in America had shown the results to be the same; but the soil in that country lies frozen for much longer periods than is the case here.

Mr. J. Stevenson quoted his experience with sterilisation of soil, which he had chiefly practised in the hopes of combating the streak disease in Sweet Peas. He used formaldehyde at a strength of 1 gallon to 200 gallons of water, and watered a plot of ground six weeks before planting out the seedling Sweet Peas, and at the end of two months these plants were fully 20 per cent. better than any others, and eventually they became superior to any plants he had ever seen; their growth increased considerably. When sterilising soil by heat for Chrysanthemums the results were not good, but he was of the opinion that he had subjected the soil to too much heat. The plants "hung fire, and never pulled up with the others." At the end of the month the cuttings had not formed roots: the roots ultimately made were too fine in texture, and of a greyish colour. Later, the plants grew too rapidly, but the root-action was always feeble, and towards the end of the season nearly all the foliage was lost.

Mr. A. Cragg said that his firm had been experimenting for the past five years, and they also found that cuttings did not root readily in sterilised soil. It seemed as if they suffered from indigestion—there was too much food available for them; poor, but not diseased, soil is the best for cuttings, and only rooted plants should be potted into sterilised soil. He was convinced of the value of partial sterilisation by steam to the grower who had to purchase his soil, and their experience with Ferns showed that plants in 2½-inch pots were saleable from two to three weeks earlier than those grown in untreated soil.

Mr. E. F. Hawes described a method of treating the soil by steam heat by means of a cylinder and buckets attached to an endless chain.

Mr. Fairlie spoke of an amateur gardener who sterilised soil by using the household sanitary galvanized dustbin. A small quantity of water was placed under an inverted sieve in the bottom of the bin, and the bin then filled with soil. This was heated by a coke fire, and the results were admirable. He had grown 1,000 Carnations in steam-sterilised soil, and the plants grew with almost alarming rapidity.

In a humorous speech, Mr. Wells gave his experience of treating soil to steam heat to prevent "rust," and to destroy the seeds of Chickweed, which were a great pest. Mr. Wells used a 10-ton traction engine, and treated a large quantity of soil with gratifying results. The expense was great, but it paid.

Mr. C. H. Curtis reminded Dr. Russell that on a former occasion he had inquired as to the value of "drying-out" diseased and worn-out soil versus steam-heating, and instanced the methods used by the Tomato growers in the Channel Islands when treating sick soils, and suggested that this drying-out method would be much cheaper than treating it with chemicals. Dr. Russell replied that this method was receiving attention, but at present he was not prepared to make a definite statement, although he was aware of instances in which it had proved effective.

Mr. Bevan, in proposing a vote of thanks to Dr. Russell, spoke of the old method of drying soil for Cucumbers, &c., on the top of boilers to kill eelworms and wireworm; and also said that he had been surprised to see how well the hardy deciduous trees withstood drought when growing on soil which had been burnt to destroy the roots and seeds of noxious weeds.

Mr. D. B. Crane, who seconded the motion, said that cultivators might well expect a great future for the sterilisation of soil: the experiments were in their initial stage, and he confidently looked forward to hearing of cheaper methods of performing the work.

AYR CHRYSANTHEMUM.

NOVEMBER 20.—The Ayr Chrysanthemum Society held its annual show in the Town Hall, Ayr, on this date, when there was an excellent exhibition of plants and blooms of Chrysanthemums and a capital show of other plants, flowers, fruits and vegetables. The entries compared well with those of previous years, and the quality generally was very high. The "Pollock" Cup, offered for Chrysanthemum plants, was won by Mrs. POLLOCK, Glenfairn (gr. Mr. W. Currie); 2nd, W. BAIRD, Esq., Cambusdoon (gr. Mr. R. J. Clark). Mrs. POLLOCK also excelled in the class for two plants not disbudded, for a circular table of plants, and for Chrysanthemums in 7-inch pots. Mr. JAMIE led for singles. In the other pot plant classes, including Primulas and Begonias, the most successful exhibitors were J. A. CAMPBELL, Esq., Craigie House (gr. Mr. Robert Blair); W. BAIRD, Esq.; R. A. OSWALD, Esq., Auchincruive (gr. Mr. A. M'Cartney), and Mrs. POLLOCK. In the classes for cut blooms, Mr. A. S. WATT, Whiting Bay, Arran, was a very successful competitor.

W. BAIRD, Esq., led for four vases of Japanese blooms, not disbudded. In the other classes for cut flowers and decorative work the winners were Mr. A. NOBLE, Corsehill, Ayr; Mrs. POLLOCK; Mr. JAMIE, and Mr. C. L. RENDALL, Alloway. In the fruit classes the finest Grapes were shown by R. A. OSWALD, Esq., and Mr. A. NOBLE. Mr. T. SMITH, Dundonald Road, Kilmarnock, was placed 1st for 12 dessert and 12 baking Apples. R. A. OSWALD, Esq., was 1st for Pears. An amateur, Mr. T. ANDERSON, had the best collection of vegetables in both the open and amateurs' classes.

HULL CHRYSANTHEMUM.

NOVEMBER 20, 21.—Twenty years ago the exhibitions of this society were amongst the most important in the country, but interest waned, and nine years ago the committee decided to discontinue the show. In the meantime a new City Hall has been built in a favourable part of the city, and the old show was resuscitated this year. Unfortunately, the society has, in the interregnum, lost one of its most valued supporters, the late Mr. E. Harland, who so long acted with Mr. Dixon as secretary.

CUT BLOOMS.—The principal of the ten open classes was for 24 Japanese blooms, in not fewer than 18 varieties. The 1st prize, consisting of a silver cup and the sum of £6, was won by H. G. HEWITT, Esq., Weelsby Old Hall, Grimsby (gr. Mr. Fleming), with full-sized, solid, richly-coloured blooms, well staged. The leading varieties were Lady Talbot, Mrs. G. C. Kelly, Mme. P. Radaelli, Mme. G. Rivol, Hon. Mrs. Lopes, Mrs. A. T. Miller, Frances Jolliffe, Fred. Green, W. Mease, Miss A. Nicoll, W. Jinks, and President Viger. Captain J. F. LAYCOCK, Wiseton, Bawtry (gr. Mr. Musk), was a good 2nd, and ARTHUR JAMES, Esq., Coton House, Rugby (gr. Mr. A. Chandler), 3rd. Exhibits of Incurved varieties were few in number. Two competed in the class for 18 blooms, and Mrs. HALL WATT, Bishop Burton Hall, Beverley (gr. Mr. G. Wilson), was placed 1st with medium-sized, neat flowers of C. H. Curtis, Mme. Ferlat, Pantia Ralli, Mrs. G. Denyer, W. Pascoe, Mrs. F. Ashworth, Romance, Buttercup, Fred Palmer, and Mrs. J. Seward. In the class for two vases of seven blooms each of two yellow Japanese varieties, Mr. JAMES excelled with Lady Talbot and F. S. Vallis. In a similar class for white varieties, Mrs. HALL WATT won with the varieties Purity and Mrs. A. T. Miller. ARTHUR JAMES, Esq., followed closely. The best six blooms of any Japanese variety were shown by ARTHUR JAMES, Esq., who showed the variety Frances Jolliffe.

For twelve vases of single Chrysanthemums in not fewer than nine varieties, six competed. Mr. MONTAGUE STATHER, Arlington Nursery, Cottingham, won the premier place with handsome, freely-flowered sprays. The varieties Sylvia Slade and Bessie Pagram were especially good. 2nd, E. KENNETH WILSON, Esq., Little Tranby, Beverley (gr. Mr. W. Allison).

For six vases of singles, disbudded, H. HILDYARD, Esq., Cottingham (gr. Mr. A. Drewery), won the 1st prize with such varieties as H. J. Williams, Florrie King, Robert Thorpe, Bessie, and Bronze Pagram.

The local classes were well filled. For 18 Japanese varieties, Miss BENNETT, Westlands, Grimsby (gr. Mr. G. Burrows), won the 1st prize, as she did also for a dozen specimens.

GROUP CLASSES.—In the class for a group of Chrysanthemums and foliage plants arranged for effect four competed. Mr. R. B. WITTY, superintendent of the public parks and gardens of Hull, was placed 1st, with a superior display, but as he elected not to take the prize he was awarded the large silver medal of the North of England Horticultural Society. The next group in order of merit was that shown by Mrs. WHITTAKER, who was awarded the silver cup.

FLORAL DECORATIONS.—A large room was devoted to table decorations and other floral arrangements. Mrs. E. ROBSON, Tower Grange, Hull, was placed 1st for a dinner table decorated with Chrysanthemums.

The exhibits of fruit and veegtables were of a large and varied character.

NON-COMPETITIVE EXHIBITS.—The awards were made to these exhibits by the North of England Horticultural Society. Messrs. CLIBRANS, Altrincham, showed exceedingly fine vegetables, for which a Gold Medal was awarded. Messrs. TOOGOOD & SONS, Southampton, had a similar but smaller display (large Silver-gilt Medal). Messrs. E. P. DIXON & SONS, Hull, showed floral designs, flowers, and fruit (large Silver Medal). Messrs. W. WELLS & Co., Merstham, Surrey, showed Chrysanthemums, for which a Silver Medal was awarded. Messrs. MANSELL & HATCHER, Leeds, arranged an interesting group of Orchids (Silver Medal).

THE LATE HENRY PURSER.

ABERDEEN HORTICULTURAL.

The annual meeting of the members of this society was held recently in the Music Hall Buildings, Aberdeen. There was a large attendance, and the chair was occupied by Colonel Gill, chairman of the society.

The annual report stated that from a horticultural point of view, considering the rather unsatisfactory season, the August show, both in number and quality of exhibits, was creditable to all concerned, while the financial results were also satisfactory. The income for the year amounted to £488 11s. 6d., and the expenditure was £438 1s. 3d., leaving a surplus of £50 10s. 3d., which, with the credit balance of £27 7s. 10d. at the beginning of the season, left a balance of £77 18s. 1d. to be carried forward to next year.

The report was adopted. On the motion of Mr. Todd, seconded by Mr. Robson, it was agreed to start a reserve fund with a sum of £30.

Obituary.

HENRY PURSER.—We regret to record the death, on the 17th inst., at the advanced age of 82, of Mr. Henry Purser, formerly head gardener to Lord Zouche. Mr. Purser commenced his gardening career in the Earl of Denbigh's garden, Newnham Paddocks, Leicestershire. Later he was appointed gardener to the Hon. Wentworth Powis, at Berwick Hall, near Shrewsbury, where he remained for 30 years. He left Berwick Hall to take charge of Lord Zouche's garden at Baronhill, near Rugby, Staffordshire. At the end of five years Baronhill was let and Mr. Purser was appointed to the charge of Lord Zouche's garden at Parham Park, Sussex, where he remained for 13 years. Ten years ago he retired in consequence of failing health, and was granted a pension by Lord Zouche. Deceased's widow is sister to Mr. Owen Thomas.

REV. DR. LANDSBOROUGH.—We learn with regret of the death, on November 22, of the Rev. Dr. David Landsborough, Kilmarnock, at the age of 86. Dr. Landsborough contributed a number of papers to the Botanical Society of Edinburgh. He made a special study of the botany of Ayrshire, and the island of Arran, and he contributed articles on "The Effects of Winter on Vegetation in Arran."

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending November 23, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—As a whole the conditions were dull and unsettled. Rain fell in slight or moderate quantities daily at many stations in the west and north, and on several days in most other parts of the Kingdom. Some localities in the east and south of Britain remained dry, however, throughout the greater part of the week, and at Donaghadee rain fell on only one day.

The *temperature* was above the average very generally, the greatest excess being a little over 4·5° in Ireland, and the smallest 1·5° in England S.E. The highest of the maxima, which occurred late in the period, ranged from 60° in Ireland S. to 56° in several districts, and to 55° in Scotland E. The lowest of the minima were registered during the first half of the week, and ranged from 22° in Scotland E. to 36° in Ireland S., and to 42° in the English Channel. As a rule the minima were some degrees above the normal. The lowest grass readings reported were 17° at Newton Rigg, 18° at Crathes, 19° at Balmoral, and 20° at Hampstead. The temperature of the soil continued below the average in most parts of the country at a depth of 4 feet, but, except at Clacton-on-Sea, it was above it at a depth of 1 foot.

The *rainfall* exceeded the average in Scotland N., but was less elsewhere. At Glencarron there was a fall of 1·07 inch on the 19th. At various places in the northeast, and at a few in the south-west, as well as at Donaghadee, the total fall was less than 0·1 inch.

The *bright sunshine* was below the normal except in Scotland N. and E. In Scotland E. the percentage of the possible duration was 31 and the daily mean 2·4 hours. In Ireland, and the south-west, east, and Midland Counties of England the daily mean was less than an hour. In England E. (where the possible duration was only 8) the daily mean was no more than 0·7 hour.

THE WEATHER IN WEST HERTS.

Week ending November 27.

A warm and wet week—The day temperatures during the week were all above the average, and on the warmest day the highest reading in the thermometer screen rose to 56°, which is 9° higher than is seasonable. The nights were also equally warm for the time of year, with the exception of the last night, when the exposed thermometer registered 4° of frost. The ground is now at about a seasonable temperature both at 1 and 2 feet deep. Rain fell on four days, and to the total depth of rather more than an inch, making this the wettest week for four weeks. Some hail fell at times with the rain on the last two days. About half-past five on the afternoon of the 26th rain and hail fell for ten minutes at the mean rate of over 1 inch an hour. During the week 4½ gallons of rainwater came through the bare soil percolation gauge, and 8½ gallons through that on which short grass is growing. The sun shone on an average for 1 hour 24 minutes a day, which is a quarter of an hour a day short of the average duration for the same period in November. On the only two sunny days the sun shone respectively for nearly four hours, and for nearly six hours, the remaining five days being altogether sunless. The first day and also the last three days of the week were windy, and in the windiest hour the mean velocity was 18 miles — direction S. There was again a seasonable amount of moisture in the air at 3 p.m. *E. M., Berkhamsted, November 27, 1912.*

TRADE NOTICE.

MR. WILLIAM MALLETT, for several years with Messrs. Hobbies Ltd., has joined his brother Mr. George Mallet, of the Cheddar Nurseries, Somerset, as manager of the hard wooded section of that business at the Bridge Hill, Batscombe and Broadway branches, all in Cheddar.

MARKETS.

COVENT GARDEN, November 27.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	2 6- 4 0
Azalea, per dozen bunches	3 -6 4 0
Bouvardia, per dz. bunches	6 0- 7 0
Camellias, white, per dozen	1 6- 2 0
Carnations, per dozen blooms, best American varieties	1 9- 2 0
— smaller, per doz. blooms	12 0-15 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaison, p. doz. blooms:	
— — pink	8 0-15 0
Chrysanthemums, per dozen:	
— white	1 6- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze	1 0- 2 6
— white, per doz. bunches	6 0- 9 0
— coloured	6 0- 8 0
— Singles in variety, per doz. bunches	12 0-18 0
Eucharis, per dozen	2 6- 3 0
Freesia, white, per doz. bunches	2 6- 3 0
Gardenias, per box of 15 and 18 blooms	3 0- 4 0
Gerbera Hybrid, p. doz.	1 6 —
Honesty, per bunch	1 0- 1 6
Hyacinth Roman, per dz. bnchs.	12 0-15 0
Lapagerias, white, per dozen	2 6 —
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 6- 3 0
— — short	2 0- 2 6
— lancifolium alba, long	1 6- 1 9

	s.d. s.d.
Lilium lancifolium Alba, short	1 6- 1 9
— speciosum rubrum, per dz.:	
— long	1 6- 1 9
— short	1 0- 1 3
Lily of the Valley, pr. dz. bnchs.:	
— extra special	12 0-15 0
Lily of the Valley. p. doz. bnchs:	
— special	10 0-12 0
— ordinary	8 0- 9 0
Mignonette, per doz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	10 0-12 0
— Cattleya Harrisonæ, p. doz.	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum	3 0- 4 0
Pelargoniums, p. doz. bunches	4 0- 5 0
— Double Scarlet	6 0- 8 0
Poinsettias, per dozen blooms	9 0-10 0
Roses, 12 blooms:	
— Mrs. Ward	2 6 —
— Bridesmaid,	2 6- 3 0
— C. Mermet	2 6- 3 0
— Liberty	3 0- 5 0
— Madame A. Chatenay	2 6- 5 0
— Niphetos	1 6- 2 0
— Richmond	3 0- 5 0
— Sunburst	5 0- 7 0
— Sunrise	2 6 —
— Lady Roberts	2 6 —
— Lady Hillingdon	1 6- 2 6
— Franz Deegen	3 0- 4 0
— Kaiserine	2 6- 4 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Stephanotis (72 pips)	3 6- 4 0
Tuberose, p. doz. blooms, long	0 6- 0 8
— — short	0 3- 0 4
Violets, per dozen bunches	1 6- 4 0

French Flowers: Average Wholesale Prices.

	s.d. s.d.
Anemone, double pink, per doz.	2 6- 3 0
Lilac, white, per bunch	3 6- 4 0
Marguerite, yellow, per doz. bnchs	1 6- 1 9
Mimosa, pr. bunch	0 9- 1 0
Narcissus, Paper White, pr. pad, 48 bunches	12 0-14 0

	s.d. s.d.
Narcissus, Soleil d'Or, per doz.	3 0- 3 6
Ranunculus, dble scarlet, per dz. bunches	8 0- 9 0
Roses, Safrano, bx. of 24 blooms	3 0 —
Violets, per pad of 48 and 60 bchs.	6 0- 7 0
— Parma, large bunches, each	3 0- 3 6

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Berberis, natural, per doz. bnchs	3 0- 4 0

	s.d. s.d.
Carnation foliage, doz. bunches	3 0 —
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, gross bnchs.	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	1 0- 1 8

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6

	s.d. s.d.
Croton, per dozen	18 0-30 0
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, p. dz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica hyemalis	15 0-18 0
— nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0
— — in thumbs	3 6- 4 0
— — 60's	6 0- 8 0
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, per doz.	6 0 —

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ferns, choicer sorts, per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	18 0-21 0

	s.d. s.d.
Lilium lancifolium alba. in pts., dz.	18 0-21 0
— longiflorum, p. dozen	18 0-24 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per dozen	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 0- 4 0
— Cox's Orange, ½ bushel	3 0- 8 0
— Cooking, per bushel	2 0- 4 0
— Wenatchee, p. case	5 6-10 0
— American, brls.	15 6-32 0
— Californian Newtowns, case	7 0- 8 0
— Nova Scotian, per barrel	10 6-14 0
— Oregon, Newtown Pipp., cs.	9 6-10 6
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 6
Dates, per dozen	4 3- 5 6
Figs (Italian), bxs.	0 6- 1 0
Cranberries, per case	9 0-14 0
Grape Fruit, case:	
— 96's	8 0-18 0
— 80's	
— 64's	
— 54's	
— per dozen	4 0- 6 0
Grapes (English), per lb.:	
— Canon Hall	2 0- 6 0
— Muscats	2 0- 6 0
— Black Alicante	0 6- 1 6
— Almeria, barrel	12 0-18 0
— Lisbon, case	7 0- 8 6
Lemons, per case:	
— Malaga	16 0 —
— Messina, case	8 6-24 0

	s.d. s.d.
Medlars, per crate	4 0 —
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt.	48 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 3-0 3½
— Chestnuts, bg.	16 0-24 0
— Walnuts per dozen lbs.	2 6—6 0
— — French, per bag	7 0- 8 0
Lychees, 1lb. box	1 6 —
Oranges:	
— Jamaica, case	8 6-12 0
— Mandarines, p. box	1 6- 5 6
— Denia, per case	15 0-26 0
Pears:	
— French, per box	3 0 —
— — per crate	6 0- 8 0
— Doyenné du Comice, dozen	2 0- 3 0
per ½ bushel	3 6- 6 6
— Californian	
— Doyenné du Comice, p. case	12 0-14 6
— French Doyenné du Comice per crate	5 6- 6 6
— Dutch Catillac, ½ bushel	3 6 —
— American, per barrel	7 0- 8 0
Pineapples, St. Michael	3 0- 5 0
Plums:	
— (Californian), crate	12 6-15 0
Pomegranates, per case	7 0- 8 0
— per box	2 6 —
Quinces, ½ bushel	5 0- 8 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	3 9- 4 3
Artichokes (Globe), per dozen	1 9- 2 6
— French	1 6- 2 0
— English	1 6 —
— ground, ½ bus.	1 0 —
— Batavia, p. dz.	1 0- 2 0
Beans:	
— French, per lb.	0 10 —
— Guernsey, lb.	0 8-0 10
— Madeira, per handle	1 6 —
Beetroot, per bushel	1 0- 1 6
Cabbages, p. tally	2 6 —
— boxes	1 0- 2 0
— Red, per dozen	1 0 —
Carrots (English), pr. doz. bun.	2 6 —
— dirty, per bag	2 6 —
— washed, bag	3 0 —
Cauliflowers per	
— tally	5 0- 8 0
— boxes	2 0- 4 0
Celery, per dozen	12 0 —
— dirty	6 0- 8 0
Celeriac, per doz.	1 0- 1 6
Cucumbers, p. flat	7 0- 9 0
Endive, per dozen	1 0 —
— French p. doz.	1 6 —
Greens, per bushel	1 0 —
— bags	1 0- 2 0
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles	12 0 —
Leeks, per doz.	1 6- 2 0
Lettuce (English), Cos, per box	2 6- 3 0
Cabbage, p. b.	1 6 —

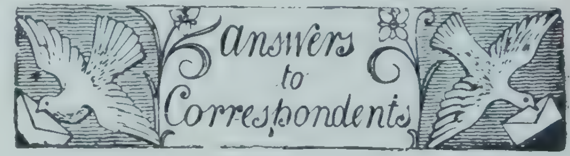
	s.d. s.d.
Lettuce, French, p. doz.	1 0 —
Mint, p. dz. bnchs.	3 0 —
Mushrooms, cultivated, per lb.	1 0- 1 6
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag	2 0 —
— per bushel	2 0- 3 0
— Picklers, per bag	4 0 —
— (Spring), per doz bunches	4 0 —
— (Spanish), case	5 0- 6 0
— Dutch, bags	2 9- 3 0
Parsley, per doz. bunches	2 0 —
Parsnips, per bag	2 6 —
— per bushel	1 6 —
Radishes (English) per dozen	0 10- 1 0
Sage, per dozen	2 0 —
Savoys, per. tally	4 0 —
Seakale, punnets	1 0- 1 6
Spinach, ½ bushel	1 0- 1 6
Sprouts, ½ bushel	1 0 —
— per bushel	1 6 —
— bags	1 6- 2 0
Scotch Kale, busl.	1 0 —
Tomatos, p. dz. lbs.:	
— (English)	3 6- 4 6
— seconds	1 6 —
— (Canary) per bundle	10 0-14 0
Turnips (English), per dz. bunches	1 3- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Turnip tops, bushel	1 0 —
Watercress, p. dz. bunches	0 6- 0 8

Remarks.—The principal varieties of English Apples available are Dumelow's Seedling (Wellington), Newton Wonder, Bramley's Seedling, Blenheim Pippin, Cox's Orange Pippin, and Allington Pippin. Apples imported, both in boxes and barrels, are arriving in large quantities, the principal varieties being Cox's Orange Pippin (in boxes of 10 to 12 dozen, very handsome fruits), Jonathan, Winter Banana, Grimes' Golden and Spitzbergen. Pears from home growers and the Channel Islands are principally of the Doyenné du Comice variety. Several thousand boxes of Pears arrived this week from overseas, consisting largely of Doyenné du Comice and Winter Nelis, all the fruits being in excellent condition. English hothouse Grapes continue a very heavy supply, the bulk consisting of Black Alicante and Gros Colman, of which some firms are receiving over a thousand packages per day, each of an average weight of 10 lbs. Best samples of Canon Hall Muscat are scarce and in demand. The following tropical fruits are obtainable:—Avocado Pears, Persimmons, Passion Fruits, Custard Apples, Mangoes, Pines, Monstera deliciosa, Lychees and claret-coloured Bananas. Californian Seedless Oranges are obtainable. Cob-nuts remain a good supply. Supplies of English Tomatos are nearly exhausted, but Teneriffe Tomatos are plentiful, the fruits being of good quality. Forced vegetables obtainable include Mushrooms, Dwarf Beans, Peas, Seakale, Potatos, Asparagus and Cucumbers. Holly and Mistleto are making their appearance in the market. Ordinary vegetables continue a very heavy supply. *E.H.R., Covent Garden, November 27, 1912.*

Potatos.

	per cwt. s.d. s.d.		per bag. s.d. s.d.
Bedfords	4 0- 4 6	Dutch	2 9- 3 6
Kents	4 0- 5 0	Belgian	3 0- 3 9
Blacklands	3 6- 3 9	German	3 6- 4 3
Lincolns	3 6- 5 0	Dunbars	6 0- 6 6
King Edward	4 0- 4 9	Scotch (grey soil)	4 0- 4 9

Remarks.—Trade is about the same as last week, and prices are not altered. Best tubers are in good demand. Consignments of foreign Potatos are still large. *Edward J. Newborn, Covent Garden and St. Pancras, November 27, 1912.*



Abnormal Berry of Black Alicante Grape: *T. M.* The very large berry of Black Alicante Grape is interesting, but not remarkable. Its large size is due to abnormal development.

Addresses: *W. F. S., South Hackney.* London Playing Fields Society, 49 and 50, Parliament Street, S.W.; Middlesex County Council, Guildhall, Broad Sanctuary, Westminster.

Apple James Grieve: *H. W.* This variety was raised by Messrs. Dickson, of Edinburgh, Cox's Orange Pippin being one of the parents. It received an Award of Merit from the Fruit and Vegetable Committee of the Royal Horticultural Society on October 12, 1897, when exhibited by Messrs. Geo. Bunyard & Co.

Books: *T. D. Skinner. Chemistry of The Garden*, by Herbert H. Cousins, price 1s. 1½d.; *The Book of Garden Pests and Plant Diseases*, by R. Hooper Pearson, price 2s. 10d. Both obtainable from our Publishing Department. The prices include postage.

Cattleya Leaves: *Bristow.* The leaves are burrowed extensively by the larvæ of a small beetle, and, so far as we can gather, it is a new pest, but, unfortunately, in the absence of adult specimens we cannot give you more definite particulars. If, however, you will be good enough to send us examples of the adult beetles, which will, in all probability, be found on the outsides of the leaves at night, we will endeavour to identify the pest.

Conifer Unhealthy: *Craigs.* There is no trace of disease on the specimen sent. The generally unhealthy state of the tree is probably due to a bad rooting medium, such as cold gravel or clay. An excess of moisture at the roots would also cause the foliage to turn brown and die.

Early-flowering Chrysanthemums: *A. S. T., Edinburgh.* It is not usual for early varieties of Chrysanthemums to flower later or become taller in growth as they get older. Owing to the unusual weather many plants attained to an unnatural height during the past season. The term "disbudding" is applied to the system of removing all but one flower-bud on each shoot. Early-flowering varieties are usually planted in the ground and allowed to grow naturally, the first bud appearing when the plant is from 1 to 2 feet high. After the appearance of this first bud, the plant makes a number of side growths and a quantity of flower-buds; if only one bud is retained on each shoot the flowering should be earlier, not later, as you suggest. It is not advisable to pinch outdoor Chrysanthemums to make them bushy; as a rule, they are naturally quite bushy enough, and pinching produces a soft, attenuated growth which results in much poorer flowers.

Gardener's Illness and Dismissal : *Justice.* (1) Your relative is still legally employed. (2) He should claim full wages during the time he was absent, as his employment was not terminated. (3) He is entitled to a month's notice, or wages in lieu of notice, and the value of the accommodation at the lodge should be included in estimating the amount payable. (4) If the employer can prove that the notice duly reached your relative, this would probably be held sufficient. Your relative had better return to work without delay on leaving hospital, assuming that his health permits.

"Handbook on Pruning Roses" : *Enquirer.* Two editions of the *Handbook on Pruning Roses* have been issued by the National Rose Society since that of 1905—one in February, 1909, and the other in November, 1911. The 1905 edition is therefore somewhat out of date.

Loam for Melons : *J. T.* Liquid manure from the farmyard poured over the heap would be beneficial, but it would be better to enrich the soil with manure as advised in the calendarial on the Management of the Kitchen Garden (see page 408).

Melon in a Collection of Fruit : *C. E. M.* A Melon in a collection of miscellaneous fruits has a point value of eight, compared with six for Pears and six for Apples. The fruit you submitted for our inspection was remarkably good; it was of excellent shape, a rich yellow colour, and splendid flavour. It would certainly be entitled to higher pointing than either of the other fruits you mention.

Names of Plants : *J. Newens.* 1, Cephalotaxus Fortunei; 2, C. pedunculata; 3, Juniperus chinensis; 4, Cryptomeria japonica var. elegans. *J. L. W.* Salvia Horminum.—*A. P. U.* We do not recognise the variety of Chrysanthemum. Send to some grower of these flowers who has means of comparing it with flowers in his collection.—*E. P. & Co.* The berries are those of Schinus Molle. known as the Californian Pepper Tree and Peruvian Mastic Tree. It is not a hardy tree in Great Britain, but is used to a large extent as shade trees and for planting in streets in Australia, California, and other warm, temperate countries.—*Foreman.* 1, Selaginell denticulata; 2, S. uncinata; 3, S. Wildenovii; 4, S. stolonifera; 5, Pteris geraniifolia; 6, Adiantum formosum.

Odontoglossum Leaves Curled : *R., Bradford.* "Curled and sometimes crinkled" leaves such as you describe are often seen on individual plants of Odontoglossum, even where the majority of the plants are not affected. Such leaves are usually smaller than the perfect ones, and indicate that at some period there has been a temporary deficiency in the supply of nutriment, or that the leaf has not had space to develop. Where occasional plants are potted in a compost which does not admit of free drainage, and hence holds too much moisture, the roots become affected, and nutrition is arrested. Again, leaves which have been infested with aphides or thrips when in the tender stage often show such deformity as you describe when they mature. The fact that only occasional plants are affected in your case, whilst the others remain perfect, seems to indicate that the cause is not a serious one, and if you examine the damaged plants by the light of our suggestions you should be able to arrive at a probable explanation. When the Odontoglossum house is kept too warm at night, the leaves become thinner than desirable, and often curl back at the edges; but if that were the cause in the present case the damage would be more general.

Onions, Leeks, and Celery for Exhibition : *C. M.* The ground for Onions should be trenched thoroughly to a depth of at least $2\frac{1}{2}$ feet, and incorporated with plenty of good farmyard manure. The surface should be left as rough as possible, strewn with fresh soot and wood ashes and allowed to remain undisturbed until the time for planting. The seed should be sown from the end of December to the end of the following month in shallow boxes filled with well-prepared soil. The seedlings should be raised in gentle heat, and pricked off when they are large enough to handle. They should be hardened thoroughly and planted out in prepared ground in April at a good distance apart. Liberal supplies of water and liquid manure should be afforded the roots; concentrated fertilisers may be used if liquid manure is not available, and these should be applied during showery weather. Endeavour to keep the plants healthy and growing freely from the moment they appear above the surface until the swelling of the bulbs is completed, when they should be immediately lifted and harvested, taking care not to bruise or damage them. Leeks should be sown and raised precisely in the same manner as Onions, and the seedlings planted out in well-prepared trenches, with a layer at least 18 inches deep of good manure in the bottom of the trench. The plants should be put out in May, and the blanching commenced at once. This is best done by paper collars, which can be purchased from the sundriesman or seedsman. These should be drawn up the stems from time to time until these latter are blanched sufficiently, placing fine soil about the plants as the work proceeds. Afford liquid manure from the farmyard liberally, and damp the tops of the plants during the early evening on fine days during the summer. Celery should not be sown before the end of February or the beginning of March in a compost which is not too rich. Raise the plants in gentle heat, and never allow the seedlings to become dry at the roots. Transplant them in boxes immediately the second leaf is discernible. Grow the plants in a greenhouse temperature, and plant them in liberally-manured and well-prepared trenches as soon as they are large enough and hardened thoroughly. It is hardly possible to over-water Celery during the summer; drought is the most common cause of failure. Celery for exhibition should always be blanched with brown paper, using bands 6 inches in depth, and adding additional strips until the blanching is completed. Liquid manure from farmyard dung and sewage are both excellent stimulants for Celery. Soot also is valuable both for the manure it contains and its effectiveness in preventing attacks of the Celery fly and slugs.

Russian Melon : *H. C.* We are unable to identify the variety from the portion of fruit sent. There are several Russian Melons, and it most nearly resembles the early Russian Water Melon. It is apparently much inferior to varieties usually grown in hothouses, and as you find the flesh unpalatable, you will do well to discard it and stick to the ordinary kinds. The fruits you have would probably make excellent preserve, or they might be candied.

Spraying for Big-bud in Black Currants : *F. W. W.* Mr. A. H. Pearson, Lowdham, recommends spraying with soft soap and Quassia for the destruction of big-bud mite. In a note on the subject in *Gardeners' Chronicle*, February 17, 1912, p. 107, he offers to send full particulars to anyone who wishes to adopt his method. Experiments in spraying were conducted by officers of the Board of Agriculture at Harvington, Worcester, and the lime and sulphur mixture gave the best results. The materials used were lime and sulphur in dry form, one part lime (air-slaked) to four of sulphur.

Substitutes for Animal Manures : *H. M.* As you are unable to obtain farmyard or other animal manures, you will have to rely mainly on concentrated fertilisers. Your soil being sandy and of a hungry nature, you should incorporate with it materials that will help to retain the manurial properties of the fertilisers and improve the texture of the staple. There is nothing better for the purpose than decayed vegetable matter. All fallen tree leaves should be gathered, placed in heaps to decay, and dug into the ground the following autumn. If woods exist in your neighbourhood, it should be possible to obtain a cheap and valuable supply of humus from the deposit beneath the trees and in hollows. Farmyard dung makes the soil darker, warmer, and more retentive of moisture; promotes aeration, and tends to the multiplication of micro-organisms, which play so important a part in the fertility of the soil. The chemical fertilisers should be applied in small quantities in the spring and early summer, when the plants are growing actively. Nitrogen, phosphoric acid, and potash are the principal manures you should purchase.

The Sweet Chestnut : *F. B., Northampton.* The dimensions of several fine examples of the Sweet Chestnut (Castanea sativa) are given in Vol. iv of *Trees of Great Britain and Ireland*, and most of the following information is taken from this work. The age of a tree cannot be determined by its size, since it will grow much more rapidly in certain soil and climatic conditions than others. Trees have been known to attain to a height of 65 feet, with a girth of 3 feet, in less than 40 years; and one well-known example in Ireland, which is probably the largest in the country, is known to be less than 200 years old. This specimen (at Rossanagh, in Wicklow) was planted in 1718. In 1903 it was 80 feet high, with a short trunk dividing into three very large limbs. Near the ground the trunk girth was 49 feet; at 3 feet from the ground the girth was $27\frac{1}{2}$ feet, swelling again at 5 feet to $29\frac{1}{2}$ feet round. The spread of the head was 100 feet in diameter, and the limbs measured in girth 12 feet 8 inches, 11 feet 2 inches, and 10 feet respectively. One of the best-proportioned trees in England is growing near Studley Royal. In 1904 it measured 112 feet in height, and the girth at 5 feet from the ground was 20 feet. A tree at Shrubland Park, Ipswich, is recorded as being 47 feet in circumference near the ground, 31 feet at 3 feet above the ground, and 27 feet at double this height. At Rydal Hall, Westmorland, there is a tree with a girth of $26\frac{1}{2}$ feet at 5 feet above the ground, and 37 feet at the base. The largest tree at Kew has a girth of 21 feet; and one at Stevenston, in North Devon, is said to be 86 feet high, and, although the girth is only 16 feet 11 inches, it is reported to contain 833 cubic feet of timber. Most of the dimensions here given, however, compare unfavourably with those of other famous trees. Possibly the tree at Tortworth is one of the most interesting. It is said to have been planted during the reign of King John, though there does not seem to be any reliable evidence to this effect. It is now nothing but a decayed shell; but it was mentioned by Strutt in 1766 as having a girth of 50 feet at 5 feet from the ground. At 10 feet high it divided into three limbs, the largest of which had a girth of $28\frac{1}{2}$ feet. The remains of this tree are still to be seen; it is on Lord Ducie's estate at Tortworth, in Gloucestershire. On Lord Darnley's estate, Cobham Hall, Kent, there are some trees of a large size, one of which is said to have attained a girth of 33 feet at 12 feet from the ground. The tree also grows to a very large size in Scotland; one, at Castle Leod, Ross-shire, is reported to be 76 feet high, with a girth of 28 feet at the base, and 21 feet 4 inches at 5 feet from the ground. At Inverary Castle, Elwes measured one which was 77 feet high, with a 20-foot girth. The date of the introduction of the Sweet Chestnut to this country is not definitely known. Many authorities are of opinion that it was introduced by the Romans, but others incline to the belief that it is of British origin. The trees you refer to are probably two to three hundred years old.

Vine Border : *Glen.* Not only is it possible to grow Muscat Grapes well for a number of years in a border 6 feet wide, but, in our opinion, they can be grown better with their roots thus restricted than is possible in borders of greater width. When the roots are allowed to ramble unchecked in a rich medium, the shoots often do not ripen properly. Two-and-a-half feet is ample depth for a vine border, and if it is made so that it settles to 3 inches lower than this, so as to allow for slight top-dressings from time to time when the surface becomes matted with roots, it will be an advantage. Boundary walls, with mortar joints and soil on both sides, should be faced with cement half-an-inch thick, and means should be taken to prevent the roots getting under the foundations. If the young vines grow vigorously, it is a good plan to cut a trench 3 or 4 feet from their stems through the border, in the autumn after the first season's growth, when the leaves commence to lose their green colour, so as to check the few roots that may be unduly rampant.

Communications Received.—A. R. A.—Justice—W. K—J. H.—M. K. B.—P. H., Isleworth—T. A. W.—W. C.—C. T.—M. C. A.—C. J. M.—S. B. W.—H. S. T.—H. E. M.—M. A. K., Amsterdam—A. H.—P. H.—F. R.—A. C. B.—B. C.—W. H. H.—W. E. B.—G. N.—C. R.—W. M., Java—E. D. P.—A. P.—L. J. C.—L. D. K., Bath—E. W. A.—P. C.—F. K. W.—T. S.—A. O.—N. E., Torquay—Reader—E. H. J.—E. P. P.—A. P. R.

THE
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DESTRUCTIVE INSECTS AND PESTS.

III.—AMERICAN GOOSEBERRY-MILDEW.*

(See Coloured Supplement.)

The disease of Gooseberries to which the name Sphærotheca mors-uvæ, Berkeley and Curtis, has been given, is, as its common name implies, of American origin. In the United States it has long been a great trouble to Gooseberry growers, but appears to have been unknown in Europe until about 12 years ago, when the presence of the disease was discovered in Ireland. Since that time the pest has become distributed in most European countries—Norway, Sweden, Denmark, Germany, Finland, Russia, Belgium, and Holland—and has been rampant in a number of English counties for the past six years. It has done so much damage, and is so feared by growers, that, as already stated (September 28), it was scheduled under the Destructive Insects and Pests Acts, 1877 and 1907, as a disease the presence of which must be at once notified to the Board of Agriculture and Fisheries, the Clerk to the Local Authority, or to an Inspector of either of these bodies. The notification of the disease applies also to its occurrence on Currant bushes, which may also be attacked. The sale of diseased Gooseberries is prohibited by an Order dated March 30, 1912. Legislation has been introduced to deal with Gooseberry-mildew in Norway, Sweden, Finland, Holland, and Denmark.

The first appearance of the American Gooseberry-mildew in the British Isles was recorded and illustrated in the *Gardeners' Chronicle*, August 25, 1900, p. 143, where an excellent account of the life history of the disease is given.

It is only too true that the American Gooseberry-mildew is a serious pest which causes immense loss, but the fact deserves to be emphasised. The mildew (see coloured supplement) attacks leaves, shoots and fruits; and badly-attacked fruit is ruined for market purposes, even if the sale of diseased fruit were not forbidden. In a leaflet issued by the Board of Agriculture it is stated that the disease has "greatly increased the cost of cultivation of Gooseberries in the countries in which it has appeared, and in some cases it has rendered Gooseberry-growing impossible."

There are two readily distinguishable stages of the disease—the so-called "summer" and "winter" stages. The first of these may appear from May (or even April occasionally) throughout the summer until about November, and is in the form of a soft, white mildew on the leaves of new wood and on the fruit, but not commonly on leaves of old wood (coloured plate figs. 1-4). This form produces great numbers of minute spores, which serve to distribute the pest, as they are blown by the wind and carried about in other ways, and on falling on young fruits or opening buds germinate quickly. In moist, warm weather the mildew may in this manner spread with great rapidity, though it does not always do so. The "summer" spores are very numerous, but short-lived, and when the weather is dry and cool they may not be seriously harmful.

The so-called "winter" stage (coloured plate, figs. 5-7) may be found from July onwards, throughout the winter until the succeeding spring. It occurs in the form of dull-brown patches of a colour which has led to the term "chocolate stage" being employed. Towards and during winter the colour changes gradually until it is soft grey. If these chocolate or grey patches are examined with a pocket-lens little black dots may be seen. These are the winter fruits, or perithecia.

In the "summer" stage a felty mat of mycelium is produced—the white stage—and from this spring chains of conidia or "summer" spores referred to above (fig. 1 of coloured plate). In the "winter" stage the black fruits or perithecia each consists of a strong, hard case or shell, containing eight resting spores, which are liberated in spring and early summer (May to July) to continue the life-history of the species, or as is the case with some to remain dormant for a time. "Some winter fruits remain attached to the infected twigs throughout the winter, but the greater number fall off and lie in the soil. Most of them burst and release the infectious spores in the following summer, but there is reason to believe that they may lie dormant for about 18 months, and infect the bushes in the second year."†

American Gooseberry-mildew has doubtless been distributed in many ways, not the least of these being connected with the trade in Gooseberry cuttings and bushes from infected centres. In this way diseased stocks have been transported over railways and waterways, as well as by road, and may unwittingly be carried by a visitor from a diseased plantation to his own. Diseased berries may serve to spread infection, as also may baskets in which such Gooseberries have been transported. The wind, animals, birds, and even insects, may also act as distributors of spores.

Soft, young, rapidly-growing shoots, especially those from bushes growing on well-treated, highly-manured, deep, porous land, are the most readily attacked, and some varieties which are naturally exceptionally vigorous growers, and produce much young wood late in the year, are more liable to attack than slow-growing sorts. According to the Board of Agriculture, the Keepsake, White Lion, and Crown Bob varieties contract disease to a greater extent than the slow growers—Whitesmith, Careless, and Long Swan. So far as berries are concerned the soft-skinned berries of Golden Drop and Whinham's Industry are more apt to suffer from mildew than those of any other variety. "Ripe berries of any variety are liable to attack. In the case of Keepsake, the berries are fairly immune, while hairy berries of all varieties appear to suffer much more than smooth ones."

In considering preventive and remedial measures, it should always be recollected that a pest should be attacked at the most vulnerable stage of its life-history. In the case of American Gooseberry-mildew, this period appears to be immediately before the date when the perithecia fall off the bushes on to the soil, for they are the means by which the disease is carried on from year to year. The most direct and satisfactory means of combating the mildew, therefore, is to remove all affected shoots early in October, before the perithecia have fallen and infected the soil. All prunings should be burnt. In this way most of the perithecia are destroyed. Such pruning at the proper time is, perhaps, worth all other measures put together, though other steps should be taken when occasion demands. Among these are:—(1) Care in purchasing young bushes; (2) pruning before planting; (3) care not to plant in infected soil; (4) thorough disinfection of packages in which diseased bushes or berries have been placed, using a solution of 1 lb. of copper sulphate in 20 gallons of water; (5) careful and regular inspection of the bushes to ensure early detection of an outbreak; (6) spraying in spring and summer with liver of sulphur, 1 lb. in 32 gallons of water, or 1 lb. in 24 gallons after July, with the addition of 1 to 1½ lb. of soft soap; (7) nitrogenous manures should be used sparingly; and (8) the prompt gathering and destruction of all diseased berries.

One of the chief things to be considered by both private and market growers is the fact that the disease or its suspected presence must be reported, and to this end they should be on the look out for the appearance of the mildew, and should submit specimens suspected of the disease to the nearest authority. *H. C. Long.*

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* Previous articles of this series appeared on September 28, October 12 (Narcissus Fly), and November 2 (Wart Disease of Potato).

† Leaflet No. 195, Board of Agriculture and Fisheries.

THE WOBURN FORESTS.

It would be excusable if, after reading what has been written about forestry and the need of it in this country, the conclusion was arrived at that there were no good examples of forests to be found in the British Islands. The illustrations in forestry books are, as a rule, prepared from photographs taken in other countries, those of British woods being generally to show how things should not be done. Yet there are well-managed woods here equal to any to be found on the Continent, although they are, sad to say, comparatively few and far between. Woburn, the estate of the Duke of Bedford, has forests probably second to none in the kingdom.

On a recent visit to these woods, in company with Dr. Henry and the students of forestry from Cambridge, I had an opportunity of seeing British sylviculture at its best.

Little more than 100 years ago the land now occupied by trees was a barren, sandy waste, and there were doubtless plenty of people then who thought it worthless for tree-growing, just as there are people now who would have us believe that our millions of acres of waste land can never be made productive. Such people ought to be taken to Woburn Sands, and they would then cease to talk about the impossibility of converting "waste" land into profit-yielding forests.

At Woburn about 5,000 acres are covered with Scots Pine, which is particularly happy in the deep sand of the higher elevations. Some writers tell us that Pine woods cannot be naturally regenerated, but there is no difficulty at Woburn. Indeed, it appears unnecessary ever to resort to artificial regeneration except in the formation of new woods, which, in the strict sense of the term, cannot be called regeneration. A mature Pine wood of about 12 acres in area which had been clear felled in two roughly equal parts, with an interval of three years between the cuts, is now thickly covered with remarkably sturdy young trees from 12 to 15 years old. This is interesting, because it is exceptional, as some of the seeds must have been wind-carried well over 100 yards, no seed trees having been left standing. Beyond the erection of wire-netting to keep out the rabbits, nothing was done to help the seedlings, except, of course, that the ground was cleared of heather at the time of felling. Plantations of all ages look remarkably healthy, and are as well stocked as though machine-sown.

The woods of mature Scots Pine are perhaps rather thin, although they are denser than is usually the case in this country. It was interesting to see a number of clean-stemmed maritime Pines, fully as high as the Scots, and quite as straight in the shaft. The Weymouth Pine suffers here, as in all parts of the country, from the fungous disease Cronartium ribicolum, which prohibits its use as a forest tree in this country, and has lately commenced to be destructive in the United States.

The Larches at Woburn are perfect, and, in consequence, extensive plantings are being made. The Japanese Larch still has its staunch supporters, though they received a shock from its behaviour in the drought of 1911. Up to about 80 years of age in the hollows and 60 years on the sandy hillsides of Woburn, the European species produces very good crops of excellent timber, but it is advisable to cut it at the ages mentioned, otherwise it gets "pumped," that is, it begins to deteriorate at the base of the stem. This is no doubt due to the comparative poorness of the subsoil. Disease is present, but the vigorous growth of the trees enables them to recover from its attacks. Experiments are being conducted by Mr. E. R. Burdon, of the Cambridge Forestry School, with a small plantation of eight-year-old Larches in an unfavourable soil, the object being to artificially infect the trees by placing badly-cankered sticks under them. Although this has been going on for some years now, none of the trees show signs of infection. The general behaviour of the Larches at Woburn confirms the growing belief that the Japanese Larch is in no way superior to the European, and is in fact inferior to it in more ways than one.

It is a pity that Corsican Pine does not produce better timber at an early age. In mining districts the thinnings are eagerly bought for conversion into pit-props, as the young stems, although not very durable, are generally exceptionally clean, and practically free from taper. But there are no mines anywhere near Woburn, so that this tree has no special value here. The so-called "Mermaid" wood, composed of European Larch and Corsican Pine in the proportion of about 2 to 1, was planted in 1900, so that, allowing three years as the age of the seedlings when put in, the trees are now 15 years old. The Larches are, on the whole, better than the Corsicans, but there is no danger of the latter being suppressed. The Larches are from 25 to 40 feet high, and the Corsicans from 20 to 30 feet. The average girth works out at about 11 inches for both species. An interesting experiment has been carried out in an exposed position on a hill-top, Corsican and Scots Pine having been planted pure in two plantations standing side by side. Both show remarkable vigour, and there is little to choose between them as regards height and girth. These plantations are about 12 years old, and although it is as yet early to judge, the Scots Pine should ultimately be the more valuable on account of its superior timber.

Broad-leaved trees are not a great feature in the Woburn woods, and this is not surprising considering the character of the soil. Oaks in pure plantations were planted 11 years ago on the German method, viz., in rows 4 feet apart, the distance between the plants being 18 inches, so that the number of plants per acre works out at something like 7,000. These plantations were laid down according to the directions of Sir W. Schlich, and although they will probably need underplanting before they reach maturity, no fault, beyond perhaps the excessive cost of planting, can be found with them at present. Needless to say, Quercus sessiliflora has been chosen for this experiment, as the soil is altogether too dry and light for the pedunculate species. Chestnuts, although apparently vigorous and healthy, almost invariably develop ring shake, their timber thus being rendered useless for anything but fence posts and other rough work. This mysterious defect has baffled foresters and scientists alike, but it is significant that the main fissures in several felled trees which we examined all nearly exactly corresponded, viz., were situated in the 50th annular ring from the date of felling (1911). Weather records show a winter of extreme severity in the years 1860-61. In regions not subject to hard frosts ring shake is comparatively seldom found, so it is possible that frost may be the cause of the trouble. Ash grows well in some of the more fertile spots at Woburn, and some remarkably fine specimens are to be seen, but extensive plantings will never be possible over the large areas owing to the lack of mineral foods, particularly lime, in the soil.

I do not believe there are forests to be found in this country better than those just described, and it would be interesting to compare some of the yields with those from Continental woods. The work at Woburn is on the lines of true forestry, not the casual arboriculture which is common on so many British estates. Some things there, such as the non-removal of mature timber or the excessive number of shelter trees over newly-formed plantations, would surprise Continental foresters, but it must be remembered that the Duke of Bedford, although keenly interested in forestry, has also a love for the effects produced by large groups of trees, and prefers a fine view to the profits which could only be made by spoiling it. Mr. Mitchell, his forester, understands this too, and the result is not only good forestry but a landscape of exceptional beauty. *J. G. Watson.*

SOUTH AFRICA.

VALUE OF SMALL HOLDINGS.

It is interesting to find that the small holdings movement is penetrating into such sparsely-populated regions as South Africa, and it might seem paradoxical that a country with a population of 12 persons to the square mile should concern itself with the problem of small holdings. But to the observant student of intensive cultivation, no paradox is involved, for the question of small holdings is at bottom the question of the limits of size consistent with the most efficient cultivation.

As the writer of the article points out, Mr. Seebohm Rowntree, in his recent work on *Land and Labour; Lessons from Belgium*, concludes, from a careful investigation extending over four years, that Belgium gains enormously from the subdivision of her land among large numbers of small cultivators. The facts are eloquent. With a naturally poor soil, Belgian crops—other than Wheat—stand first in Europe for amount of yield per acre, and the average yield of Wheat reaches the fine quantity of 34 bushels per acre. Side by side with this high productiveness stands the fact that the density of population of Belgium is not far short of double that of England, the respective numbers being 589 persons per square mile in Belgium, and 342 in Great Britain. Applying the moral to be drawn from Europe to the case of South Africa, the *South African Agricultural Journal* recognises that small farming is to be encouraged, and maintains that, with the small holdings, there must be freehold and co-operation. It urges that every farmer should lay off an acre-farm, which should serve him as a model and a standard to which he might aspire to raise the yields from his larger fields.

NEW OR NOTEWORTHY PLANTS.

BUXUS HENRYI, MAYR.

MAYR, in his *Fremland Wald und Park bäume*, p. 451 (1906), refers to a peculiarly distinct species of Box, discovered by the eminent Chinese collector, Augustine Henry, near Ichang, which he designates as Buxus Henryi. As, however, the description is inadequate for the identification of his species, I have thought fit to amplify his diagnosis, basing my remarks upon Henry's specimens (No. 3,387), which are preserved at Kew, and which I presume to be conspecific.

A much-branched shrub, 6 feet high, second year's shoots more or less terete with exfoliating greyish, glabrous bark; current year's twigs straight, 3-4½ inches long, alternately compressedly quadrangular, smooth, greyish, and absolutely glabrous; internodes ⅓ to 1 inch long; axillary buds minute, puberulous; terminal buds long and slender, Beech-like; leaves opposite, spreading, lanceolate or broadly lanceolate, obtuse or minutely apiculate, narrowing gradually from below the middle into a scarcely perceptible grooved petiole, 2-2¾ inches long, ¾-1⅙ inch broad, thinly leathery and rigid, greyish-green above, paler below, distinctly penninerved and glabrous on both sides, the closely-parallel lateral veins with their accompanying reticulations not very patent; margin closely wavy and slightly recurved and cartilaginous; inflorescences axillary, opposite, scarcely exceeding half an inch, several-flowered, invested below with imbricate conspicuously scarious and greyish, oblong subacute or obovate ciliolate bracts, the inner of which are transparent.

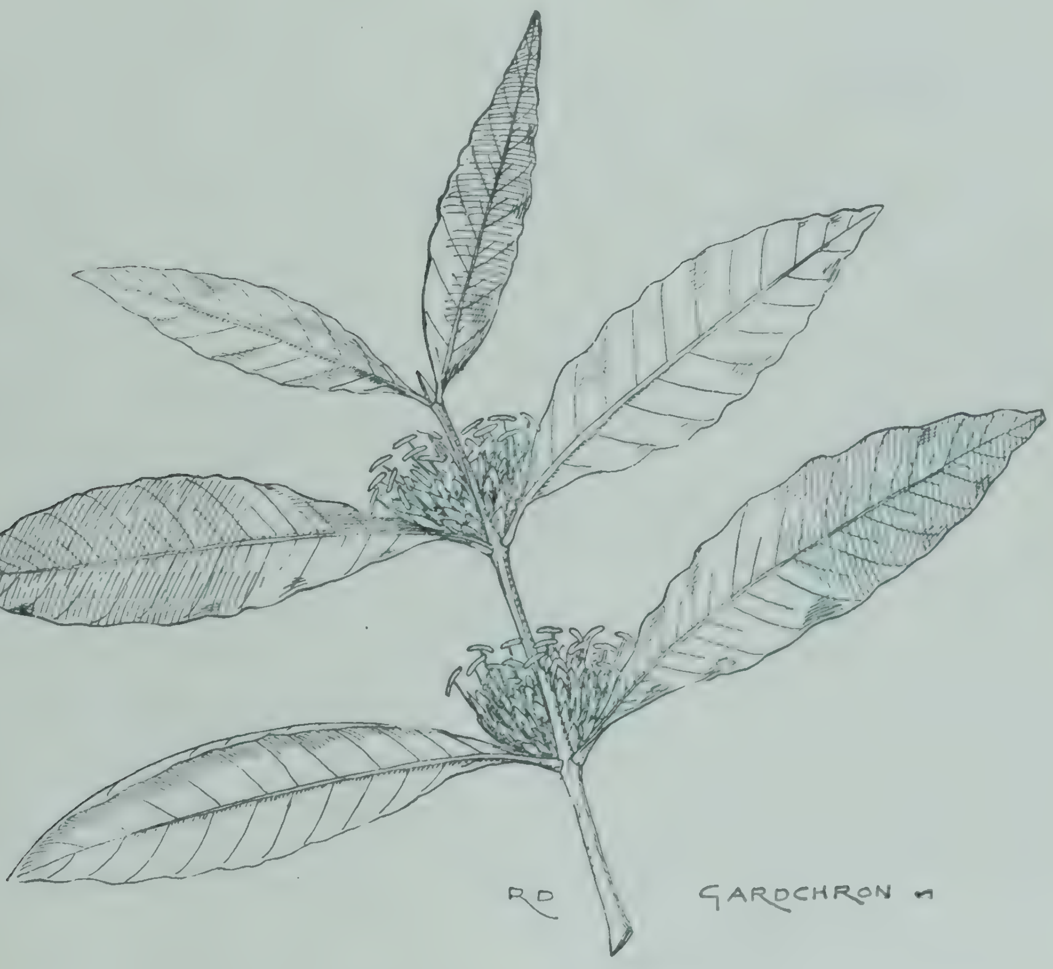


FIG. 182.—FLOWERS AND FOLIAGE OF BUXUS HENRYI.

The exceedingly large leaves of B. Henryi (see fig. 182) and its conspicuous inflorescences, with their exserted stamens, which suggest the species' affinity to the Balearic Box, would render it a desirable adjunct to the Boxes now obtaining in English horticulture. The desirability of its introduction is commended to the notice of plant-collectors in China. *R. A. Dümmer.*

ECHIUM WILDPRETII.

THE *Revue Horticole* for October 1 contains some notes and two illustrations by Dr. G. V. Perez, Teneriffe, on several species of Echium which grow wild in that island. One of these, E. Auberianum, now appears to me to be identical with E. Wildpretii, as grown at Kew since 1897, figured in the *Botanical Magazine*, t. 7847, and represented by a coloured plate in the *Gardeners' Chronicle* for October 26. In the note accompanying this plate I stated that E. Wildpretii was "distinct enough in foliage and habit from the other species found in Teneriffe" to be accepted as a good species. I have since carefully examined the specimens of this and other Echiums in the Kew herbarium and have read Dr. Perez's notes, and I am now convinced that the plant described by Webb as E. Auberianum, represented by the picture in the *Revue Horticole* and grown by Dr. Perez, is our E. Wildpretii. The following is a rough transcript of a portion of Dr Perez's notes. Writing of E. Auberianum, he says it grows in Teneriffe at an altitude of about 6,000 feet, and that a plant of it which flowered in his garden this year attained a height of 8 feet. The flowers are bright pink when they open, the pink of the Ivy-leaved Pelargonium Mme. Crousse, but their colour changes to purple as they age, and the two colours together give the whole spike the effect of brick-red, which is the colour shown in the *Gardeners' Chronicle* plate. The same species has also been named E. Bourgeauanum. Where it grows wild E Auberianum experiences frost; it is, in fact, the hardiest species in the island. It ought therefore to succeed out-of-doors in the warmer parts of this country.

Dr. Perez also mentions a hybrid Echium now growing in his garden which flowered for the first time last September. It was a chance seedling from an old plant of E. candicans, and owed its origin, he believes, to the intervention of bees which had carried pollen from the flowers of E. simplex growing near to the flowers of E. candicans. In habit the hybrid is more like E. simplex than E. candicans, though one of the plants bore three flower-spikes instead of only one, as E. simplex does. The flowers were a clear blue, about the same shade as the flowers of Plumbago capensis. E. simplex must be a magnificent object where it grows as it does in Teneriffe. Dr. Perez had a plant of it which when in flower was 11 feet high. Before flowering it forms a short-stemmed rosette about 4 feet in diameter, the leaves being 2 feet long by 4 inches wide. The three most striking species of Echium belonging to the Simplicia section and natives of Teneriffe appear to be E. simplex, E. Pininana, which has leaves nearly 3 feet by 6 inches, forming a single rosette about 5 feet through, and E. Auberianum (Wildpretii).

Eight years ago Lord Walsingham flowered several species of Echium in his garden at Merton Hall, Thetford. (See *The Garden*, July, 1904, p. 59.) One of these he had under the name of E. candicans giganteum, but from his description of the plant it must have been E. Auberianum, and not a variety of E. candicans, which is of branching habit and blue flowered. *W. W.*

ORCHID NOTES AND GLEANINGS.

DENDROBIUM SUPERBUM GIGANTEUM VAR. ROEBELENII.

THE variety Roebelenii is a white form of the well-known D. superbum, and one of the finest of the genus, not excepting even the grand D. Wardianum. The snow-white sepals and broad, undulated petals, with a deep violet and white lip, will make it one of the most desirable Orchids, both for exhibition purposes and the cut-flower trade. The large, showy blooms expand in October and November, when there are very few Dendrobiums in flower. The long, pendulous stems are not so strong as in the ordinary type, but very often they attain 6 to 7 feet in length. The flowers are set almost the whole length of the stem in twos, threes and fours; indeed, as many as 100 flowers have been counted on a single stem. Their perfume is not so pronounced as in the old type. D. superbum giganteum is found over the whole Eastern Archipelago as far as New Guinea, and from the Gulf of Bengal to the Gulf of Tonquin, but so far very few white forms have been found amongst them. It has been my good fortune to come across this fine variety, growing together with the old form, though it is by no means very plentiful and many big trees had to be felled to get a small lot together. D. superbum invariably grows in low grounds; warmth and plenty of moisture are necessary to their well-being. So far as I can see they never are entirely at rest; even in the dry season they push forth new growths. In their home the rainy season begins in November and lasts till May; then follows a very dry period, at the end of it the flowers expand and last in bloom for several weeks. They mostly grow on very high Teak trees, with very little shade from the overhanging branches. Plenty of water and decayed leaves falling between their roots seem to be quite essential to their well being and to enable them to produce such enormously long stems. Indeed, I cannot believe a small pot with a few crocks and a little Sphagnum-moss are sufficient to grow them successfully and keep them in perfection for any length of time, but this matter I have to leave to the wisdom and experience of growers at home. *C. Roebelen, Orchid Collector, Bangkok, October, 1912.* [Dried flowers are sent which well bear out Mr. Roebelen's remarks, but it may be well to state that three white forms are already in gardens, those known as Burkei (see *Gardeners' Chronicle*, 1884, vol. xxi, p. 306) and Hutton's variety (see *Gardeners' Chronicle*, 1869, p. 686) being apparently of the same class as that now described.—EDS.]

CORSICA.

THE Island of Corsica, which owes much of its fame to the fact that it was the birthplace of the great Napoleon, is no less interesting to the naturalist than to the historian.

It lies 106 miles from the coast of France, and 50 miles from the Italian shore. The Strait of Bonifacio, 6 miles in width, separates it from the Island of Sardinia. Corsica was formerly known as "L'île de Beauté," and it well deserves the name. A solid chain of mountains stretches along the middle of the island from north to south, and culminates in Monte Cinto, which is nearly 9,000 feet high. The central range throws several arms towards the sea, notably one in the east, which, intersected by deep valleys, ends abruptly at the coast, where the rocks rise sheer out of the water, and the shore is broken into innumerable gulfs. The western slopes are more gentle, and form wide, fertile valleys and plains, which were once known collectively as the granary of Rome. At the present day, unfortunately, the name is no longer applicable. From the mountains many torrents make their way to the valleys below, carrying with them large quantities of sand and small particles of rock, which so fill up the beds of the streams that the water overflows the land.

Malaria is rife in warm weather, and until lately no precautions were taken to prevent its ravages by destroying its agent, the mosquito.

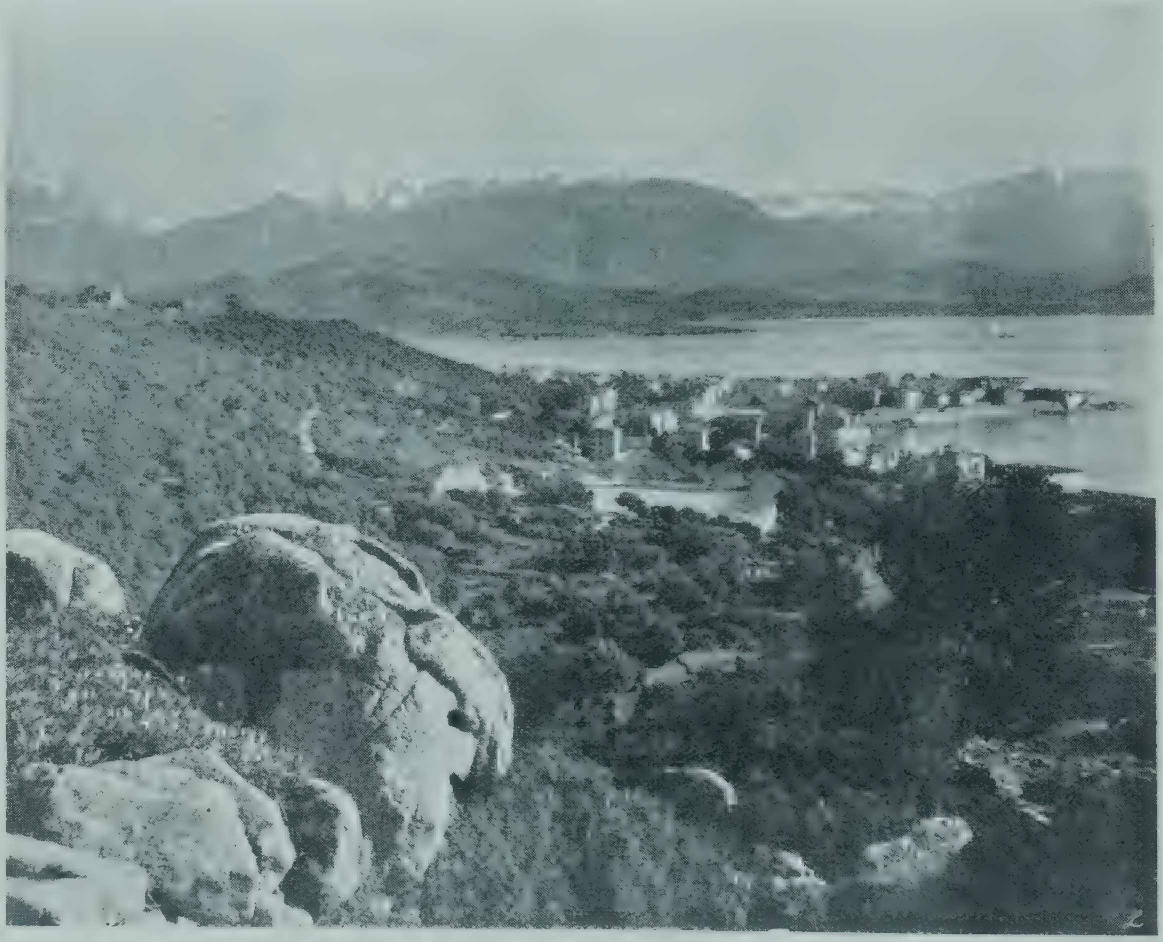
THE CLIMATE.

Owing to the mountainous and varied character of the land, the climate varies very much in different parts of the island. Broadly speaking, the climate may be said to be intermediate between that of the French Riviera and that of Algeria, but less extreme, owing to the influence of the sea. The island is of granitic formation, except for a small block of limestone in the south; its geology is curious and somewhat complex, igneous rocks cropping up in the strangest positions. The arable soils are mainly alluvial. They have been formed by deposits brought down from the mountains by the streams, and are of a light, sandy nature. In some places clay appears to have been formed by the atmospheric-weathering of granite rocks.

According to the latest report by the Hon. Henry Dundas,* only one-fifth of the island is cultivated; and even this estimate would seem high, since it is possible to traverse many miles without seeing any sign of cultivation. At first sight one might be tempted to blame the idleness of the population for this neglect, but it must be remembered that in some parts water is very scarce, and in the south five or six months of drought are by no means unusual. Again, malaria, as already stated, is extremely prevalent, and makes it impossible to live in the plains during the summer. A few months ago the sum of 12,000,000 francs was voted by France for the purpose of draining the eastern coast, in the hope of reducing malaria and restoring the ancient fertility of the plains. During the last few years the occupation of agriculture has received a certain stimulus in the shape of the formation of the "Syndicat Agricole"; and a change in the food-habits of the population has also operated favourably in this direction.

From an extremely remote period until recent times life in Corsica has been very easy. In every valley, as well as on the slopes of the granite hills, there grew in wild profusion a most useful tree—the Sweet Chestnut. The fruit, ground into a flour, formed the staple food of the people, who cooked it with goat's milk to make "pollenta," and ate it at every meal. Homemade cheese formed a large part of the diet, and also wild game, which the people shot at will—for every Corsican possesses and carries a gun. Unfortunately, a parasitic fungus has of recent years attacked the Sweet Chestnut, and, after ruining the plantations in the centre and south-west of France, made its appearance in the thick groves of Corsica. The attack of this disease is insidious and deadly. It usually makes itself apparent at the time that the trees affected have finished their annual growth. The leaves hang on the branches in autumn long after the healthy trees are bare. They fall ultimately, and no new leaves being formed, the tree dies. The process usually takes three or four years; and when the tree is cut down, the wood is found to be quite black, as if the sap has turned to ink; the disease is, indeed, known as the "ink" disease. A long series of investigations has been carried out by the French Government with a view to the identification and elimination of the fungus; but down to the present no remedy has been discovered.

Besides the "ink" disease, another enemy to the Chestnuts, scarcely less harmful, has made its appearance. This enemy is the tannin factory, which prepares tanning materials from the wood of the Sweet Chestnut trees. About £80,000 worth of extract of Chestnut-wood is exported annually to England and Germany to be used in the dyeing industry; and, dreading the fungus-disease, and attracted by the idea of getting ready money for his trees, the Corsican willingly sells his capital. Scarcely any young trees are planted in the place of those which are felled; with the result that in a few years, the owner of forest land is obliged to till it in order to get a living. In this way, agriculture slowly increases, and makes a certain amount of progress.



[Photograph by C. L. Digoy.

FIG. 183.—AJACCIO, SHOWING THE NUMEROUS OLIVE TREES ON THE OUTSKIRTS.

In spite of all the adverse circumstances against which the Chestnut trees have to contend, there are still some large forests in the island. The best are to be found in the districts of Orezza and Otto, and large quantities of the fruit are exported thence to Lyons, for the manufacture of "marrons glacés."

Many of the lower slopes are covered with Olive trees, especially in the district of Balagne, and all round Ajaccio (see fig. 183). The grey foliage of the Olive gives the landscape a peculiar aspect; somewhat dull at times, but with a certain beauty of its own, especially when a light wind stirs the leaves, which gleam and glitter in the bright Corsican sunshine. Numerous species of Citrus grow, and succeed very well, in the Corsican plains:—C. Aurantium (Orange), C. vulgaris (bitter Orange), C. decumana (Shaddock), C. medica (Citron), and C. nobilis (Mandarin). Cedrats and Lemons are exported in fairly large quantities, but the tree which thrives best is the Almond. There are several large plantations of this tree, and they could, no doubt, be increased, as Corsican almonds, which are very rich in flavour, find a ready market. A company, financed entirely by British capital, has been established for six years on two large plots outside Bastia; on one, there are about 10,000 Almond trees. Figs thrive almost anywhere, and the same may be said of Peaches. A little wine is made, chiefly in the north, around Cape Corso.

Very little in the way of horticulture proper has as yet been attempted. This seems a pity, as natural conditions are even better than in the Riviera itself. Round the towns of Ajaccio and Bastia there are a few private gardens, where Palms, Cacti, Araucarias, Acacias, and Eucalyptus grow exceedingly well. A few market gardeners grow various kinds of vegetables with success. New Potatos, Green Peas, and similar products are obtainable all through the winter; but the long period of drought makes gardening difficult in the summer. Attempts at growing flowers—notably Roses, Carnations, and Freesias—have proved successful; and, no doubt, when communication is more frequent, this branch of horticulture will increase.

THE CORSICAN FLORA.

In the preface to the *Flore Générale de la France* MM. Bonnier et de Layens say:—"As for the Isle of Corsica, its flora is so peculiar that we have not included it in our book." Corsica possesses, however, a large number of species in common with the neighbouring Continental coast; others are only met with in countries as far distant as Greece, Spain, and Algeria; which seems to point to a former connection between all these countries. Others, again, are indigenous to Corsica; but the native plants are becoming rarer each year, chiefly owing to increased means of communication. Of the plants indigenous to the island we may mention:—Draba Loiseleuri Boiss., Cistus corsicus Lois. Silene corsica D.C., Silene Requienii Ott (Melandrium Requienii

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* Report on Corsica, by Consul the Hon. Henry Dundas, 1910.

Rohr), Erodium corsicum (a very pretty, freely-flowering rock plant), Ruta corsica, Gallium corsicum Spreng., Bellis Bernardii Boiss. and Reut, Aronicum corsicum D.C., Helichrysum frigidum, Linaria hepaticæfolia Duby, Mentha Requienii Benth., which forms a dense, strongly-scented carpet. Thymus herba-barona Lois, Helxine Soleirolii (of which there is a good border on the stage of No. 4 house at Kew) grows in the open in warm places.

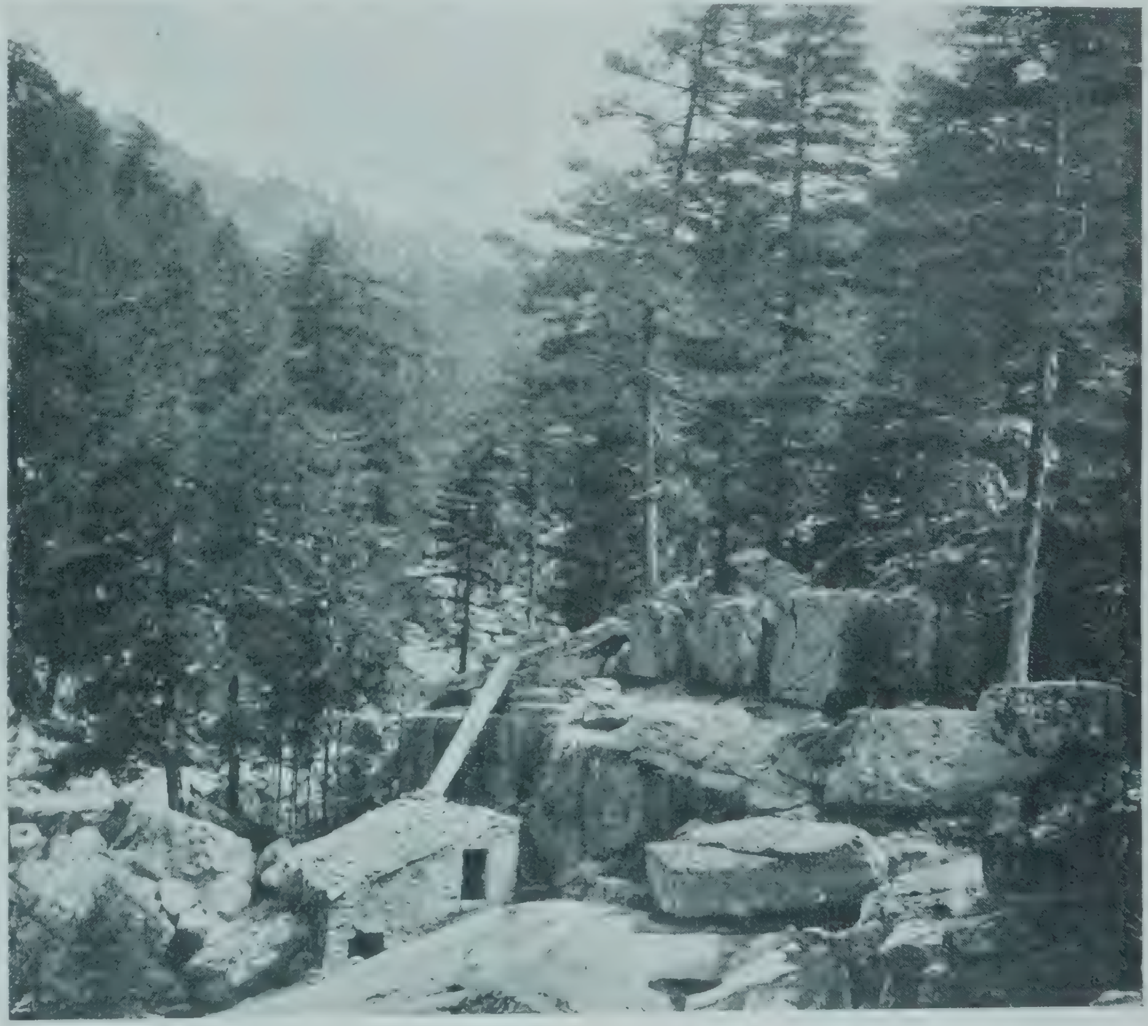
The most striking feature of the Corsican flora is the "maquis." This is the name given to the thickly growing shrubs covering all the land which is not cultivated or wooded. Various species of Cistus form the greater part of the "maquis," the dominant forms being Cistus monspeliensis, L., with narrow, dark leaves, and white flowers; C. salvifolius, L., or sage-leaved Cistus. A natural hybrid, formed by a cross between C. monspeliensis and C. salvifolium often occurs, and is known as C. Flichei. C. incanus, L. (C. corsicus Lois), is quite distinct from the three first-named species, having wider leaves, and large, attractive-looking pink flowers. The aroma of the Cistus is perceptible a considerable distance out at sea; and Napoleon, the greatest of all Corsicans, wrote from St. Helena:—"La Corse! cette île enchantée! son odeur seule me la ferait reconnaître."

On the fresher slopes, the Strawberry tree (Arbutus Unedo) takes precedence of the Cistus, forming impenetrable thickets. The fruits ripen in December, and are used for making jam. Pistacia Lentiscus is common in the "maquis"; and also Erica arborea, which grows very tall, and when in bloom, in early spring, forms greyish-white pyramids. The roots of this Erica are sent to Ajaccio, where they are used for the manufacture of "briar" pipes.

Myrtus communis and Phillyrea angustifolia are much in favour in Continental gardens; they both grow in the "maquis," and the inhabitants of the island make baskets of the straight, young shoots of the Myrtus. Calycotome spinosa is conspicuous on account of its sharp thorns. It is a first-class hedging shrub, though somewhat bare in winter. The plant presents a charming appearance in early spring, when it is aglow with bright-yellow flowers. It has a peculiar advantage in that it is not nibbled by goats or rodents, all its parts being poisonous. There are several other plants of smaller size and less profusion, such as Daphne Gnidium, Genista corsica, Lavandula Stœchas, Psoralea bituminosa, Helianthemum Tuberaria, H. guttatum, Helichrysum tempis, H. angustifolium, &c.

Long, prickly trails of Smilax aspera and Asparagus acutifolius bind the shrubs together, and make them impenetrable. The general appearance of the "maquis" is that of a dark green carpet, relieved in winter by golden spots of Calycotome and Genista. In May, the Cistus are in bloom, and the "maquis" then looks at its best; but with June come the hot, dry winds from Algeria, which destroy the flowers and foliage, leaving everything burnt and reddish, and suggestive of an African landscape. In olden times the "maquis" formed a safe retreat for the outlaw flying from gendarmes or vendetta; but the days of banditti are over, and they are only seen on picture post-cards. The chief utility of the "maquis" shrubs at the present day consists in providing material for the manufacture of charcoal, of which 5,500 tons are exported annually. Bundles of Cistus and Lentisques are used by bakers as fuel for their ovens. Where the "maquis" has been destroyed and the ground abandoned, it quickly becomes covered with Asphodelus albus and Asparagus acutifolius. Asphodelus albus is attractive, with its tall, graceful spikes of white flowers. It has fleshy roots, which are very difficult to dig out of the soil when once they are established. *C. L. Digoy.*

(To be continued.)



[*Photograph by C. L. Digoy.*

Fig. 184.—View in the forest of Aitone, Corsica. The trees are Pinus Laricio.

FOREIGN CORRESPONDENCE.

THE BULGARIAN ROSE HARVEST.

It is part of the irony of history that the most sanguinary struggles sometimes take place in the fairest spots. The slopes of the Balkan Mountains are the Rose garden of South-eastern Europe. Once south of the Shipka Pass (so grimly held by the Turks in 1877-8), the traveller finds himself in the Valley of Flowers. Should it be late May or early June, the whole countryside (sloping upward to the snow-clad mountains, downward to the Maritza River, and thus forming a natural "South Wall") is red with the Musk Roses from which the famous "attar"—worth its weight in gold—is extracted, and gay with the songs of the girls and women who pick the Royal blossoms. Motley and picturesque are the flower-gatherers—here a group of veiled Mohammedan women, representing the daily diminishing Turkish element, there a bevy of Greek girls in native caps, fair-haired Russians or swarthy Albanians—for the native Bulgarian population is unequal to the daily task of picking the tons of blossoms necessary to produce a few pounds of the "essence," and workmen are recruited from far and wide. Nor can they gather for many hours daily, for the perfume distiller knows that the best results can only be obtained from flowers plucked at dawn or eventide, and once the sun is high in the heavens, work is suspended until the cooler hours. But many hands make light work, and the white-sleeved native girls and women (interspersed with a few lads, and reinforced by the foreign pickers) empty their baskets unceasingly into sacks which the long string of donkeys carries to the primitive distillery.

A simple thatched shed—a lean-to constructed against any convenient wall—a brick furnace surmounted by a rude alembic, a tub of cold spring water (constantly renewed by a gully from the mountain side) to cool the pipe, a large flask or bottle to receive the product—such is the rude factory in which the most precious liquid in the world is produced among the most picturesque surroundings. The valley of Damascus, the vale of Cashmere, Ghazipur, a few favoured spots in Italy and Sicily, and (last but not least) the French Riviera also produce the Rose, but Bulgaria fears no rival except the last-named. With ample wood to feed the distillery furnaces, running water to cool the alembic pipe, cheap peasant labour, a singularly suitable soil, and a site designed by Nature herself for a flower garden, the Valley of Roses is likely to hold its own for long years to come. This part of Bulgaria, at any rate, is—as a famous warrior remarked of another favoured land—"a country worth fighting for." *F. A. W.*

AGRICULTURAL EDUCATION IN FRANCE.

France has a way of doing without fuss, and merely because they are in accord with common sense, many things which other countries can only contrive after much talking and arduous campaigning. Among those things which they order better in France are the agricultural co-operative credit societies, and no higher tribute to the success of these societies is to be found than that contained in a report made by United States representatives to President Taft. That report states that as a consequence of this and other educative work done during the past 15 years in France, the value of the annual crops has been increased by £20,000,000.

Board of Agriculture Appointments to the Horticultural Branch.—The attention of our readers is directed to the announcements in another column of the intention of the Board of Agriculture to appoint a General Horticultural Inspector to the Horticultural Branch of the Department. In addition to the general inspectorship, appointments of two other inspectors will be made in connection with the work of the Board dealing with scheduled pests.

THE ROSARY.

CULTURAL NOTES FOR DECEMBER.

With respect to transplanting, it is unnecessary to repeat the advice given for November, except to insist upon a careful selection of varieties with a view to their individual habits of growth. This point is often neglected, and Roses are frequently found in places which are unsuited to their size and habit, especially in beds and borders of mixed varieties. Even with climbers and pillar Roses, a variety is often to be seen which only reaches to about half the desired height, and another which so overgrows its support as to be unsightly. A row of pillar Roses, or a border of dwarfs, should be all of the same, or nearly the same, height; and unless the habit of each is well known, it is worth while to make inquiry. As regards dates of flowering, the same care in selection should be exercised. These remarks have, perhaps, little to do with actual culture. They are merely suggestions, thrown out in the hope of preventing disappointment.

In exposed positions, some protection will probably be needed; but as little should be given as possible—coddling will do more harm than good to hardy varieties, and these are now so numerous that there is no excuse for growing tender ones out-of-doors. The best protection for dwarfs is supplied by drawing up the soil round the roots and base; this is better than heavy mulchings of rotten manure, which nearly always freezes and does more harm than good. The indiscriminate scattering of loose straw litter among the plants should also be avoided; this is only of use where they are exposed to a cold, frosty wind, and since the wind invariably blows the litter away, the plants are soon completely exposed to its biting influence. Branches or twigs of Fir (according to the size of the plants) are much better. They are more easily arranged, do not retain moisture, and are too heavy to be readily blown away. If the position is very exposed, it is a good plan to form a miniature hedge of the branches, laying a few among the plants as well. In the case of tender dwarf Roses (such as Ma Capucine) it is a good plan to stick a few branches of Birch among the plants; if taller than the Roses they keep off wind and hoar frost.

Ample light and air should be afforded at all times, both in summer and in winter.

ROSES UNDER GLASS.

There is little to be done indoors, except to bring a few more plants into the warmth, and to provide a slightly increased temperature for the first batch. January is probably the best time for starting the main batch, since there is a prospect of more light as they develop; though the sun may not be visible, the light is sensibly increased. The earliest of the grafted plants may be removed from the case, though they should be retained for a time in the same section of the house. This part of the subject of Rose culture, however, was so fully treated in the notes for November that it is unnecessary to go further into the same matter now. The same method should be continued until a sufficient number of plants are obtained. *Practice.*

NEW ROSES.—IV.

TEA-SCENTED ROSES.

(Concluded from p. 406.)

Mrs. Foley Hobbs (T., A. Dickson & Sons, 1910). This Rose is coming (or perhaps I should rather say has come) very rapidly into favour with exhibitors, some of whom regard it as the best Tea introduced since White Maman Cochet. It is ivory-white with a good high centre and plenty of petals; sometimes, particularly when grown under glass, it has a faint tinge of peach colour in the centre. The plant is strong, vigorous and hardy, and grows rather tall. It is certainly a very beautiful and perfect flower of distinct outline and firm, the edges of the petals of which are slightly indented or waved. and the flowers are freely produced. It is, however, not merely useful to the exhibitor, but is also an excellent garden Rose, and will become popular when known.

Mrs. Herbert Stevens (T., McGredy & Son, 1910). If Mrs. Foley Hobbs is one of the best Tea Roses for exhibition, the variety Mrs. Herbert Stevens must take its place among the best half-dozen decorative Roses of recent introduction. It is altogether a delightful Rose, both in the bud and in the flower. The colour is a pure white, and the buds long and pointed, while the flowers, with their long, shell-shaped petals of good substance and opaque, are most attractive. The flowers are thin and therefore open well. I should have thought them too small for exhibition, at least as a rule, but I am told that the flowers will come of large size if strictly disbudded. The flowers are fairly well carried on long stems, which make them most useful for decoration, while their highly artistic form and finish make them great favourites with ladies for wearing in the evening. The only things I have against this Rose are its slight tendency to mildew, and also that in my garden its growth has not been so vigorous as I could have wished, and the foliage is poor, but I am told I shall not have to complain of the growing power when the plants are fully established. I have only had my plants for a year, but have found the flowers most attractive and very freely produced. I think it a Rose that everyone should grow freely.

Mrs. Hubert Taylor (T., A. Dickson & Sons, 1909) on its introduction was spoken of as a more vigorous Mme. Cusin. It is certainly a strong grower, but the flowers are less attractive, and are paler than those of Mme. Cusin, being a pale rose-pink. Sometimes they are pretty and the plant is certainly a good doer, but I am often disappointed with its performance.

Molly Sharman Crawford (T., A. Dickson & Sons, 1908). I very early fell a victim to the charms of this beautiful Rose, which flowers continuously from one end of the summer to the other. The flowers are white, generally well shaped, and carried erect well above the foliage. The plant is fairly symmetrical, with beautiful foliage, red when young, and passing through bronze to green. It is a good grower, and has been perfectly hardy with me. It is specially good in hot weather, and I found its value in the hot summer of 1911, when so many Roses became useless, but it will also stand a certain amount of wet. Its weak points, if it has any, are that in cold weather the petals are apt to come slightly crinkled or rough on the surface, and that for its class it is a little, but not badly, subject to mildew. This notwithstanding, it is about the best white bedding Rose we have at present, and is a thoroughly good garden Rose, with a very pleasant Tea perfume.

Nita Weldon (T., A. Dickson & Sons, 1908) is another white Rose with a slight tint of buff. It seems a useful Rose for exhibition, and has not been a failure as a garden Rose, but it requires good cultivation.

Paula (T., Paul & Son, 1908). This Rose is said to have been raised by crossing a seedling from Maréchal Niel with a seedling from G. Nabonnand. It is lemon-yellow in colour, not very full, and a little too loose in shape, but a pretty decorative Rose. The plants are very bushy and well shaped, and flower freely and continuously. The flower has a pleasant fragrance.

W. R. Smith (T., Henderson, 1908) was raised as a cross between Kaiserin Augusta Victoria and Maman Cochet. The flowers are white with a tinge of blush, usually well formed and of plenty of substance, but not carried erect. The plant is a good grower, with plenty of foliage, of a good dark green, and seems free from mildew. It is a good Rose for exhibition and quite a fair garden plant. *White Rose.*

THE ALPINE GARDEN.

PRIMULA CARNIOLICA AT HOME.

Judging from catalogues, Primula carniolica should be a common plant in gardens. In point of fact it is a very rare one indeed (and hardly less so in nature), the plants that masquerade under its name being usually forms of P. glaucescens. The true P. carniolica is the third and least-known in the brevibracteate group, which also includes P. marginata and the magnificent true P. viscosa (also a very rare plant in gardens, where it sometimes slips in under the names of P. latifolia, P. graveolens, or P. cynoglossifolia). Of the three, P. viscosa has the widest distribution, ranging along the granite Alps from the Pyrenees. P. marginata belongs to the Maritime, Graian and Cottian Alps, but P. carniolica, despite its promising specific, is restricted to a very small district north of Trieste, on the wooded hill-tops round Idria, where, even so, it is of very local occurrence.

I have never been so far for a single species. For weary day after day one toils out to Vienna, and thence, for weary day after day, far down into the Southern Alps, until at last one has got utterly beyond all civilised peoples and languages, into a far corner of the world; where every word is alike unspellable and unpronounceable, built entirely of x's and z's, and rarely consists of fewer than ten syllables. Here, in its remote fastnesses, dwells Primula carniolica. The country is wooded and fertile, the hills are only of some 4-5,000 feet, and hardly, if at all, rise clear of the woodland. In the tumble of mountain ranges the eye is struck by the comfortable steadings that perch in cleared patches of culture all up their sides. And the whole Slavonian land gives an impression of ease and prosperity. The Slavs of this secluded hill-country have a nobler look than they show in more populous and central districts.

Even in its own realm it is not easy to come by P. carniolica, so sporadic is the distribution of the plant. One climbs by steep and stony tracks, over grassy slopes, ablaze in the late August with Michaelmas Daisy and lovely Cyclamen, up and up, by hot and sunburnt ways, over delusive summit after summit, each in turn showing a fresh apparent summit in the distance, until one is hot and anxious indeed. For all the way, no matter at what height, there is no sign whatever of the Primula—no, not even when you are well within the zone where all right-minded Primulas have the habit of being found. I ranged from likely spot to likely spot, and from each returned empty to the track. To have come so far—! And meanwhile Omphalodes verna was the only thing of interest I saw; and there were now, of course, no more flowers. Ultimately, though I had precise directions, it was in a cold sweat of misery that I climbed at last empty-handed into the icy wind that swept the summit of the hill; and still I had found nothing. Here, however, was a mown meadow, with heaps of stone picked off to clear it, and piled up. On the far side was another steep and wooded slope facing the north, and here, in the grass on the shady side of the stone piles, just as I was longing for death, suddenly began P. carniolica.

In the grass the Primula was poorly, and had a depressed, unhappy look, struggling with long trunks along the ground. It was down in the wood below that it belonged and abounded in rich luxuriance in the dense shade, thriving in the deep wads of moss, and on the damp faces and ledges of shady rocks. This rare and wonderful Primula differs wholly in character from its two relations (and from all its section, indeed). It is not a saxatile plant like P. marginata. It is not an open-air plant like P. viscosa. It loves obscurity and moss and moisture, and, alone of all our Alpine Primulas, rejoices in rich, cool, and copsy corners, such as might suit the common Primrose. Here, in deep sponges of moss, it forms wide, straggling plants, sending out its woody trunks through the soft expanse. Here and there spring its tufts of leaves, which are long and oval and slack in texture, rather glossy, and absolutely devoid of hairs or powder. They die utterly away in autumn, and the green bud of next year's foliage alone remains to tell you that the plant is there. When I found it the leaves were yellowing, and I was disappointed to find only one seed-head. It would seem that it flowers sparsely at home. With me, in an open but not sunny border, it grows robustly, and flowers more readily than almost any other. The flowers are of quite remarkable beauty, even among Primulas. They are carried in loose heads of 3-6, on rather flaccid, smooth, green stems of some 6 or 8 inches, and are large, splendid and round, of a very delicate, lovely rose-pink, with a conspicuous mealy eye, and an exquisite scent. There has been found, of course, an albino form, which must be lovely. In my own case, as all the flower was over, I must trust to luck for it, and to my pertinacity in searching out such plants as had a pallid look in their leaves. In the same station, too, has been rarely recorded the beautiful hybrid of P. carniolica with P. Auricula—that P. × venusta which, crossed again with its maternal aunt P. marginata, has resulted in the glorious violet of the secondary hybrid P. × Marven. But, though I quested eagerly, I caught no glimpse of P. venusta, nor indeed did I ever succeed in sighting any form of P. Auricula. However, long and far and arduous and expensive as the journey may be, it is not wasted time or cash if it yields such a first-class treasure of beauty and vigour as the very rare and remote P. carniolica, most shy, secluded and romantic of its race—hardly excepting even the no less rare and misrepresented P. Allionii. *Reginald Farrer.*

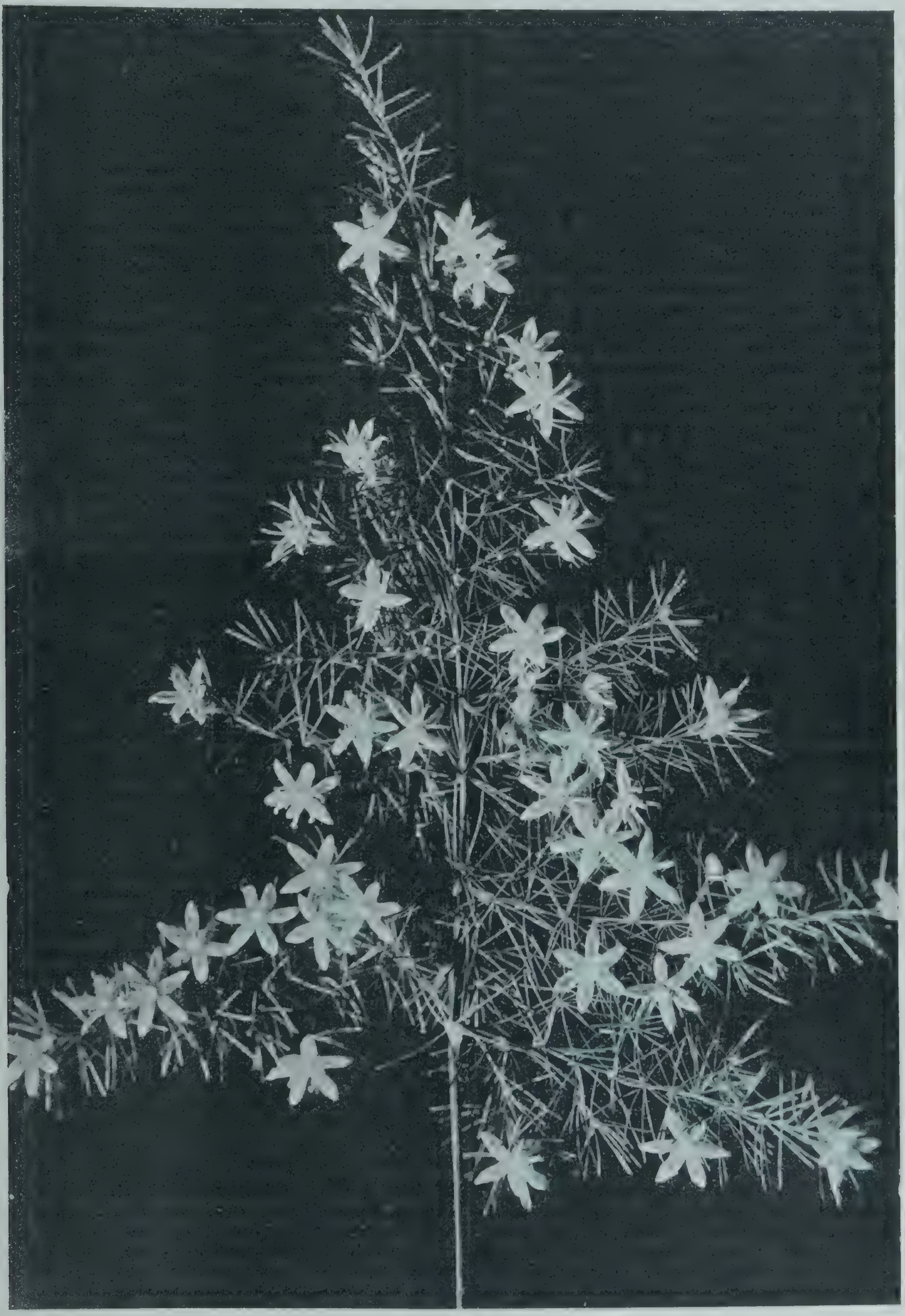


Fig. 185.—Flowering spray of Asparagus Lutzii.

NOTICES OF BOOKS.

British Violets.*

In this volume Mrs. Gregory has brought together the result of more than a quarter of a century's work on the British Violets; that is to say, the species of Viola of the section Nominium, which excludes the Pansies (V. tricolor, &c.).

Mrs. Gregory has not only studied the plants in the field, but also under cultivation, and has examined the material in the collections at the British Museum, Kew, and Cambridge, and also specimens sent by numerous correspondents. Twelve species are recognised: Viola odorata, V. hirta, V. calcarea, V. palustris, and V. epipsila of the group Acaules, and V. silvestris, V. Riviniana, V. rupestris, V. canina, V. lactea, V. stagnina, and V. montana of the Caulescentes group. Hooker's *Student's Flora* (Ed. 3, 1884) recognised six species, while the recent edition of Babington's *Manual*, by Messrs. Groves (1904) gives eight. The additional species are (1) Viola calcarea (Gregory), a segregate from V. hirta, which Babington had included with other forms as a variety of that species, and which was restricted and defined by Mrs. Gregory in the *Journal of Botany*, 1904. Though when thus restricted it is a widely different plant in appearance from typical V. hirta, Mrs. Gregory is fain to admit that the two are connected by a whole series of intermediates. (2) V. epipsila (Ledebour) was first detected by Mrs. Gregory as a British plant from South Devon, and has since been noted from other localities in southern England, Wales, and Ireland. It is very closely related to V. palustris, but kept distinct in most European floras. (3) V. lactea (Smith), which British botanists have regarded generally as a subspecies of V. canina. (4) V. montana (L.), discovered in Woodwalton Fen, Huntingdon, in 1905. This is synonymous with V. nemoralis (Kützing), a German and Scandinavian plant, but the author expresses her doubts as to its validity as a good species, and would "not be surprised if it turned out to be a hybrid between V. canina var. lucorum and V. stagnina."

Under each species is cited its synonymy; this is followed by a detailed description of the plant and its parts, various notes, and details of distribution in the British Isles. The numerous varieties, forms, and hybrids are discussed in detail and at length An important feature of the book are the numerous excellent illustrations, partly reproductions of photographs and partly line drawings, the latter by Miss W. Mills. Mr. G. C. Druce supplies an introduction, in which he reviews the history of our knowledge of the British Violets. Mrs. Gregory also acknowledges his help, along with that of other workers at British botany, in her preface.

The book is very clearly printed, and forms a valuable addition to the literature of the critical study of the British flora. Mrs. Gregory is to be congratulated on the completion of a useful piece of work. *A. B. R.*

ASPARAGUS LUTZII.

The new Asparagus, A. Lutzii, illustrated in fig. 185, was raised by Mr. Lutz, of Bingen-on-Rhine, from seed obtained by crossing A. plumosus nanus and another species of Asparagus.

The hybrid is characterised by upright and vigorous growth, by good-sized short shoots (the so-called leaves), and by freedom and persistence of flowering.

As shown in fig. 185 the branches, which reach a height of upwards of 6 feet, grow fairly erect, and exhibit but little trace of the climbing habit. They may be tied to bamboo stakes or to vertical wires. It would appear from the photographs and description which the raiser has sent to us that the hybrid A. Lutzii will prove useful both for decorative and cutting purposes.

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* A monograph, by Mrs. E. S. Gregory. 8vo., pp. xxiii, 108, illustrated. (Cambridge: Heffer.) 1912. Price 6s. net.

KEW NOTES.

CRATÆGUS CARRIEREI.

THIS hybrid Thorn originated in France, the reputed parents being C. mexicana and C. prunifolia. On the Continent the name C. Lavallei is sometimes used for the same hybrid. Its most valuable character is that the fruits hang on the trees till December, its only rival in the Thorn collection at Kew at the present time being one of the parents, C. mexicana. The fruits of this species are yellow, forming a pleasing contrast to the rich orange-red fruits of the hybrid. Carrière's Thorn is also a showy tree when in flower, with corymbs of white blossoms half-an-inch across, prettily relieved with pink stamens. The fruits are ¾ inch in diameter, borne 10 to 18 in a bunch. Previous to falling in late autumn the leaves assume a shining bronzy-red hue.

CRATÆGUS OXYACANTHA PRÆCOX, THE GLASTONBURY THORN.

JUDGED by the number of inquiries for this remarkable tree by visitors, this is the most popular tree in the outdoor garden at the present time. The flowering season of the Thorns is May, but, in addition to producing blossoms at that time, the Glastonbury Thorn flowers more or less freely between November and March. A tree in the Thorn avenue south of the temperate house is at the present time flowering freely, while there are also a considerable number of ripe fruits from the May flowers. The legend of the Glastonbury Thorn is that, when Joseph of Arimathea landed in this country to preach the Gospel, he brought with him a staff of Thorn wood. At night, while he slept, he fixed the staff in the ground. In the morning when he awoke, according to the legend, the staff had taken root and was covered with white blossoms.

DAHLIA IMPERIALIS.

A FINE specimen of this striking Mexican plant is flowering in the succulent or Cactus house No. 5. From the fact of its not flowering till early winter it is necessary to grow the plants in large pots or tubs, and remove them from outside, where they may be grown during the summer, to a cool greenhouse at the first sign of frost in autumn. The plant in question has five vigorous growths about 9 feet in height, terminating in panicles of white blossoms, faintly tinged with mauve.

COTONEASTER PANNOSA.

THIS Chinese species was first collected and sent to France by a missionary about a dozen years ago. It is now represented at Kew by a large bush, 6 feet to 7 feet high. The larger branches are upright, the younger ones slender and semi-drooping. The leaves are small, the red fruits are also on the small side and very freely borne on the branchlets. These seem less attractive to the birds than other species, for the birds have only just commenced to eat them, while most of the fruits are gone from the surrounding bushes of other species, except C. rotundifolia.

A VINE PERGOLA.

THE need for a better position for the collection of Vitis and one where the many varied species and varieties might be better observed and compared has long been felt desirable. Consequently, an iron pergola is now in course of construction between the refreshment kiosk and the Rose dell. Running N.E. to S.W., the pergola is about 150 yards in length; the uprights and crossbars are of 1 inch barrel iron, having an outside diameter of 1⅜ inch. Along the sides the uprights are connected with galvanised chains. To each upright three wires are fixed, tripod fashion, standing out about 1 foot from the base as additional support for the growths of the Vitis. The pergola is 10 feet high, 11 feet wide, with an average of about 12 feet between each pair of standards, of which there are 41 on either side, 82 in all. *K.*

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to Lady NUNBURNHOLME, Warter Priory, Yorkshire.

GROUND OPERATION.—The work of root-pruning, lifting and removal of fruit trees has been carried out under exceptionally favourable conditions. Continue these operations whilst the weather remains mild, for, if delayed, cold rains and snow may prevent the work being done until very late in the spring. It is not so necessary in the case of light, sandy soils, that may be worked within 24 hours after rain. Trees on light soils soon become exhausted unless they are top-dressed frequently, and the fruits thinned. Drainage is another operation which should be done at this season; this work is often neglected, but it is very important, especially when preparing land for orchards. Fork up the soil where fruit trees are growing, but take care not to injure the roots. If healthy roots are found near to the surface, apply a good dressing of manure or compost similar to that recommended in a previous Calendar. Road scrapings, hedge trimmings, prunings and other refuse charred in the fire heap will furnish valuable material to supplement animal manures.

INSECT PESTS.—The present is the best time in the whole year for clearing the trees of insect pests, for growth is dormant and strong specifics may be employed. Follow out previous directions given in Calendars for the destruction of American blight, mussel scale and winter moth. It is not sufficient to spray old, cankered branches infested with American blight and aphis; the specific should be well worked into the crevices with a half-worn painter's brush. It is not an easy matter to destroy by spraying scale insects on old badly-infested Pears: the rough bark should be treated with a brush. Quick-lime dusted freely over the trees will destroy many insects, keep the bark clean, and prove of great value to the roots.

THE ORCHID HOUSES.

By J. COLLIER, Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey.

MANAGEMENT OF ORCHID HOUSES.—Great care must be exercised in regulating the temperatures and the atmospheric conditions of the Orchid houses in winter: endeavour to keep the temperature as even as possible. During frosty weather, when much fire-heat is necessary, the atmosphere should be prevented from becoming too dry. On bright mornings following frosty nights, as soon as the temperature commences to rise to the proper degree, every available space should be moistened thoroughly by syringing; the stages, bare spaces between the pots, the paths and underneath the hot-water pipes should all be damped. At the same time water any plants that are dry. Houses with paths formed of iron gratings or wooden lattice work over the natural earth will not require damping so much as those with paved or tiled floors. The East Indian, Cattleya and intermediate houses should be damped between 2 and 3 p.m. One damping should suffice in the Odontoglossum house, but at all times the amount of atmospheric moisture should be regulated according to the weather.

TEMPERATURES.—The night temperatures of the various houses should be regulated as nearly as possible as follow:—East Indian house, 63° to 68°; Cattleya house, 58° to 63°; intermediate house, 55° to 58°, and Odontoglossum house, 48° to 52°. On very cold nights the lower temperatures will be sufficient, as an excess of fire-heat may prove harmful to the plants. The houses should be warmest at mid-day. During very cold weather, the temperature should be about 5° warmer at mid-day than in the early morning, but the thermometer may be allowed to rise several degrees higher during periods of bright sunshine. If lath blinds are fixed to the houses, they should be lowered during cold nights; if permanent blinds are not used, the glass should be protected by some other covering, such as waterproof canvas or archangel mats. Their use will prevent the temperature from fluctuating, economise fuel, and keep the atmosphere from becoming very dry.

VENTILATING.—Admit fresh air when it is possible to do so without lowering the temperature or chilling the plants. Air is best admitted through the bottom ventilators, which should be arranged so that the cold air becomes warmed somewhat by passing over the hot-water pipes. The ventilators on the side sheltered from the wind should be opened first, and, as the temperature in the house rises, those on the other side may be opened a little to cause the air to circulate.

LYCASTE.—The flower-buds of Lycaste Skinneri and its variety alba are well advanced, and the plants should be grown in a light position in a house having an intermediate temperature. As the flowers approach their full development, the plants should be subjected to moderately dry conditions. Only sufficient water should be applied to the roots to prevent the pseudo-bulbs from shrivelling. Weakly plants should have the flower-buds removed as soon as they appear. These remarks apply also to **L. Balliæ**, **L. Mary Gratrix**, **L. leucantha** and **L. cruenta**. The deciduous species such as **L. aromatica** and **L. cochleata** should be rested as soon as the pseudo-bulbs are fully developed. Water should only be applied when the pseudo-bulbs show signs of shrivelling.

FRUITS UNDER GLASS.

By E. HARRISS, Gardener to Lady WANTAGE, Lockinge House, Wantage, Berkshire.

EARLY POT FIGS.—Forcing may be commenced by plunging the pots in a moderately warm hot-bed. The trees should be placed near to the roof-glass, so that they may receive plenty of light. The temperature of the house should be 55° or 60° at night, with a rise of 5° during the day. Water the roots carefully and regulate the amount of syringing and damping in accordance with the weather conditions. On every favourable opportunity admit a little fresh air to the trees.

EARLY FIG TREES IN BORDERS.—The date of starting the permanent trees into growth must be regulated largely by the season when ripe fruits are in the greatest demand. If the wood is ripened thoroughly, it is an advantage to start the trees early to allow the fruits to ripen slowly, rather than to attempt to hurry them at the last moment, as Figs are impatient of hard forcing. It is usually about five months from the time the house is closed before the fruits are ripe. Although the young growths were stopped and thinned in the summer, the trees must be again examined carefully, and if there is a superabundance of growth, the shoots must be liberally thinned. It is a good plan to cut out a few of the old branches annually to allow plenty of room for young fruiting wood. Remove all suckers unless the base of the tree is becoming bare, in which case one or two shoots may be retained. If the trees are affected with mealy-bug, special measures must be taken, as this pest breeds very quickly on the Fig. The trellis may be thoroughly cleaned of mealy-bug by painting it with paraffin. The interior of the house should be subjected to a thorough cleansing and the brickwork lime-washed. When this work has been finished, remove 2 or 3 inches of soil from the surface of the border, and top-dress with turfy loam mixed with plenty of old brick rubble and wood ashes.

EARLY POT VINES.—As soon as the buds show signs of bursting into growth, raise the temperature 5°, and more as growth proceeds. Make sure that the buds are breaking freely from top to bottom of the canes before releasing the vines from their present horizontal position to tie them in their permanent place on the trellis. If the latter is very close to the glass, the rods may be fastened a few inches below it. Remove all surplus shoots as soon as it can be determined which are the best laterals to retain. It is a mistake to allow the vines to form useless growth or too many bunches, therefore, when they have made sufficient growth to fill the trellis, all surplus laterals should be removed. Water the roots with great care. When moisture is necessary, give two soakings as a safeguard against the soil becoming dry in the centre of the ball of roots. If the tank in the vinery is filled every night, the water will be always suitably warmed; for syringing rain-water is preferable. Replenish the hot-bed with fresh litter and leaves at intervals, after first preparing them thoroughly. Discontinue syringing when the buds have burst freely into growth, but promote a moist atmosphere by damping the bare surfaces as often as necessary.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

Carnations.—Layers of Souvenir de la Malmaison Carnation which were potted during the latter part of August or during September should now be sufficiently well rooted to allow of a transfer into 6-inch pots. It may be considered a little early, but I find that by early potting better rooting is secured and compacter growth. Before being repotted, the plants should be examined, and any foliage affected with rust removed and burnt. As the plants are taken out of the first pots they should be dipped in a solution of sulphide of potassium (½ ounce to a gallon of water), and then placed on the floor of the house. If they are placed on the shelves the solution will mark the paint, and such marks are very difficult to remove. The compost for "Malmaison" Carnations need not be of a very elaborate composition. A good fibrous yellow loam is the chief necessity, of the proper texture and sufficiently porous. It should not require the addition of any quantity of leaf-mould or manure; a good proportion of finely-broken crocks, brick, and lime rubble is recommended with perhaps the addition of a little wood ash and bonemeal. If the plants are subject to attacks of eel-worm sterilised soil should be used. This should have been prepared some time since, as freshly sterilised soil is discouraging for rooting purposes, especially if it has been sterilised by the drying process. The potting should be carried out firmly and evenly, and a small stake placed in each pot. If this is done and the stake tied to the plant in one place, further support will be unnecessary until the plant begins to form flower-shoots. The pots may be placed closely together at present, but when the side growths begin to come more space will be needed. If the soil is fairly moist at the time of repotting, the watering-in may be deferred for a few days, when all the plants should be given a thorough moistening. After this stage very careful watering will be necessary, as a damp condition results in yellow, drooping foliage, and fast growth. If they are kept fairly dry they will grow slowly and hardily, especially if liberal ventilation is provided in all weathers. This latter condition must be subject to sufficient heat being kept in the water pipes to maintain the dryness of the atmosphere in the house.

Perpetual-flowering Carnations.—At this dull season of the year perpetual-flowering varieties will be somewhat slow in opening, but they should not be forced, or weak stems and anæmic flowers will be the result. The water-pipes immediately beneath the stages should not be overheated, or the plants will be attacked by red spider. Where there are pipes under the stages, it is as well to sprinkle a little sulphur over them in order to discourage the pest; but this precaution will not obviate the necessity of exercising the utmost care not to overheat the pipes or close the top ventilators, which often leads to the plants being burnt. I have noticed this season what a fine variety "Triumph" is. This new crimson, though hardly, perhaps, to be classed with "Carola" in point of size, has all the points of a good perpetual Carnation; down to the present I have not seen a single split calyx, and it lasts in water extremely well. "Mary Allwood" and "Salmon Enchantress" should also prove good varieties; they both gained awards at the R.H.S. They are distinct in colour, and the form of the first-named is as good as that of many of our best border varieties.

Propagation.—Cuttings put in now will root more readily than if left to any other time. They are naturally hardier than if the planting is left until the spring, and they make a good deal of root without much top growth, which is a decided advantage. A high temperature is not essential; it is, in fact, prejudicial. An overhead heat of 50° to 55° is ample, with a slight degree of bottom warmth. The cuttings may be rooted in pots, boxes, or in a shallow bed; if large numbers are required, the latter method is probably the best. They will root well in a mixture of sand, finely pounded brick or crock rubble, and just a little loam. They should be ready for potting quite early in the New Year, and will then have a long season before them in which to mature their growth.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Protection Against Frost.—Since the severe frost in the early part of October the weather has remained fairly mild, and the rainfall has exceeded the average. Most of the vegetable crops cultivated with a view to autumn and winter requirements, are looking remarkably well. Indeed, they are rather too luxuriant, and there may be extensive damage in the event of a sudden severe frost. Some slight protection should be held in readiness, if possible, in order to guard against this contingency; it is well worth while, especially with tender plants. The kitchen garden should be made perfectly tidy, not only for the sake of appearances, but also because it is beneficial to the crops. This important part of the work should be completed by Christmas. It will be particularly easy this year, on account of the trees having shed their leaves earlier than usual.

Asparagus.—This is one of the easiest vegetables to force if good crowns are employed and the hotbed well prepared and sufficiently mild. During severe weather the frames and lights should be protected, but in favourable circumstances a reasonable amount of ventilation is essential.

Winter Broccoli.—This crop seems particularly promising, and many of the earlier varieties are already yielding a good supply. The plants should be examined frequently, and the leaves tied securely over the curds. Whenever there seems a likelihood of severe frost, a little light protective material, such as bracken or straw, should be placed over and around them.

Turnips.—These are also in a very satisfactory condition. Those which are fully matured should be taken up and placed thinly together under a north wall. When stacking, some finely-sifted ashes should be placed between each layer, and room for ventilation should be left. The stacks must not be too large. A little soil should be drawn over any turnips which are not yet matured.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Clematis.—If good varieties of each section of Clematis are planted in different situations, they will provide continuous blooms from May or June until the end of October. The most beautiful colours are represented in this family, notably very fine shades of purple, lavender, and violet, not to be found in many species. Clematis plants are grown in pots for sale by most nurserymen, and they are most convenient in this form, since they can be transplanted at almost any time without risk. The present season, when the ground can be thoroughly prepared by deep trenching and manuring, is a favourable time for planting. The Clematis is a gross feeder. It has a partiality for chalk or lime; if this substance is not naturally present in the soil some should be added. Mortar rubble is a convenient form in which to provide it. Clematis can be planted in all sorts of positions, and will seldom look out of place. The plants can be used to cover walls, pergolas, and trellis work; to adorn rustic poles, such as light Larch tops; to brighten a porch or a lich-gate. It can be used in conjunction with other climbers, such as Roses; if several different varieties are planted in this way, the blooming period will precede, and outlive, that of the Roses. Clematis can also be planted with great effect to enliven the more sombre corners of the shrubbery, either winding up and over artificial poles, or climbing naturally over some of the more strongly-growing shrubs. When once established the majority of Clematis varieties grow very quickly, and soon cover a large area. All are beautiful, but a short list of varieties in each section may be useful, especially the information as regards the flowering period. C. lanuginosa:—Flowers from June to October This section comprises some of the finest varieties: Nellie Moser, Beauty of Worcester, Queen Alexandra, Mme. van Houtte, La France, and King Edward VII. C. Jackmannii and C. viticella:—The flowering period of the plants in these sections is rather later than in the preceding one, lasting until late in the autumn. Jackmannii superba, and J. alba and rubra, Star of India, Lady Bovill, ascotiensis, and the newer Lady Northcliffe. C. patens section:—This type is the earliest to bloom, and includes the varieties Fair Rosamond, Duke of Edinburgh, Albert Victor, and Lady Londesborough. C. florida:—The varieties in this section flower in June and July. Belle of Woking, Duchess of Edinburgh, John Gould Veitch, and Venus Victrix are the chief varieties. Other good Clematises should be included if possible, such as C. montana (grandiflora and rubens), both very floriferous, the former white and the latter rosy-pink. These both flower in June. Also C. flammula, a small-flowered, sweetly-scented species, flowering in August. The hybrids from C. coccinea, such as Countess of Onslow and Duchess of Albany, flower over a long period.

General Work.—At present the work out-of-doors is hindered by the inclement weather. There has been very little frost so far, and until the end of November the weather was exceptionally open; but continual rain has rendered planting almost impossible. There are, however, indications of improvement, and it is better to wait for a favourable opportunity than to put choice plants into the ground in its present condition. Such work as clearing away worn-out and weedy shrubs (Laurels, &c.) can be done in almost any weather. The ground should be thoroughly cleared of all roots, especially those of Nettles, Woodbine, and other perennial weeds which accumulate in neglected shrubberies. These should be burnt at once, in order to make sure that they are not mixed with leaves and thus returned to the ground; such a mistake would cause much trouble in the following season.

THE APIARY.

By Chloris.

Feeding.—Those who have neglected the feeding of their bees should lose no time in making some good, soft, buttery candy, free from crystals. A sufficient quantity should be placed under the quilts to last until the end of January. The bees should be manipulated as little as possible; any excitement will lead to a larger consumption of food. This reduces the stores to an unnecessary degree, and is very bad for the bees. Indeed, unless a surfeit can be worked off by a cleansing flight, the result is often an attack of dysentery.

Combs Laden with Pollen.—If the combs are exceptionally full of pollen, they are useless for storing, and should be melted down for wax. The pollen becomes very hard, and the bees are obliged to gnaw away the loaded cells and rebuild them before they can be used again. The waste matter falls on the floor-board, where it accumulates, and encourages the entrance of the wax moth, which lays its eggs in the waste.

Partly-filled Sections.—These are a source of considerable anxiety to beginners, who often wonder whether they can be utilised again or not. The fact is that they are of great value in the early spring, used as bait-sections; when fitting up the section racks, they should not be placed in the centre, but round the outside. They should be stored until the spring in a dark, warm, dry place, or the honey will foment.

Beekeepers' Associations.—These societies would perform a most useful function if they were to arrange exhibitions of bee products during the autumn and winter, as well as demonstrations and shows in the summer. Up-to-date appliances might form the subject of one class, and a sale stall for the honey would probably be found remunerative, as well as popularising what is really a very valuable article of diet. It can be used for sweetening tea, coffee and cocoa instead of sugar. In cakes it has been found most successful, as they remain moist much longer than when sugar is used. Honey has also a distinct medicinal value. Points such as these might be selected for the topics of an occasional lecture.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plant for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

APPOINTMENTS.

SATURDAY, DECEMBER 7—
Soc. Française d'Hort. de Londres meet.

MONDAY, DECEMBER 9—
United Hort. Benefit and Prov. Soc. Com. meet.

WEDNESDAY, DECEMBER 11—
North of England Hort. Soc. meet. at Leeds.

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—41·2.

Actual Temperatures:—

London.—*Wednesday, December 4* (6 p.m.) Max. 52°; Min. 44°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, December 5* (10 a.m.): Bar. 30·0°; Temp. 43°; *Weather*—Overcast.

Provinces.—*Wednesday, December 4:* Max. 52° Shields · Min. 45° Margate.

SALES FOR THE ENSUING WEEK.

MONDAY—
Bulbs and Herbaceous Plants, at 12; Roses, at 1.30; at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

MONDAY and WEDNESDAY—
Roses, Perennials, Lilies and other Bulbs, at Stevens's Rooms, 38, King Street, Covent Garden, W.C., at 12.30.

WEDNESDAY—
Dutch Bulbs, Hardy Border and other Plants, at 12; Palms and Plants, at 5, at Protheroe & Morris's Rooms
Special Sale of Roses, at 12.30, at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

FRIDAY—
Orchids, at Protheroe & Morris's Rooms, at 12.45.

The Acclimatation of Plants.

Much has been written on the subject of the acclimatation of plants; but little is known of the nature of the process whereby a species becomes acclimatised. As with so many other phenomena of variation, so with respect to this, two opposed views are held. On the one hand, it is suggested that a species is plastic, and hence capable of responding to a definite change of conditions by an equally definite change in constitution. If this view —that circumstances alter species—be accepted, a comprehension of the process of acclimatation would seem to present no difficulty. A plant brought, for example, from a warm to a cold climate responds to the stimulus of change of temperature. This response, which takes the form of a gradual or rapid change of structure and metabolism, results in an immediate or gradual increase in the power of resistance to low temperatures.

To discuss this hypothesis adequately would require one or several articles devoted exclusively to that purpose, and would carry us, moreover, beyond our present object, which is rather to state the alternatives than to prove or disprove them.

Acclimatation on the foregoing hypothesis is a special case of variation, and of adaptability, which properties are admitted universally to be attributes of plants.

The alternative hypothesis holds that the permanent acquisition of hardiness by a plant translated from a warmer to a colder region is not a phenomenon of adaptability, and, indeed, is not due to the acquisition by the plant of a new character, but to the manifestation on the part of certain members of the species of a character which they possessed already, before their change of habitat.

According to this interpretation, the several members of a species differ widely from one another in many and subtle ways. Though these differences are not of such a kind as to make themselves manifest to the eye, they are none the less real and permanent. When the members of a species are introduced into a new country in which the conditions differ from those of the natural habitat, certain individuals may survive, and others may die. The survivors are those which possessed already before their introduction such a constitution as enables them to withstand the changed conditions. Nor may it be supposed that we are dealing here with fine-drawn distinctions and mere scholastic quibbles. For, according as the acclimatisor holds one or other of these alternative views, so his practical method will vary.

If he believe in the adaptation theory he will be content to introduce a fair number of plants, and to so grow them that they are inured gradually to the new conditions. He will hope that by this procedure the principle of adaptability may be given time to act, and that each year will see a movement in the direction of increased hardiness.

If, however, he hold to the opposite view, his method will be different altogether. If the plant be one of which he can obtain seed in large quantity, he will provide himself with a plentiful supply of seed and so plant it that the seedlings are exposed to all the rigours of the new climate. His hope will be that if any of the plants survive the test, the offspring of the survivors will be found also to be hardy. If, however, the acclimatisor is able to obtain a few plants only, he will grow those plants under sheltered conditions until he has been able to work up a large stock, which he will then subject to the decisive test of exposure.

He will go further than this, and if any of the plants survive the test, the acclimatisor will not only save self-fertilised seed, but he will also cross the hardy plants with one another; for he will argue that hardiness may depend on more than one constitutional factor, each of which may contribute to the property desired.

Wherefore some may survive by reason of their possession of one factor for hardiness, and others because they possess another factor. These separate factors may be brought together by mating the two plants with one another, and they may be obtained pure in a certain proportion of the descendants.

Despite the important practical results which have been obtained in acclimatation, no comprehensive experiments have ever been tried with the proclaimed object of determining whether adaptability or pre-existing constitution is the agent responsible for success in acclimatation. All we know is the fact, proved abundantly, in many countries and during many centuries, that the plants of certain climates may be introduced successfully into countries of very different climatic conditions.

Everyone is aware of the enormous number of plants which have been introduced from other parts of the world, and students of contemporary horticulture are impressed by the assiduity with which the United States, through its Department of Agriculture, is exploring the whole world with the object of introducing new plants for cultivation, and for hybridisation. Thus the 28th inventory (Bull. No. 248 of the *Bureau of Plant Industry*, 1912) contains records of 668 introductions from Chinese Turkestan, Mongolia, the Philippines, East Indies, British India, Hawaiian Islands, New Zealand, and South America. Included in this remarkable inventory are cold-resistant Alfalfas from Chinese Turkestan, a hardy wild Apple from the same region, winter Radishes for midsummer planting, four Mongolian wild Roses, a new species of Cotton, New Zealand Apples resistant to woolly aphis, and among a host of others the Narras (Acanthosicyos horrida), the thorny Cucurbit of the dunes around Walfisch Bay—a description of which we published recently.

To rival the activity displayed by the United States in introducing new plants, we must go back to the time of the Romans, whose services to horticulture are described by Gibbon in glowing periods, of which we quote those bearing on acclimatation:—

"Almost all the flowers, the herbs and the fruits that grow in our European gardens are of foreign extraction, which in many cases is betrayed even by their names.

"In the time of Homer the Vine grew wild in the island of Sicily, and most probably in the adjacent continent; but it was not improved by the skill, nor did it afford a liquor grateful to the taste of the savage inhabitants. A thousand years afterwards Italy could boast that, of the four score most generous and celebrated wines, more than two-thirds were produced from her soil. The blessing was soon communicated to the Narbonnese province of Gaul; but so intense was the cold to the north of the Cevennes, that in the time of Strabo it was thought impossible to ripen the Grapes in those parts of Gaul. This difficulty, however, was gradually vanquished, and there is some reason to believe that the vineyards of Burgundy are as old as the Antonines. The Olive in the western world followed the progress of peace, of which it was the symbol. Two centuries after the foundation of Rome, both Italy and Africa were strangers to that useful plant; it was naturalised in those countries, and at length carried into the heart of Spain and Gaul. The timid errors of the ancients that it required a certain degree of heat, and could only flourish in the neighbourhood of the sea, were insensibly exploded by industry and experience."

British Gardeners' Association.—A meeting of this association will be held at Lewis's Café, Station Road, Colwyn Bay, on the 11th inst., at 7.30 p.m. The chair will be taken by Mr. A. L. Statham, and the meeting will be addressed by the general secretary, Cyril Harding.

National Rose Society. — The annual general meeting of the National Rose Society will take place in the Holborn Restaurant, on Tuesday, the 17th inst., at 3 p.m. Proposals for the alteration of certain of the rules and regulations of the Society will be submitted by Mr. C. E. Shea and Mr. Walter Stevens. A conversazione will be held in the Crown Room from 4.30 to 6 p.m., to which all members are invited. Application for tickets must be made to the hon. secretary on or before Thursday, December 12, in order that suitable arrangements for refreshments may be made. The president will deliver a short address, and Dr. Geo. G. Hamilton will say a few words about "Roses and Some Bournemouth Gardens," illustrated by lantern slides in colour photography. The Society will hold a spring show on Thursday, May 1, 1913, in the Royal Horticultural Hall, Vincent Square, Westminster.

Royal International Horticultural Exhibition.—The directors of the Royal International Horticultural Exhibition, 1912, met at the Royal Horticultural Hall, Westminster, on the 26th ult., to consider a resolution for disposing of the property of the company, after payment of all debts and liabilities. The balance sheet showed a net profit of £2,870 3s. 7d. Allowing for payments which have still to be made, the balance may be taken as approximately £2,500. It was decided to disburse the profits in the following manner:—To the Irish Gardeners' Association and Benevolent Society, £100; towards the reprinting and bringing up to date of Dr. A. G. Pritzel's Botanical Index, £250. (To this latter purpose the R.H.S. have already promised to give £1,000.) The remainder of the profits (about £2,150) will be divided between the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund, in the proportion of two-thirds to the former institution and one-third to the latter. A second resolution was passed, namely "That the company be voluntarily wound up, and that Mr. G. J. Ingram be appointed liquidator." These resolutions are subject to confirmation at a later meeting.

Canterbury's New Mayor.—Mr. George Mount, the well-known rosarian, has been elected Mayor of the ancient borough of Canterbury. At the election ceremony which took place in the Guildhall Councillor Wood said that Mr. Mount's name was a household word, and that he was honoured and respected by everyone who knew him. A former Mayor of Canterbury, William Masters, was also a nurseryman, and he occupied the same nursery, and we believe that Mr. Mount lived in the same house for a time. William Masters was father of the late Dr. Maxwell T. Masters, who was Editor of the *Gardeners' Chronicle* for 41 years.

The Avocado Pear. - Under such alluring headings as "Where Meat Grows on Trees," the popular weekly periodicals draw attention to the fruit of Persea gratissima, claiming that it is "composed of all the substances which are to be found in meat." The facile pen of the writer credits this fruit with containing about 20 per cent. of fat and many other ingredients of great value, so that one "meat Pear is quite sufficient to make a meal for the average man." The natives of Mexico, he continues, live entirely on the Avocado, and, as experts have declared this fruit to be far superior to the Banana, and, in fact, the most valuable fruit known, it is hoped that with a sufficient supply of the trees the world may do away with meat entirely. But, lest the vegetarians should overwhelm the fruiterers with their orders, the concluding sentence informs them that the reason why the fruit is so little known at present is because it is grown nowhere on a large scale; what few trees there are grow around the huts of the natives, where they flourish with little care, and afford easy meals for the indolent owners. Other writers on tropical economic plants give the Avocado Pear a somewhat wider distribution, and state that, although originally confined to the West Indies, it is now grown in many tropical countries and is esteemed as a dessert fruit.

Potato Haulm as Food for Sheep.—Early in October experiments were made by Völtz, at the Institute of Fermentation Industries, Berlin, with Potato haulm, which was partially dried out-of-doors. After further drying in kilns, the haulm was chopped and given to two wethers, who ate it freely. The haulm was found to be more digestible when mixed with Hay.

The Potato Crop. - The Board of Agriculture and Fisheries estimates the total production of Potatos in England and Wales at nearly 2,244,000 tons, which represents, on an area of 463,000 acres, a yield of 4.85 tons per acre, the lowest since the returns of produce were first collected in 1884. The worst return previously was 4.97 tons per acre in 1900.

Publications Received.—***Herbals,*** by Agnes Arber. (Cambridge: University Press.) Price 10s. 6d.—***Science Progress,*** by H. E. Armstrong, Ph.D., LL.D., and J. Bretland Farmer, M.A., D.Sc. (London; John Murray.) Price 5s. net. —***Thirty-third Annual Report of the Ontario Agricultural and Experimental Union, 1911.*** (Toronto: L. K. Cameron.)—***The Small Landholders' Handbook,*** by William Williamson (Edinburgh: William Hodge & Co.) Price 2s. net.—***Intensive Culture of Vegetables on the French System,*** by P. Aquatias. (London: L. Upcott Gill.) Price 3s. 6d. net.—***Forty-third Annual Report of the Fruit Growers' Association of Ontario, 1911.*** (Toronto: L. K. Cameron.)—***Large Larch Sawfly,*** by C. Gordon Hewitt, D.Sc. (Canada: Department of Agriculture.)—***List of Staffs in Botanical Departments at Home, and in India and the Colonies.*** (London, Kew: Royal Botanical Gardens.) Price 1d.—***Le Volvox,*** par Charles Janet. (Limoges: Ducourtieux et Gout.)—***Le Sporophyte et le Gamétophyte du Végétal; le soma et le germen de l'insect,*** par Janet. (Limoges: Ducourtieux et Gout.)

HOME CORRESPONDENCE

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

The R.H.S. Trials.—The latest *Journal* of the Royal Horticultural Society is to hand. It contains accounts of trials at Wisley, and a perusal of the Delphinium and Sweet Pea trials reminds us of a letter we addressed to the Secretary of the Society last year after reading the report of the Gladiolus trials. Our letter was simply acknowledged, and we would like to ventilate the matter in your columns. Of the Delphiniums reported on in the Wisley trials in 1912, at least 50 were raised in our nurseries, but of these 23 have the name of another nurseryman attached. Surely, this is extremely misleading and unfair to us as raisers and introducers of these varieties; for is it not generally understood that the name of a plant followed by the name of a firm or person signifies that the firm or person is the raiser or introducer? Under the present system, anyone can send other people's fine varieties, and get a most excellent but undeserved free advertisement for himself. We should have thought that when it is known the name of the raiser might be added in different type, and when it is not known it might be stated that the name of the person or firm attached was that of the sender only. *Kelway & Son.*

Frank Ashton Relief Fund. — A small committee of Orchidists has been formed to assist Mr. Frank Ashton, who has, unfortunately, fallen into indigent circumstances, and who is no longer able to follow his employment as a traveller in Orchids. He has been struggling against fate for the past two or three years, but has at last been compelled to give up owing to a very badly poisoned foot, to attacks of chronic rheumatism, and to an affection of the eyes. He is no longer able to travel, and his resources are practically at an end. An appeal is therefore made to all those who have been associated with Mr. Ashton in the Orchid business to show their practical sympathy with him in his great affliction by contributing towards a fund which will be utilised to establish him in some small home business. The committee of the Kew Guild (of which Mr. Ashton is a life member) have generously made a grant of £5 towards the fund. Further donations may be sent to the Secretary of the Kew Guild (Mr. Herbert Cowley, South Side, Kew Green), or to me, and will be gratefully acknowledged on Mr. Ashton's behalf. *John Weathers, 7, Talbot Road, Isleworth, Middlesex (Secretary).*

Bordeaux Spraying for Peach Curl (see p. 412).—This is a most destructive disease of Peach trees, as the foliage is rendered useless. I consider attacks of Peach curl are mostly due to low temperature, as I have never seen it on trees under glass; also it is not so prevalent in the southern districts as in the Midlands. At one time it was very troublesome here on wall trees outside, but persistent hand-picking early in the season, a thorough syringing with soft soap and quassia just before the flowers opened, and protecting the tender foliage have almost banished it. Protection from wind is afforded by double fish netting hung at a moderate distance from the trees and stretched tight across laths, so that it meets the top of the wall. I should hesitate to apply the Bordeaux mixture to Peach trees even in the resting stage, for an extra strong solution of Gishurst compound or similar substances has been known to cause severe bud-dropping, and the effects of the Bordeaux mixture would probably be worse. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

Hybrid Nomenclature (see p 413).—Mr. O'Brien says that I have cited the "earliest sub-committee on Orchid nomenclature." It was useless to cite the latest, which was appointed to deal with the special subject of the nomenclature of multi-generic hybrids. And what is the use of his citing the rules of a nomenclature congress that did not meet till after the *Orchid Stud Book* was published? The clause, "No one has a right to alter," &c., is only a saving clause under the section "Names that are to be rejected, dropped or modified," and is only intended to prevent the abuse of a very necessary rule. The names superseded in the *Orchid Stud Book* were neither regular nor correct, and their number is the measure of the neglect of recorders to observe existing rules. The remark concerning "self-constituted authorities" has no application to the *Orchid Stud Book*, for its authors adopted the Vienna rules, embodying them in a short and simplified wording. The Vienna rules say: "Hybrids.—The name, which is subject to the same rule as names of species, is distinguished by . . . . the sign × before the name. Ternary hybrids, or those of a higher (more complex) order, are designated like ordinary hybrids." Again, Mr. O'Brien says "the superseded names were in accordance with the rules, and had the authority of the Paris Nomenclature Conference." I have the said rules before me, but cannot find anything to support this statement. If a "changed name" becomes a "new name"—and the point is not contested—that is an additional reason why the names chosen should be in correct form at the outset. Mr. O'Brien says "Cattleya John Jones," not "C. Jonesii," is the better way. Then why did he give such names as Cypripedium Clinkaberryanum, Lælio-Cattleya Brymeriana, Dendrobium Owenianum, and many others? There were already the precedents Lælio-Cattleya Aurora, Cassandra, Proserpine, Stella, Zenobia, &c., &c. One would never dream from Mr. O'Brien's remarks that I have given scores of others. They are admirable, but their use does not exclude such names as Calanthe Dominyi, Veitchii, &c. It is not necessary to follow Mr. O'Brien further. He was a member of the committee which drew up the rules, the neglect of which has necessitated so many names being "rejected, dropped, or modified." He now censures those who attempted to carry them into practice. It is deplorable. *R. A. Rolfe.*

Wart Disease of Potatos.—A few remarks may be made in reply to Mr. Taylor, whose interesting note appeared on November 23, p. 391. It may safely be said that drastic steps are being taken to eradicate this disease in England, and many notices prohibiting the planting of Potatos other than immune or resistant varieties in infected ground have been served. It does not, however, seem reasonable to suggest the prohibition of the importation of Potatos, which are a necessary foodstuff. The disease is too widespread in Britain for such a step to serve a useful purpose, and the inspection of imported Potatos is not feasible. Further, while foreign Potatos are usually only imported for consumption, wart disease is unlikely to be introduced with them, since foreign countries appear to be comparatively free from it. There does not appear to be the slightest evidence that wart disease originally came from the Continent, though it was reported from Hungary in 1896; it was more or less prevalent 30 years ago in out-of-the-way parts of Cheshire, if not scientifically recorded until 1902 by my friend, Mr. J. W. Eastham, B.Sc. The last two lines of Mr. Taylor's letter exhibit the fallacy of arguing from local conditions. Midlothian is believed to be comparatively free from wart disease, but if Mr. Taylor will but cross to Fife he may find whole villages with scarcely a garden but what is badly infested with it. *H. C. Long.*

Sterilising Soil.—In view of Mr. Stevenson's remarks at the Chrysanthemum Conference about sterilising soil by heat for Chrysanthemums (see p. 417), I venture to give my experience with Begonia Gloire de Lorraine. In 1911 I lost a large number of plants through eelworm. This season I sterilised all the soil in which a large number of plants were grown from the cutting stage onwards with good results as regards destroying eelworm. The plants grew freely, but always appeared drawn and leggy, and although they made very large specimens were deficient, in size of bloom, colour, and substance. A few plants grown in soil that had not been treated were not so tall, but more compact in habit, better coloured, whilst the blooms were large and of great substance. Has any reader had a similar experience? *E. R. James.*

SOCIETIES.

ROYAL HORTICULTURAL.

December 3.—In view of the Perpetual-flowering Carnation Society's exhibition, on Wednesday, in the same Hall, many growers of these flowers took the opportunity of exhibiting Carnations at the R.H.S. meeting, the groups remaining for the following day. The Floral Committee awarded a Gold Medal for a collection of these flowers shown by Mr. Engelmann. There were fewer exhibits of Chrysanthemums than at recent meetings, but Begonias were again a prominent feature. The Floral Committee recommended seven Awards of Merit. Plenty of space was available for miscellaneous exhibits, including paintings of floral subjects, horticultural sundries and preserves. The Orchid Committee recommended two First-class Certificates and three Awards of Merit.

The Fruit and Vegetable Committee awarded two Gold Medals, one for a collection of bottled fruits, the other for Apples shown by the Government of British Columbia. Three new Apples received Awards of Merit. At the three o'clock meeting in the lecture room a paper on "The Vegetation of the Islands of Lake Maggiore," by Mme. Tzikos St. Leger, was read by the secretary.

Floral Committee.

Present: Henry B. May, Esq. (in the Chair); Messrs. C. T. Druery, John Green, W. J. Bean, G. Reuthe, J. W. Barr, Wm. Howe, J. F. McLeod, John Dickson, Chas. Dixon, H. J. Jones, Arthur Turner, Chas. E. Shea, J. T. Bennett-Pöe, E. H. Jenkins, W. J. James, Chas. E. Pearson, E. A. Bowles, F. Page Roberts, Jas. Hudson, C. R. Fielder, C. Blick, R. C. Reginald Nevill, John Jennings, W. Cuthbertson, and W. P. Thomson.

Messrs. W. Cutbush & Son, Highgate, exhibited forced plants from retarded stock; a number of pretty dwarf Roses of the polyantha section; Daphne indica rubra; Ericas in variety, the best of these being E. gracilis; and varieties of Begonia. As a separate exhibit this firm staged a collection of Carnations of the perpetual-blooming type. (Silver-gilt Banksian Medal.)

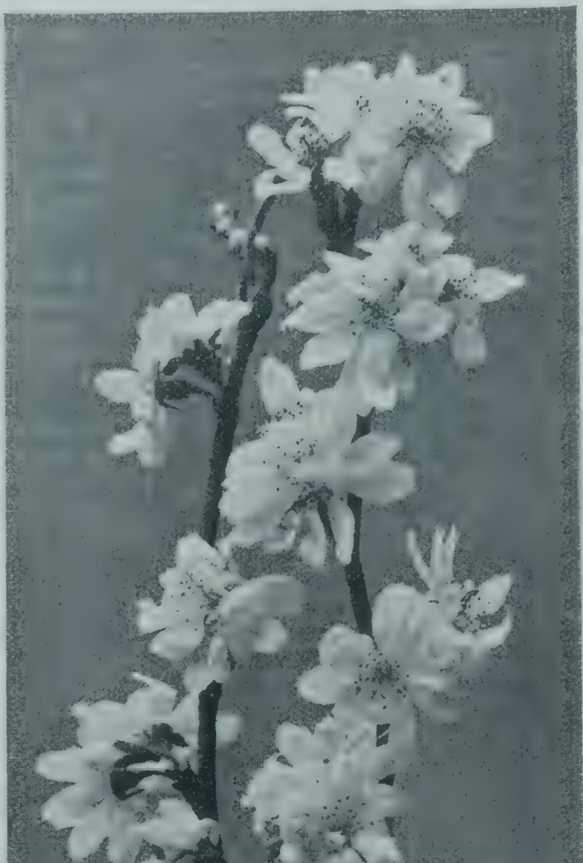


Fig. 186.—prunus miqueliana: flowers white.

(R.H.S. Award of Merit on Tuesday last.)

Messrs. James Veitch & Sons, Ltd., King's Road, Chelsea, showed several fine winter-flowering Begonias; a group of Bouvardia Humboldtii corymbiflora (white); B. Dazzler (scarlet); a collection of Indian Azaleas; and small pot-plants of Chrysanthemums. Begonia Julius has small, double flowers of salmon-pink colour; it is an excellent variety for growing in baskets. (Silver Flora Medal.)

Messrs. H. B. May & Sons, Edmonton, filled a table with miscellaneous flowering plants and Ferns, for which a Bronze Flora Medal was awarded.

Mr. C. Lange, Hampton, showed plants of Hydrangea Mme. Emile Mouillère with remarkably large inflorescences; varieties of Carnations; and a large batch of Begonia Glory of Cincinnati. (Silver Flora Medal.)

Mr. L. R. Russell, Richmond, Surrey, showed numerous well-flowered plants of Indian Azaleas, a collection of ornamental and berried shrubs, and a few plants of Anœctochilus, including the rare A. (Goodyera) Pollissonii. (Silver Flora Medal.)

Messrs. H. Cannell & Sons, Swanley, made a bright display with Zonal Pelargoniums. The following are new varieties:—Sensation (rich red), W. Pfitzer (orange scarlet), Borneman's Best (rose magenta), and Mrs. F. Seares (palest pink).

Well grown Cyclamens were shown by Rev. Henry Buckston, Sutton Hall, Derby. Many varieties had frilled petals, and these were very pretty in the bud stage. Victoria Buckstone is a fine white variety of this type. (Silver Banksian Medal.)

Messrs. Stuart Low & Co., Enfield, contributed a very pretty exhibit of Carnations. A prominent place in the centre was afforded their fine Baroness de Brienen variety (salmon-pink); at the back were hanging baskets filled with pink and white varieties, whilst in the foreground the new Rosette of bright pink colour showed to advantage. Satin Robe is a new variety of silver pink colour, an improvement on Winsor. (Silver Flora Medal.)

Mr. C. Engelmann, Saffron Walden, was awarded a Gold Medal for an exhibit of Carnations. The varieties and seedlings numbered 100, the collection being the finest in the Hall. Amongst novelties we noticed Fanny (a fancy with scarlet markings on a pink ground), My Rose (cerise), Lucy (pink), Golden Ray (yellow), and two sports of Carola (one with a rose ground marked with crimson, the other with scarlet petals).

Messrs. Allwood Bros., Haywards Heath, exhibited Carnations of exceptional quality. The new varieties Salmon Enchantress and Mary Allwood appeared to advantage.

Exhibits of Carnations were also staged by Mr. W. Lawrenson, Yarm-on-Tees (Silver Banksian Medal); Mr. H. Burnett, Guernsey (Silver-gilt Flora Medal); Messrs. Young & Co., Hatherley (Silver Banksian Medal); and Misses G. C. Price & A. B. Fyfe, Grove Park Nursery, Lee.

Col. Frank M. Lockwood, M.P., Bishop's Hall, Romford, Essex (gr. Mr. G. Craddock), showed numerous well-grown plants of the white Japanese Chrysanthemum Mrs. Swinburne. (Cultural Commendation and Silver Flora Medal.)

Manor House Nurseries, Cardiff, showed single Chrysanthemums. Audrey (yellow), Caledonia (pink), and Doris Chaplin (pink, with a zone of white around the bold, yellow disc) are three of the choicer varieties in this collection.

Messrs. Godfrey & Son, Exmouth, Devonshire, showed the fine white Anemone-flowered Chrysanthemum Godfrey's Perfection, which received an Award of Merit on November 21, 1911.

Messrs. W. Wells & Co., Merstham, Surrey, staged Chrysanthemums in variety, for which a Silver Banksian Medal was awarded.

Messrs. John Peed & Son, Norwood, exhibited a large group of Begonias of the Gloire de Lorraine type.

Messrs. Barrie & Brown, King William Street, London, showed Ericas and Begonias.

Mr. Clarence Elliott, Stevenage, exhibited a small rockery planted with Alpines and dwarf Conifers. There were numerous rare Saxifrages, also a fine batch of Gentiana acaulis in bloom. The Conifers included plants 6 to 9 inches high of Pinus sylvestris globosa, also small plants of Juniperus Sabina tamariscifolia, and Abies Remontii.

Messrs. Whitelegg & Page, Chislehurst, showed a large number of Alpines in pots and pans, and similar exhibits were staged by Messrs. T. S. Ware, Ltd., Feltham (Silver Banksian Medal), and Mr. G. Reuthe, Keston, Kent, who also showed Nerines.

Miss Malone, 111, Cheyne Walk, Chelsea, exhibited a selection of her oil paintings, which are in the modern French landscape style. When viewed from the proper distance, these representations of gardens and woodlands are exceedingly effective. The garden at "The Master's" Lodge, St. John's College, Cambridge, "My Lady's Garden" on the terrace at Wrest Park, La Rosarie de la Haije, and "Poppies" are the titles of a few of the striking paintings which were on view.

Awards of Merit.

Asplenium divaricatum elegans.—A graceful Fern with fronds divided into fine linear segments. The habit is open and the fronds are feathery, not plumose or crested. The almost black stems give an added effect to the pale-green foliage. The plants exhibited were a foot high in 3-inch pots. (Shown by Messrs. J. J. Parker & Co., Whetstone.)

Chrysanthemum Miss A. Brooker (decorative or small Japanese of the new classification).—A handsome variety for decorative purposes and suitable for market. The colour is a light chestnut (the deepest shade of blood-red of the *Rép. de Couleurs*), and the petals incurve, showing a bronze reverse. (Shown by Messrs. J. Veitch & Sons and Messrs. W. Wells & Co.)

C. "*Eric Wild*" (single).—A neat flower possessing two or three rows of smooth, flat petals. The colour is a pale mauve-pink, with a narrow, not very distinct band of white surrounding the disc. (Shown by Messrs. W. Wells & Co.)

C. Mrs. Wingfield Miller (single).—A handsome flower less formal in the arrangement of the petals, which are in three or four rows, than the last variety, and distinct in keeping slightly cup-shaped when fully developed instead of opening flat. The colour is a purplish-rose, a little darker than shade four of violet-rose of the *Rép. de Couleurs*, and the disc is banded with a clear, white ring about an eighth of an inch in width. (Shown by Messrs. Wells, Merstham.)

Prunus Miqueliana (see fig. 186).—A Japanese species allied to subhirtella. The flowering sprays exhibited had pale-brown, twiggy growths, from each node of which sprang close clusters of three or four short-pedicelled flowers. The flowers are white, but with age the numerous filaments become pink and give a flushing of pink to the spray; they are about ¾ inch in diameter, and have about 15 small lance-shaped petals. Nicholson *(Dictionary of Gardening)* describes the plant as having deeply and irregularly-cut leaves and sparsely-hairy pedicels and calyces. The leaves had already fallen from the sprays exhibited, and although there was a slight pubescence on some twigs, the calyces and pedicels appeared to be quite glabrous. A very pretty, low-growing tree, which in Sussex flowers regularly in November and December. It requires a sharp frost to destroy the expanded flowers, and the buds are seldom injured. (Shown by Col. Stephenson R. Clarke, C.B., Borde Hill, Cuckfield—gr. Mr. Conn.)

Carnation Mrs. A. F. Dutton (see fig. 187).—A sport from White Perfection. The stem and calyx are excellent, but the blooms are scarcely scented. The colour is a very bright rose (shade four *Rép. de Couleurs*), but pales towards the edge of the petals. (Shown by Mr. A. F. Dutton.)

C. Bonfire.—A rather small-flowered, perpetual-flowering variety, but exceedingly neat and pretty, with excellent stiff stems and sound calyx. The petal edge is serrated, and the flowers are not scented. The colour is a very bright scarlet. (Shown by Messrs. W. Wells & Sons.)

Cultural Commendation.

Chrysanthemum Mrs. Swinburne. A large batch of this fine white Chrysanthemum was shown; the plants were grown in 5-inch pots. One specimen bore 11 large, disbudded flowers and one unopened bud, the whole plant being only 2 feet high. (Shown by Col. Lockwood, Bishop's Hall, Romford—gr. Mr. G. Craddock.)

Some Further Novelties.

Winter-flowering Begonia Duchess of Westminster, shown by Messrs. Clibrans, is a good addition to the varieties exhibited at the last meeting. The flowers are double, and a bright shade of deep rose-pink.

Carnation Northport, a variety that has received extraordinary praise in America, was shown by Messrs. Wells. The colour is an intense cerise-pink.

Messrs. R. Wallace & Co. showed Iris Vartanii White Pearl. This is an albino form of the type, but retains the distinct yellow ridge on the claw of the falls. The type was named by the late Sir Michael Foster after Dr. Vartan, of Nazareth, who first sent it to him. It is the earliest to flower of the reticulata group, being out normally from October-December, and considerably in advance of Histrio, and is figured in the *Bot. Mag.*, 6,942. White Pearl was imported from Palestine in 1910 as a white form of I. histrioides, and has been distributed under that name. It has also been sent out as a white Histrio, but it is quite distinct from these species. It is a pretty little species with almond-scented flowers, and owing to the character of our November weather, they generally require the protection of an Alpine house.

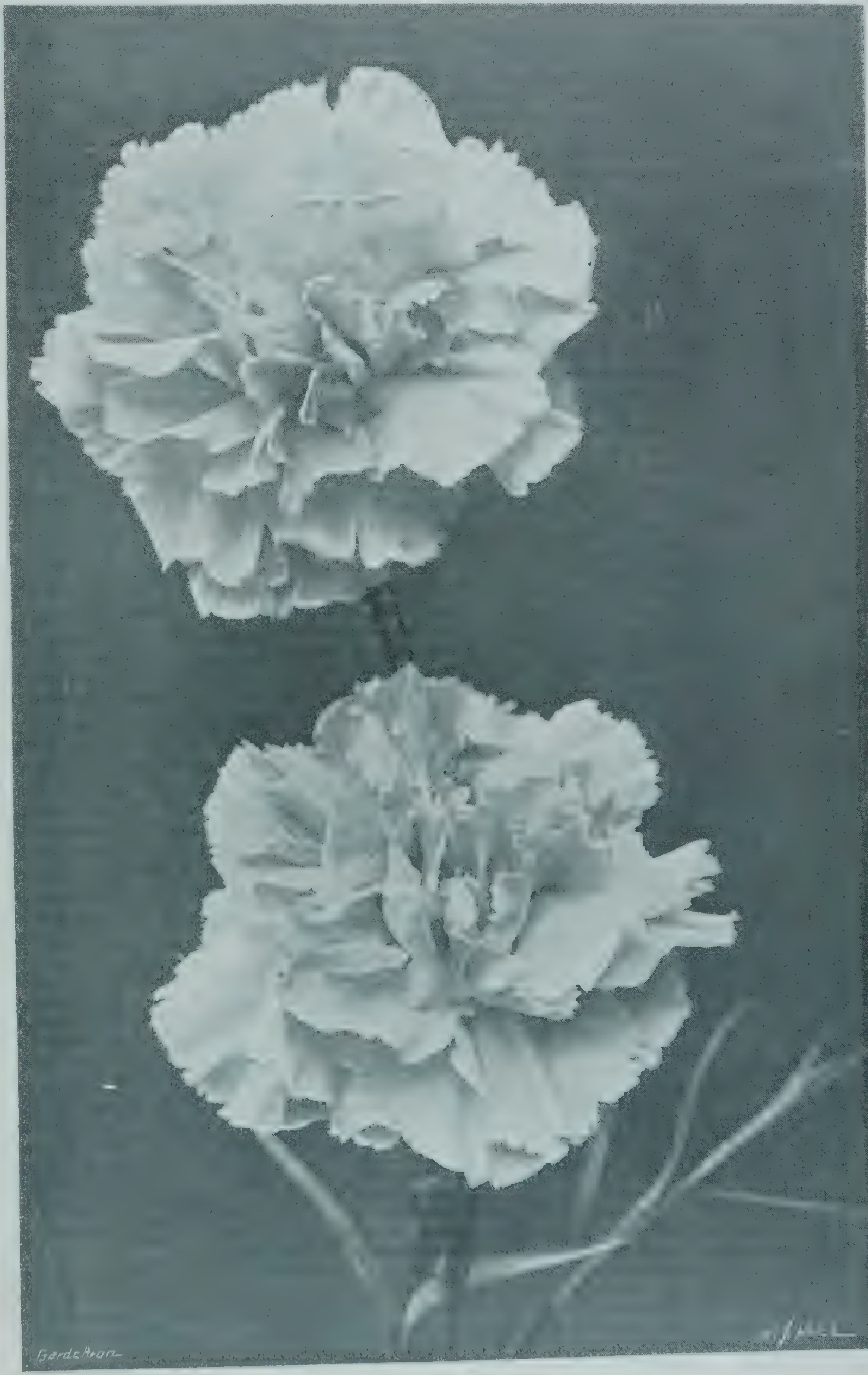


Fig. 187.—Carnation Mrs. A. F. Dutton: colour, bright rose.
(R.H.S. Award of Merit on Tuesday last.)

Orchid Committee.

Present: J. Gurney Fowler, Esq. (in the Chair); Messrs. Jas. O'Brien (hon. sec.), J. S. Moss, Gurney Wilson, J. Wilson Potter, R. G. Thwaites, F. Sander, R. A. Rolfe, T. Armstrong, A. McBean, C. H. Curtis, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, J. E. Shill, H. G. Alexander, A. Dye, W. P. Bound, W. Bolton, de B. Crawshay, Sir Jeremiah Colman, Bart, and Sir Harry J. Veitch.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), showed the unique Vanda cœrulea Sanderæ with two spikes of perfectly-shaped flowers differing from all other forms in colour, the tint being clear magenta pink with no trace of blue. It was awarded a First-class Certificate, November 22, 1910, when first shown. Also Cypripedium × Nydia (Niobe ×

nitens-Leeanum), a fine flower, and two others. (See Awards.)

Messrs. Jas. Veitch & Sons, Chelsea, staged a good group, for which a Silver Flora Medal was awarded. An interesting feature of this exhibit was a batch of seedlings between Zygopetalum Mackayi and Odontoglossum crispum, the flowers differing in no way from the Z. Mackayi staged at each end of the group. The peculiarity has been frequently noted, but the facilities for comparison made the exhibit very interesting. A fine lot of Cypripediums included C. Idnia (insigne Harefield Hall × Countess of Carnarvon), a large flower of the Æson giganteum class; C. Glebelands "Veitch's variety"; C. Gaston Bultel; good forms of C. Leeanum, and some promising unnamed hybrids. Others noted were Brasso-Lælio-Cattleya Morna (B.-C. Mme. Chas. Maron × L.-C. bletchleyensis), a bold flower of a light rose-pink tint, and several bright Lælio-Cattleyas.

Messrs. Sander & Sons, St. Albans, staged an effective and interesting group, containing several novelties. The best were Cypripedium St. André (Leeanum A. Lefebvre × Actæus Bruggense), a fine flower, with a large, pure-white dorsal sepal, having an emerald-green base, with some small, dark spots and a distinct purple medium line: petals and lip pale green, tinged with purple; C. Conquest (Earl of Tankerville × Leeanum Clinkaberryanum), much larger than Earl of Tankerville, but similarly coloured; and C. Smaragdina (Euryades Leopardianum × Ville de Paris), a model flower with a clear gamboge-yellow ground, beautifully blotched with chocolate purple. A very interesting plant was Chondropetalum Fletcheri, which had Chondrorhynca Chestertonii for seed-bearer, and which showed conclusively the correctness of the record. Lælio-Cattleya Golden Oriole, and other showy Lælio-Cattleyas, and some interesting species were also shown.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), was given an Award of Merit for a varied group, the front of which was of the yellow Cypripedium insigne Sanderæ, C. insigne Harefield Hall and Bohnhoffianum, varieties of C. Leeanum, C. Pittianum, &c. Among the Odontoglossums, O. ardentissimum "Pitt's variety," raised at Rosslyn, was a very pretty and richly-coloured form. Various other hybrid Odontoglossums and several Cattleya Clarkæ, Dendrobium Phalænopsis, Chondropetalum Fletcherianum, and Maxillaria Hubschii were also noted.

Messrs. J. Cypher & Sons, Cheltenham, secured a Silver Banksian Medal for a representative group of Cypripediums, which included many fine forms. With them were Zygopetalum crinitum, Lælia anceps Schröderæ (of very dark colour), Lælio-Cattleya Rubens (large and of fine shape), and Cattleyas.

Messrs. W. Baylor Hartland & Sons, Cork, were awarded a Silver Banksian Medal for a group of Cypripediums and hybrid Odontoglossums. Very effective was Cypripedium insigne Sanderæ. Odontoglossum Groganiæ bore a finely branched spike of rose-purple flowers, and among Cattleyas we noted a very distinct home-raised C. Hardyana, C. aurea being the seed-bearer. The sepals and petals were creamy-yellow, slightly flecked with rose, the lip rose-purple with gold veining.

Messrs. J. & A. McBean, Cooksbridge, staged an effective group, in which were their new Cymbidium Doris and a very fine form of C. Wiganianum. Several dark hybrid Odontoglossums, O. Phœbe, three of their seedling Cattleya aurensis, and some good Cypripediums were also exhibited.

Messrs. Charlesworth & Co., Haywards Heath, staged a small group, in the centre of which was a magnificent specimen of Angræcum sesquipedale with ten of its large, wax-like flowers. Various good Cypripediums, scarlet Odontiodas, and the beautiful new Sophro-Lælio-Cattleya Carna (see Awards) were also included.

Messrs. Hassall & Co., Southgate, staged a selection of Cypripediums and Cattleya and Lælia hybrids. Also Vanda suavis and other Orchids.

E. H. Davidson, Esq., Orchid Dene, Twyford, showed a remarkably pretty hybrid between Lælio-Cattleya Gottoiana and Cattleya Dowiana aurea, the flowers resembling the latter in fine shape, but with the petals more openly displayed Sepals and petals primrose yellow, freckled at the tips with rose. Lip rosy-carmine with gold veining.

His Grace the Duke of Marlborough, Blenheim Palace (gr. Mr. Hunter), sent Cypripedium Beatrice (aureum Hyeanum × Memoria Jerninghamiæ) with a white dorsal sepal.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), showed the fine Cypripedium Leeanum J. Gurney Fowler; a fine Odontoglossum Lambeauianum with a branched spike of many flowers; and Odontioda Latona.

Messrs. Swan & Price, Keyfield Nursery, St. Albans, sent Cypripedium Maurice, a good flower of unrecorded parentage.

Messrs. Stuart Low & Co., Bush Hill Park, showed Cypripedium Eva (aureum Hyeanum × Memoria Jerninghamiæ).

AWARDS.

First-class Certificate.

Lælio-Cattleya Golden Oriole "var. Ruby" (L.-C. Charlesworthii × C. Dowiana aurea), from Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A very handsome flower, totally different in colour to the original form. The petals and lip are of a rich claret-red colour, delicately viened with yellow; the sepals have a yellow ground tinged and blotched with claret-red. Unless closely examined, the flower appears to be almost entirely claret-red.

Odontioda Latona "Fowler's variety" (Odontioda Bradshawiæ × Odontoglossum crispo-Harryanum), from J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis). —A very fine hybrid with flowers equal in size to O. crispum and richly blotched. The ground colour is white, the sepals and petals having a broad rose margin, the inner parts heavily blotched with reddish mauve. The front of the lip is white and the crest yellow, with a large reddish blotch.

Award of Merit.

Cypripedium Viking (Buchanianum × illustre), from Lieut.-Col. Sir Geo. L. Holford, K.C.V.O. (gr. Mr. H. G. Alexander).—This beautiful hybrid has the fine substance of C. Druryi and its wax-like, dorsal sepal, which is pure white with an ovate violet-purple band up the centre. Petals and lip Indian yellow tinged with brown.

Sophro-Lælio-Cattleya Carna (L.-C. Cappei × S.-L. heatonensis), from Messrs. Charlesworth & Co.—A beautiful flower of large size and of a bright magenta-rose colour with yellow base to the lip.

Cypripedium Eurybiades (Euryades × Alcibiades), from Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White).—An improvement on C. Euryades. Flower large. Dorsal sepal pure white above, emerald green below; evenly spotted with dark purple. Lip and petals yellowish-tinged dark purple.

Cultural Commendation.

To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., for a fine specimen of Sigmatostalix radicans with many spikes.

Fruit and Vegetable Committee.

Present: George Bunyard, Esq. (in the Chair); Messrs. Jos. Cheal, W. Bates, Edwin Beckett, F. Perkins, Geo. Kelf, H. Markham, A. R. Allan, A. W. Metcalfe, J. Davis, A. Bullock, J. Jaques, Geo. Wythes, A. Grubb, and Owen Thomas.

Messrs. J. Cheal & Sons, Crawley, were awarded a Silver Banksian Medal for an exhibit of Apples and Pears. The new variety Crawley Beauty was represented by several baskets of fine fruits. Encore, a comparatively new variety, is an excellent late culinary Apple; one of the fruits weighed 1 lb. 7¼ ounces. There was a good dish of the new Pear Beurré de Naghan.

The most imposing exhibit of fruit was shown by the Government of British Columbia. It consisted entirely of Apples, mostly in boxes, as shipped for the English market. The fruits were superb, and the Committee selected the variety Winter Banana as worthy of an Award of Merit. Spitzenberg (a solid red Apple of fine flavour), Grime's Golden, Winesap, Rome Beauty, Wagner, Canadian Baldwin, Canada Red, Newtown Pippin, and Cox's Orange Pippin represent the pick of the varieties. (Gold Medal.)

A Gold Medal was awarded to Mrs. W. Banks, Park Street, Westminster, for a collection of preserves. It was the finest exhibit of this nature ever seen at these meetings, and comprised 168 distinct kinds of bottled vegetables and fruits. As showing the comprehensive nature of this exhibit, we may enumerate Mushrooms, Chutneys, Mulberries, Loganberries, Apricots, Quince jelly, Carrots, Peas, Celery, Beans, and Currants. The exhibitor informed us that the Mulberries and Loganberries are especially delicious, and that Currants are the most difficult to preserve whole. Some of the vegetables were bottled in sterilised salt water.

Silver Knightian Medals were awarded to Mrs. Miller, Moylem, for preserves, and Messrs. Westmacott, for South African produce.

A Silver Banksian Medal was awarded to Miss Hilda, Harcourt Terrace, Kensington, for preserves. A Bronze Banksian Medal was awarded to Mr. D. E. Tower, Pershore, for a similar exhibit.

Awards of Merit.

Apple Crawley Beauty.—A late culinary variety, about 2¾ inches deep; richly coloured on the side next to the sun, and prominently streaked with red at the base. The parentage is unknown. Messrs. Cheal & Son, the exhibitors, informed us that it is a local variety found in many cottagers' gardens in the neighbourhood of Crawley. The fruits hang very late in the season, often after the leaves have fallen.

Apple Winter Banana.—A solid fruit, 3 inches deep and 4½ inches in circumference, of pale-yellow colour flushed with red. The flesh is juicy, sweet, and of fine flavour. Shown by the Government of British Columbia.

Apple Steyne Seedling.—This Apple resembles a large fruit of Cox's Orange Pippin. It is of excellent eating quality, and is a fine addition to late dessert varieties. Shown by Lady Thornycroft.

THE LECTURE.

Mme. Tzikos St. Leger's paper was read by the secretary. The title, "The Vegetation of the Islands of St. Leger in Lake Maggiore," was rather a misnomer, but if any of the large audience attended in the expectation of hearing an account of the indigenous vegetation of these islands, they must have been agreeably surprised when the story so interestingly unfolded proved to be an account of the work performed by Mme. St. Leger, who transformed the rocky, windswept and almost desert island on which she has made her home into a beautiful and interesting garden. It seems that when Mme. St. Leger acquired the island it contained a disused nunnery, of which only the strong outer walls were sound, one tall Lime tree, which had been a landmark for years, and a few stunted Oaks, which eked out a precarious existence drawn from the scanty nourishment found between the crevices of rocks. This was practically the extent of its vegetation. The long, narrow Lake Maggiore is situated partly in Northern Italy and partly in Switzerland. The imaginary line across the lake, which divides it, is so rigidly respected that any yacht crossing it is hailed from the Customs vessel and inspected. The two St. Leger islands are about two miles from the Italian shore, and enjoy a delightful climate during the hot season; when the dwellers on the mainland are oppressed by heat, the temperature on the St. Leger islands, thanks to the surrounding water, rarely rises above 70° Fahr., whilst during the winter months the minimum of 15° Fahr. is rarely reached. This equable climate renders possible the diverse and almost tropical vegetation which Mme. St. Leger has introduced. As there was practically no soil on the island, enormous quantities had to be brought from the mainland in boats, and before any planting was commenced the nunnery was put into habitable condition and garden paths were made.

The lantern slides illustrated the great amount of success which has attended the gardening operations. As the lecture progressed, the bare, rocky expanses, with their few stunted trees and weeds, gave place to charming views of Palms (Chamærops excelsa), with tall, straight stems, crowned with leaves and fruits, contrasting with dark-green, upright Roman Cypresses (Cupressus sempervirens) or with the long leaves of the Japanese Banana (Musa japonica, syn. M. Basjoo) which border the paths. Mention was made of such rare and interesting Conifers as Pinus longifolia, Cupressus majestica (C. torulosa var. majestica), Picea Morinda, Araucaria Bidwillii, Cupressus torulosa, Ginkgo biloba, and a "Retinospora," with to the *Kew Hand-list* or the *Manual of Coniferæ*, but which had the characteristic appearance of Dacrydium Franklinii. The lantern slides of Eucalyptus amygdalina, with tall, straight, silvery trunks; an exceedingly fine Date Palm (Phœnix dactylifera); a Cycas revoluta; and a large Tangerine Orange bush, which bears abundant crops of fruit, evoked great admiration.

On the north side of the island a row of Weeping Willows, planted partly as a protection from the rough winds, encircle rarer trees, and one result of importing soil is that Poplars and Maples now grow wild amongst them.

Roses, in groups and in the borders, bear a profusion of blossoms; the variety Maréchal Niel was in flower last Christmas Day, and Laurette de Messimy bloomed in February.

A kitchen garden was made, and 3 feet of pure sand, treated with suitable manure, produced satisfactory crops of Cauliflowers, Potatos, and other vegetables.

GHENT HORTICULTURAL.

November 3.—The monthly meeting of the Chambre Syndicale des Horticulteurs Belges et Société Royale d'Agriculture et de Botanique de Gand was held on the above date, and the following awards were made.

Certificates of Merit.

Cypripedium insigne var. perfectum; Odontonia Firminii (Odontoglossum crispum × Miltonia vexillaria); Cypripedium Bruggense; and *C. Durandii*, shown by Monsieur F. Lambeau.

Cattleya St. Anne; C. Venus var. lutescens; C. Fabia alba; Cypripedium Memnon; C. elatior; C. Priam; C. Gaston Bultel; Lælio-Cattleya Bulgaria; and *Masdevallia Bella*, shown by Monsieur Jos. de Hemptinne.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

November 7.—*Committee present:* Rev. J. Crombleholme (in the Chair); Messrs. R. Ashworth, J. Cypher, J. Evans, A. Hanmer, Dr. Hartley, W. Holmes, A. J. Keeling, J. Lupton, D. McLeod, H. Thorp, Z. A. Ward, A. Warburton, and H. Arthur (secretary).

A Silver-gilt Medal was awarded to A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), who staged a miscellaneous group.

Large Silver Medals to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), for a group of Cypripediums and Odontoglossums; and Messrs. Sander & Sons, St. Albans, for a choice group.

Silver Medals to Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), for Cattleyas in variety; Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), who staged a group of Cypripediums; J. McCartney, Esq., Bolton (gr. Mr. Holmes), for Cattleyas and hybrids; Messrs. J. Cypher & Sons, Cheltenham, for Cattleyas and Cypripediums; and Messrs. A. J. Keeling & Sons, Bradford, for Cattleyas.

Other exhibitors included O. O. Wrigley, Esq., Bury (gr. Mr. Rogers); R. Ashworth, Esq., Newchurch (gr. Mr. Gilden); F. A. Hindley, Esq., Great Horton, Bradford; Mr. W. Shackleton, Great Horton; and Mr. W. Birchenall, Alderley Edge.

AWARDS.

First-class Certificates.

Cattleya Iris variety Ashworthiæ.—A large, round flower, of good colour, with deeply-coloured lip, exhibited by R. Ashworth, Esq.

Cypripedium "Jasper" (Alcibiades × Hitchensæ).—A well-formed flower; the dorsal petal has a white margin. From Z. A. Ward, Esq.

C. Hassallii "Hindley's variety" (Charlesworthii × bingleyense).—From F. A. Hindley, Esq.

Award of Merit.

Odontoglossum crispum variety Arthur.—A hybrid of unknown parentage. Shown by Z. A. Ward, Esq.

At the meeting held on November 14 the following members of the committee were present: Rev. J. Crombleholme (in the Chair); Messrs. R. Ashworth, J. Cypher, J. Evans, W. Holmes, J. Lupton, C. Parker, H. Thorp, Z. A. Ward, and H. Arthur (secretary).

Gold Medals were awarded to W. R. Lee, Esq., Heywood (gr. Mr. Branch), for Cypripediums; Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), and Messrs. J. Cypher & Sons, Cheltenham, for a fine display of Cypripediums and Cattleyas.

Silver-gilt Medals to Mrs. A. K. Wood, Glossop (gr. Mr. Gould), for a pleasing display of Cattleyas and Lælio-Cattleyas in variety; A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), for a fine group; and Messrs. Charlesworth & Co., Haywards Heath, for a choice mixed group.

Large Silver Medal to R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), for a miscellaneous collection.

Silver Medals to Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), for a small group of Cypripediums; and J. McCartley, Esq., Bolton (gr. Mr. Holmes).

Other exhibitors included Messrs. A. J. Keeling & Sons, Bradford, and Mr. J. Evans, Congleton.

AWARDS.

First-class Certificate.

Cattleya labiata "Cyme."—A large, well-set flower, of pure white-sepals and petals, with faint colour in lip. From Col. J. Rutherford.

Awards of Merit.

C. labiata "Vestalis," Cypripedium Actæus "Ashlandense No. 2," and *C. insigne Rossendale (Sanderæ × Laura Kimball),* all from R. Ashworth, Esq.

Cultural Certificates

were granted to Mr. Gilden for a fine example of *Cattleya Portia*, and to Mr. Gould for a good specimen of *Vanda cærulea.*

WESTON-SUPER-MARE AND DISTRICT CHRYSANTHEMUM.

November 7.—The 26th exhibition of this society was held on this date at Knightstone Pavilion.

In the class for a group of Chrysanthemums, in a space of 50 square feet, a magnificent group exhibited by Frank E. Dove, Esq., Chandos Lodge (gr. Mr. G. Henley), was awarded the 1st prize; 2nd, Mr. Cornellius (gr. Mr. C. Cook).

For a group of miscellaneous plants arranged for effect Mr. C. J. Ellis, Weston Nurseries, Weston-super-Mare, won the 1st prize easily with a beautifully-arranged group containing finely-coloured Crotons, Poinsettias, Liliums, Cattleyas, and Oncidiums; 2nd, Mr. W. Brooks, Whitecross Nurseries.

In the class for 24 blooms of Japanese Chrysanthemums there was not a weak bloom in the whole of the exhibits. The 1st prize was won by H. E. Murry, Esq., Anderdon, Taunton (gr. Mr. J. Bishop); 2nd, Hugh Andrews, Esq., Wickwar (gr. Mr. J. H. Tooley). For 12 Japanese blooms the 1st prize was won by Frank Dove, Esq. (gr. Mr. G. Henley).

Exceptionally fine flowers were shown in the class for six Japanese blooms; the 1st prize was won by E. E. Baker, Esq., Weston-super-Mare (gr. Mr. H. Whitehead); 2nd, Mrs. W. S. Balliscombe, Worle.

HITCHIN CHRYSANTHEMUM.

November 14.—This show was a great success. The principal prize was offered for the best exhibit of six vases of Japanese blooms in six varieties. There were five competitors, and John Balfour, Esq. (gr. Mr. A. Jefferies), won easily with grand blooms of the varieties William Turner, Mrs. G. Drabble, Lady Talbot, F. S. Vallis, Fred Green, and John Peed. 2nd, Bailey Hawkins, Esq., Stagenhoe Park, Welwyn (gr. Mr. E. Kinns). Mr. Balfour was successful in the class for 12 Japanese varieties, distinct, in vases, also for one vase of five blooms of a white variety, with William Turner; one of the blooms in this vase was adjudged the best Japanese Chrysanthemum in the show. The same exhibitor showed the best vase of five blooms of any coloured Japanese variety with F. S. Vallis.

The vegetables classes were keenly contested. Mr. Hartless excelled in both Messrs. Carter's and Sutton's classes for collections. Mr. E. Kinns was placed 2nd in both classes.

Fruit.—The best of seven exhibits in the class for two bunches of white Grapes was shown by Mr. Jefferies. There were nine entries in the class for two bunches of black Grapes, and Mr. Croxford was placed 1st with large, handsome bunches of Muscat Hamburgh. Mr. T. Pateman showed best in the class for Apples and Pears. This exhibitor won the 1st prize for a collection of fruit with choice Grapes, Apples, and Pears. Lord Hampden (gr. Mr. C. E. Martin) was placed 2nd.

BRADFORD CHRYSANTHEMUM.

November 15, 16.—The twenty-sixth annual exhibition of this society was held on these dates. The entries, although scarcely so numerous as last year, compared favourably with previous exhibitions.

Cut Blooms.—In the open class for 24 Japanese blooms in not fewer than 18 varieties, Sir Wm. Bass, Burton-on-Trent (gr. Mr. R. Nisbet), was awarded the 1st prize. His best blooms were Frances Jolliffe, Mrs. David Syme (the premier flower in the show), Wm. Gee, Mrs. Mersham, Wm. Biddle, F. S. Vallis, Wm. Turner, Mrs. K. Luxford, and White Queen. 2nd, Arthur James, Esq., Coton House, Rugby (gr. Mr. A. Chandler), with fresh, bright, but smaller blooms.

Local Classes.—For 24 blooms, Incurved, the 1st prize was won by Mr. H. B. Farmer. 2nd, Mr. A. Chandler. Mr. Chandler was also awarded the 1st prize for six vases of Japanese blooms. For 18 Japanese blooms in not fewer than 12 varieties, Mr. John Thornton, Drighlington, was placed 1st. 2nd, Mrs. Constable, Otley (gr. Mr. W. H. Aldridge). Mr. H. Clark was successful in the class for 12 Incurved blooms, and the 1st prize for six dissimilar Japanese varieties was won by Mr. J. Thornton. 2nd, Mr. W. H. Aldridge.

Messrs. Wells & Co., Ltd., Merstham, exhibited Chrysanthemums, including the new variety Queen Mary.

ROYAL METEOROLOGICAL.

November 20.—The opening meeting of this Society for the session was held at the Surveyors' Institution, Dr. H. H. Dickson, President, in the Chair.

Dr. H. R. Mill, Director of the British Rainfall Organization, read a paper on the unprecedented rainfall in East Anglia on August 26 last. He based his discussion on the records of 265 rainfall observers in the eastern counties, from which he constructed a series of maps, showing the hour of commencement and of cessation of rain and the total rainfall of the 24 hours in question. The rain commenced in London between 1 and 2 a.m. on August 26, but the hour of commencement grew later towards the northward, rain not beginning to fall in Lincolnshire until after 7 a.m. The intensity of the fall increased rapidly over the whole area, the maximum being reached in a fall of 4 inches in 4 hours from 11 a.m. in the neighbourhood of Norwich. The rain afterwards diminished in intensity and gradually ceased, the hour of cessation being 6 p.m. round the outside of the area affected from Orford Ness to Grantham, but later towards the centre, where, over nearly the whole of Norfolk and a large wedge of Suffolk, it did not cease until after midnight on the 26th, and at some places not until 4 or 5 a.m. on the 27th. In this central area the rain fell without intermission for more than 20 hours, and at some points probably for 24. The distribution of the rain was somewhat remarkable. There were two foci of maximum fall, both in Norfolk, the northern central south of Cromer with more than 7.50 inches, the larger central east of Norfolk culminating in about 20 square miles, with more than 8 inches of rain in the 24 hours. About 1940 square miles in Norfolk and Suffolk had more than 4 inches of rain, the most curious feature being a triangle of much lower rainfall running through the west of Norfolk south-eastward from the Wash. The area with more than 2 inches of rain was at least 5,800 square miles. The general rainfall of each of the counties was calculated for this day and also for the various river basins; and, speaking generally, it was said that during the 24 hours as much water was deposited on the land as would fall in normal circumstances in two or three months. Several very heavy falls of rain in one or two days which had been recorded in different parts of the country were considered, and it was shown that, although more than 8 inches had fallen at Seathwaite, in the Lake District, on more than one occasion, as the result of one or two days rain, there was no instance of so large an area having more than 6 inches of rain in two days as occurred in East Anglia on August 26. Former flood-rains in the same area were considered, and shown to have been quite insignificant in comparison; and only two instances could be found—July, 1875, and November, 1878—when the rainfall of a whole month surpassed that of of these 24 hours. The cause of the prolonged torrential downpour was not to be found in the physical geography of the district affected, but in the meteorological conditions for the full elucidation of which the data were insufficient. The fact that a small secondary depression had passed northward from the English Channel to the coast of Norfolk and then turned eastward across the North Sea suggested a relationship with a similar though less intense rainstorm which affected the east of Ireland on August 25, 1905, when a similar depression passed northward from St. George's Channel to the coast of Wicklow and turned off abruptly across the Irish Sea. Considering the unprecedented magnitude of the volume of rain precipitated the floods, of which a series of photographs was shown, were remarkable rather for their moderation than for the destruction wrought.

Mr. A. P. Jenkin also read a paper on a three-year period in rainfall.

NORWICH CHRYSANTHEMUM.

NOVEMBER 21, 22, 23.—This annual show was held in St. Andrew's and Blackfriars Halls on these dates, and proved a great success.

A Challenge Cup was offered for a circular group of Chrysanthemums and foliage plants 8 feet in diameter. E. G. BUXTON, Esq., Catton Park, Norwich (gr. Mr. F. Notley), won the cup with fairly good blooms of Japanese varieties, freely-flowered singles, and good foliage plants, but the exhibit was not well arranged. 2nd, G. E. WHITE, Esq., Eaton House, Norwich (gr. Mr. D. Cockeril).

The most important class for cut blooms was for 48 specimens of Japanese Chrysanthemums, not fewer than 36 varieties. Sir CARL MEYER. Shortgrove, Newport (gr. Mr. E. Guile), won the 1st prize easily with fine, fresh blooms of Mrs. G. Drabble, J. C. Neill, Mary Farnworth, Leviathan, Fred Green, F. S. Vallis, E. M. Quickendon, Acquisition, Mrs. W. Iggulden, W. Turner, and others. Sir S. NEWMAN, Rainham Hall, Norfolk (gr. Mr. H. E. Stredwick), was placed 2nd; 3rd, W. H. PALMER, Esq., Ormesby (gr. Mr. E. G. Leach).

In the class for 36 Japanese blooms, open to growers in the county of Norfolk, five competed. The best blooms were shown by T. O. RISBY, Esq., Ormsby (gr. Mr. C. Nichols), whose best varieties were W. Rawlings, J. H. Silsbury, Frances Jolliffe, W. Mease, and Mrs. F. Vallis. W. T. F. JARROLD, Esq., Roxley Thorpe (gr. Mr. W. Marjoram), was awarded the 2nd prize.

The best 12 Japanese blooms, distinct, were shown by Sir G. BARON, Ormsley Hall (gr. Mr. H. Spiri). Especially fine were the six Japanese blooms exhibited by Mr. J. E. PRENTICE, London Road, Harleston; his flowers of Glaucous, Lady Crisp, and Bessie Godfrey were equal to any in the show. Mr. J. F. GAYMER, Millfield Cottage, North Walsham, was a good 2nd. In the class for six blooms of a white Japanese variety, Sir J. NEWMAN staged exceedingly fine specimens of the pure white W. Turner, and secured the leading award. This exhibitor also excelled in the class for six blooms other than a white variety with F. S. Vallis.

Prizes were offered for a group of cut blooms arranged on a table with any foliage. Sir G. BACON was placed 1st in this class.

Incurved blooms were few in number but fairly good in quality. Sir C. MEYER had the best exhibit of 12 varieties. Doris Rayner, Clara Wells, Duchess of Fife, Mrs. G. Denyer, Fred Palmer, Triomphe de Montbrun, and Mrs. Hygate were the best varieties.

There were six classes for naturally-grown Chrysanthemums—terminal sprays. For 12 varieties, arranged in vases, six sprays in each, C. E. WHITE, Esq., excelled with an attractive exhibit of such useful decorative varieties as Lizzie Adcock, M. Julien Valet, Champion Exe, Dr. Englehard, and Source d'Or. 2nd, Mr. E. F. GREEN.

There were excellent exhibits of Carnations, Violets, and Begonias. In the fruit classes Apples and Pears were especially good. For three bunches of black Grapes, distinct, Col. HARBORD won the 1st prize with Black Alicante, Gros Maroc, and Gros Colman. The best three bunches of Black Alicante were shown by E. REEVE, Esq. (gr. Mr. E. Florence). The finest Muscat of Alexandria Grapes were exhibited by F. A. RISING, Esq., Ormesby (gr. Mr. C. Nicholls). There were numerous exhibits in the class for 10 varieties of dessert Apples. Lord STRADBROOK, Henham Hall (gr. Mr. F. Simpson), won the 1st prize with splendid fruits. Lord STRADBROOK also excelled in the class for nine varieties of culinary Apples. Col. PETRIE, Westwick, won quite easily the premier prize for six varieties of dessert Pears with grand fruits.

NON-COMPETITIVE EXHIBITS.—Messrs. DANIEL BROS., Norwich, furnished one end of St. Andrew's Hall with a fine display of Chrysanthemums and other flowers. (Gold Medal.)

Messrs. SUTTON & SONS, Reading, staged a large collection of vegetables. (Gold Medal.)

Messrs. W. WELLS & Co., LTD., Merstham, showed Chrysanthemums. (Gold Medal.)

Messrs. HOBBIES LTD., Wisbech, showed Liliums, Roses, Dahlias, Begonias, and Chrysanthemums. (Gold Medal.)

Mr. G. W. MILLER, Clarkson Nurseries, Wisbech, arranged, in front of the orchestra, an attractive group of Orchids. (Gold Medal.)

Mr. W. SEABROOK, Chelmsford, and Mr. R. C. NOTCUTT, Ipswich, showed collections of Apples.

ABERDEEN CHRYSANTHEMUM.

NOVEMBER 22, 23.—This show was held in the hall of the Young Men's Christian Association, Aberdeen, on the above dates. The exhibits were well up to the standard of previous years, and the entries were numerous.

POT PLANTS.—For a group of Chrysanthemums and other plants arranged in semi-circular form on a space 8 feet by 4 feet, the 1st prize, a piece of silver plate, was won by A. R. GRAY, Esq., of Garthdee, Aberdeen (gr. Mr. Robert Begg). It was a capital group. A Kentia Palm formed the crown, while Cocus Weddelliana added to the effect. The Chrysanthemum blooms included finely-grown specimens of Mrs. Lopes, Mrs. A. T. Miller, the new white Master James, J. H. Silsbury, and several beautiful singles. Colonel STUART RICHARDSON, of Ballathie, Perthshire (gr. Mr. John E. Davies), was placed 2nd. Mr. A. R. GRAY also won the 1st and 2nd prizes for specimen Chrysanthemums in pots, his entries including a magnificent pot of the Nellie Pockett variety. For single and decorative Chrysanthemums Mr. GRAY also took leading honours.

CUT BLOOMS.—Colonel STUART RICHARDSON, Ballathie (gr. Mr. John E. Davies), won the 1st prize easily in the class for 18 blooms of Japanese Chrysanthemums, six varieties. His blooms included choice specimens of Mrs. F. W. Vallis, Mme. P. Radaelli, Master David, Mrs. Eric Crossley, Wm. Turner, and Mrs. F. S. Vallis. Sir CHARLES FORBES, Bart., of Newe, Strathdon, Aberdeenshire (gr. Mr. John McRobbie), was a good second. In the class for six blooms of yellow and white Japanese Chrysanthemums, Mrs. THORNTON, Thornton Castle, Kincardineshire (gr. Mr. Duncan McLean), was placed 1st. Mrs. DUNBAR-DUNBAR, Seapark, Forres (gr. Mr. J. A. Grigor), closely followed. The last-named exhibitor won the premier award in the class for 12 blooms. The best three blooms of one variety were shown by Mrs. THORNTON, and the best 18 vases of decorative Chrysanthemums by Mrs. DUNBAR-DUNBAR.

The best collection of kitchen Apples was shown by A. B. INNES, Esq. (gr. Mr. C. Stuart). He also showed the best dessert Apples. Mrs. DUNBAR-DUNBAR, Seapark, Forres, carried off the chief honours for dessert Pears. Grapes were not much in evidence, but the bunches of Black Alicante shown by Mr. COUPER, of Craigiebuckler, were well worthy of the 1st place.

LINNEAN.

NOVEMBER 21.—A general meeting of the Society was held on this date, Prof. E. B. Poulton, F.R.S., President, in the Chair.

The Rev. George Henslow, M.A., gave the substance of his paper, "On Vegetable Mechanics," as follows:—

The object of this paper is to show that plants respond to gravity, strains and stresses, in order to resist them and so secure stability. Kerner thought that the stems of herbs and trunks of trees were constructed on a combined system of girders; but if a tree has a heavy mass of foliage borne at the summit of a tall cylindrical stem (as of mahogany), or even a short one (Fagus Rumphii) buttresses are often formed by the roots, which enable the tree to keep the centre of gravity over an extended base.

If the stem be hollow, diaphragms are introduced to render it secure. These are in some cases cup-shaped as in East Indian Bamboos, thereby securing a greater "pull" against lateral injury.

In tropical lianes, various mechanical contrivances secure strength with elasticity. In Bauhinia there are cup-shaped bulgings on either side of a flattened stem. In the Monkey-ladder (Caulotretus), besides the bulgings, flanges are added on the edges, making a complete girder.

In Cucurbitaceæ and Passiflora the tendril coils, after securing a hold by its curled tip, the coils being in opposite directions. This is secured by a "crank" being first formed which rotates.

In leaves, the distribution of the mid-rib and veins secures the blade from transverse bending and tearing. In Bananas, the leaves, being degenerate in character, are invariably torn to shreds by the wind.

In flowers adapted to insects various mechanical contrivances enable the calyx and corolla, or the stamens, to support the insect; while others enable it to carry the pollen away. The calyx multiplies its ribs and the corolla expands anteriorly, while the stamens become levers, &c.

Fruits are often subject to strains as in bursting, but if a Pear hangs vertically from an oblique stalk, there is a tendency to tear it away. Nature then develops a hump at the base which counteracts the resultant of the two other forces.

The whole of the purposeful structures to secure strength to resist injurious strains, is the issue of the directivity of life.

NATIONAL CHRYSANTHEMUM.

ANNUAL DINNER.

NOVEMBER 27.—Members and friends of the National Chrysanthemum Society met at dinner on this date in the Royal Venetian Chamber of the Holborn Restaurant. The room was lavishly decorated with Chrysanthemums; a bank of large exhibition blooms, relieved with Palms and other greenery, was arranged along one side of the Hall, whilst the tables were gay with epergnes of smaller decorative varieties. The company, which numbered 105, included many ladies. Amongst those present we noticed Messrs. Thomas Bevan, E. F. Hawes, J. Witty, D. B. Crane, C. Harman Payne, R. J. Frogbrook, J. W. Moorman, W. Wells, Norman Davis, T. Stevenson, R. B. Leech, G. Hunt, and R. A. Witty (secretary). The Secretary read a letter from the president, Sir Albert Rollit, LL.D., regretting his inability to be present owing to indisposition. In the president's absence, and at his express wish, Mr. Thomas Bevan, chairman of the committee, occupied the chair.

After the usual loyal toasts had been honoured, the chairman gave the toast of "The National Chrysanthemum Society." Mr. Bevan referred with regret to the absence of the president. He gave a brief history of the Society from the time when it was formed from the old Stoke Newington Chrysanthemum Society, and referred to the wonderful progress seen in all sections of the flower since that time. There was, he said, a possibility of some of the older sorts appearing again under new names, for in some of the varieties on the tables he fancied he saw familiar faces, and this must be taken into consideration in awarding certificates to novelties. The toast was received with enthusiasm. The chairman then proceeded to distribute the medals, cups, and other trophies won at the Society's exhibitions

The next toast was "The Donors of Special Prizes," proposed by Mr. E. F. Hawes. Mr. Hawes said the Society was greatly indebted to those who had offered these special prizes, which, as those present could see, were numerous and valuable. They were indebted to their president for one of the handsome cups, and he, Mr. Hawes, proposed that a telegram should be sent to Sir Albert Rollit regretting his absence, and wishing him a speedy recovery. The proposal was received with acclamation. Mr. R. J. Frogbrook, in responding to the toast, expressed the satisfaction of those who had contributed special prizes, for the competitions were excellent, and the quality of the exhibits everything that could be desired.

Mr. C. B. Crane proposed "The Exhibitors and Affiliated Societies." The trade exhibits, said Mr. Crane, were the finest ever seen at the N.C.S. exhibitions, and he especially mentioned those of Messrs. Norman Davis, W. Wells & Co., H. J. Jones, John Peed & Son, and Craig, Harrison and Craig. He also referred to the great success of Mr. Thomas Stevenson, who won the 1st prizes in all the important classes at the principal show.

Mr. Wells, in responding, expressed the indebtedness of the traders to Mr. Caselton, the superintendent of the Crystal Palace, for his courtesy and help. He considered that there should be a rigorous selection of novelties submitted for awards.

The toast of "The Chairman" was proposed by Mr. C. Harman Payne in a humorous speech. He said that Mr. Bevan was a man of resource, perseverance, courtesy, and kindliness, and a keen supporter of the National Chrysanthemum Society. The toast was received with musical honours.

Other toasts were "The Press," proposed by Mr. J. W. Morman, and responded to by Mr. J. Harrison Dick, and "The Ladies and Visitors," proposed by Mr. J. McKerchar.

PERPETUAL-FLOWERING CARNATION.

December 3, 4.—The 13th exhibition of the Perpetual-flowering Carnation Society, held at the R.H.S. Hall on these dates, will rank as the best in the history of the Society. The entries were above the average, the exhibits were of high quality, and there was a large attendance of visitors.

Open Classes.

The three groups of cut Carnations, arranged on tabling 10 feet by 3 feet, with decorative plants or cut foliage, presented a very attractive appearance. A large number of excellent blooms of the best varieties were used by the several competitors. The 1st prize was won by Mr. C. Engelmann, Honeybrook Nursery, Saffron Walden, with a tastefully-arranged collection. The outstanding varieties were Sunstar, Rose Doré, Lady Northcliffe, Carola, and Pink Delight. The 2nd prize was awarded to Messrs. Wells & Co., The Nurseries, Merstham, Redhill, for a very bright exhibit. The varieties Scarlet Glow (which has such an appropriate name), Dorothy Gordon, and Northport were especially noteworthy. 3rd, Col. Rideout, Langley, Bucks, who showed a smaller collection of very fresh blooms.

The only exhibit of three vases containing 12 blooms of British novelties distributed since January 1, 1910, was that of the varieties Sunstar, Lady Northcliffe, and Carola, for which the Brunton Challenge Cup was worthily awarded to Mr. Engelmann.

The Challenge Cup presented by the American Carnation Society for a similar collection of American novelties was awarded to Mr. H. F. Mason, Church Farm Nursery, Hampton Hill, Middlesex, for three vases of exceedingly fine blooms of Dorothy Gordon, Gloriosa, and White Wonder; 2nd, Mr. W. E. Wallace, The Nurseries, Eaton Bray, Dunstable; 3rd, Mr. C. Engelmann.

The class for "25 blooms, any one variety, Enchantress, Mrs. Chas. Knopf, and similar colours," was responsible for eight vases of charming flowers. The 1st prize was awarded to Mr. E. Guile, The Gardens, Shortport, Newport, for a splendid vase of his variety Lady Meyer; 2nd, Mr. W. E. Wallace; 3rd, Col. Rideout.

Messrs. Stuart Low & Co., Bush Hill Park, Enfield, won the 1st prize in the class for a vase of Carnations of medium shades of pink with the variety Baroness de Brienen; 2nd, Mr. W. E. Wallace; 3rd, Mr. C. Engelmann.

The best vase of rose-pink Carnations was that of Gloriosa shown by Mr. W. E. Wallace; 2nd, Col. Rideout.

The premier vase of any deep pink variety was "Una Wallace," shown by Mr. W. E. Wallace; 2nd, Mr. C. Engelmann.

The white varieties shown were mostly White Perfection, and the 1st prize was won by Mr. H. F. Mason, Church Farm Nursery, Hampton Hill, Middlesex, with beautiful blooms; 2nd, Mrs. Collins, Heathfield Nursery, Swanley; 3rd, Col. Rideout.

Scarlet Glow, as shown by Mr. W. E. Wallace, was decidedly the best of the scarlet varieties; 2nd, Mr. H. F. Mason, who showed Beacon; 3rd, Mr. H. J. Dudney, The Nursery, South Road, Erith, Kent.

There were only two vases in the class for crimson or clove-coloured blooms. The 1st prize was won by Mr. W. E. Wallace for a splendid vase of Carola; 2nd, Mr. C. Engelmann.

Mr. Wallace also won the 1st prize for a vase of Fancy Carnations; he showed Benora in very good form; 2nd, Messrs. Stuart Low & Co; 3rd, Mr. C. Engelmann.

Mr. A. F. Dutton, The Nurseries, Iver, Bucks., won the 1st prize for the best vase of any other self Carnation with the variety Mikado. 2nd, Col. Rideout.

Mrs. Bide was the only exhibitor of a basket of Carnations, and was awarded the 1st prize for a tasteful arrangement.

The six dinner tables were all decorated with pink-coloured Carnations. The arrangement which won the 1st prize for Mrs. Bide, Highfield, Guildford Road, Farnham, was very dainty and charming; 2nd, Sir Randolf Baker, Bart., Ranston, Blandford (gr. Mr. A. E. Usher); 2nd, Mr. H. E. Guile.

The best three ladies' sprays were shown by Mr. S. F. Jackson, Danehurst, Epsom; 2nd, Miss E. Guile; 3rd, Mr. R. B. Leach, Dulwich.

The best six gentlemen's coat flowers were shown by Capt. Weiner; 2nd, Mr. Wm. Heath, The Hylands, Chelmsford; 3rd, Mrs. E. Guile.

Mr. W. Heath was awarded the 1st prize for a bright hand-basket of Carnations; 2nd, Mr. W. Holder; 3rd, Mrs. A. Bide.

Amateurs' Classes.

Lord Howard de Walden's challenge cup for the best semi-circular group of Carnation plants was awarded to Cecil F. Raphael, Esq., Porter's Park, Shenley, Herts. (gr. Mr. A. Grubb), who showed a highly meritorious collection. The blooms were very large and fresh and of excellent colour. 2nd, Mrs. Bischoffsheim, Warren House, Stanmore. 3rd, Mrs. Adair, Adair Place, Englefield Green (gr. Mr. W. Holder).

The two circular tables of cut Carnations were an agreeable change. The 1st-prize table, arranged by Sir Randolf Baker, Bart. (gr. Mr. A. E. Usher), evoked the admiration of many visitors; 2nd, Mr. H. Smith, Epping House, Little Berkhamsted, Herts., whose style of arrangement was in several respects the better, but the blooms lacked the high quality of the 1st-prize exhibit.

Three of the four dinner tables were decorated with pink Carnations. The 1st-prize table (Sir Randolf Baker) was run very closely by that arranged by Mr. W. Holder, of Adair Place Gardens.

Sir Randolf Baker also won the 1st prize for six Carnation plants (2nd, Mrs. Adair, who showed smaller but well-grown plants) and the Stuart Low prize offered for the best plant of the variety Baroness de Brienen, as well as for the best vase of that firm's novelties.

In the class for 12 blooms of Burnett's novelties, Sir Randolf Baker, Bart., was equally successful, whilst the best six blooms were shown by Capt. Weiner, Ewell Castle, Surrey.

The gold medal offered by Messrs. Wells & Co. for six blooms of four specified varieties was won by Sir Randolf Baker; 2nd, Lord Burnham, Hall Barn, Beaconsfield (gr. Mr. J. Johnson).

The class for one vase containing 25 blooms of Carnations was strongly contested. The 1st prize was won by Sir Randolf Baker; 2nd, S. F. Jackson, Esq.

In the colour classes, Sir Randolf Baker was generally successful. He won the 1st prizes in the classes for varieties of the Enchantress shade of colour, the Mrs. Burnett type, the rose-pink, and for the deep pink. Second prizes were awarded to Mr. J. West, Old Windsor; Mr. H. S. Culwick, The Gardens, Westlake, Yeovil.

The 1st and 2nd prizes for white varieties were awarded to Mr. S. F. Jackson and Sir Randolf Baker in the order named; whilst in the class for scarlet varieties Sir Randolf Baker was again leading, with Capt. Weiner 2nd.

The best clove-coloured blooms were shown by Mr. S. F. Jackson and Capt. Weiner.

The 1st prize for any other Self was won by F. Ricardo, Esq., The Friars, Old Windsor (gr. Mr. G. West); 2nd, Sir Randolf Baker, who gained the 1st prize for Fancy Carnations.

The "Dutton" prizes for 12 blooms of specified varieties were won by Sir Randolf Baker and F. Ricardo, Esq., in the order named.

Sir R. Baker also won the special prize offered by Mr. C. Engelmann, for six plants in bloom; 2nd, Mrs. Adair.

In the sections restricted to amateur members, who employ a part-time gardener, or who cultivate their Carnations unaided, Mr. C. Loosemore, Rodwell Station, Weymouth, was the most successful exhibitor. Mr. T. H. Plowright, Windsor, won the 1st prize for self-Carnations.

Non-Competitive Exhibits.

Mr. C. Engelmann, Saffron Walden, Essex, filled a large part of the end of the hall with an enormous collection of splendid cut Carnation blooms. The tall stands contained such varieties as Lady Northcliffe, Enchantress, and White Perfection. The clove-coloured Carola was exceptionally fine, as also were the blooms of Dorothy Gordon, Princess Charming, Sunstar, Red Jessica and Beacon. Several seedlings of different colours promise to develop into useful varieties. (Gold Medal.)

Messrs. Stuart, Low & Co., Bush Hill Park, Enfield, had an imposing show of cut Carnations, arranged in an effective manner. Besides several interesting seedlings the novelties Rosette (deep pink), Cinnabar (dull rose), British Triumph (clove-coloured) and St. Nicholas (scarlet) were worthy of admiration. (Gold Medal.)

Mr. W. Lawrenson, Yarm-on-Tees, showed many well-known varieties and Snowstorm (white), and Mrs. Charles Page (very large shaded pink of the Remontant type). (Silver-gilt Medal.)

Messrs. Young & Co., Hatherley, Cheltenham, exhibited in the Hon. John Boscawen (soft pink) and Mrs. Brodie-Henderson (faded rose), two new varieties. (Silver-gilt Medal.)

Mr. G. Lange, Hampton, showed Scarlet Glow, Alma Ward, Mrs. W. C. Ward, &c., in typical form. (Silver Medal.)

Messrs. Allwood Bros., Wivelsfield Nurseries, Haywards Heath, arranged many choice varieties in an exceedingly attractive manner. The novelties included the richly-coloured Mary Allwood, which has such a delightful fragrance, Geisha, Salmon Enchantress and Empire Day, especially desirable varieties. (Silver-gilt Medal.)

Mr. H. Burnett, Guernsey, showed splendid examples of Marmion, Mandarin, Beacon, Benora, R. F. Felton and Sunstar. (Large Silver-gilt Medal.)

Messrs. Wm. Cutbush & Son, Highgate, London, included in their attractive group a large stand of the glowing scarlet variety Mrs. L. Mackinnon, and smaller collections of such valuable sorts as Viscountess Goschen, Lady Coventry, Lady Meyer and Mrs. Waldorf Astor. (Silver Medal.)

Mr. A. F. Dutton, Iver, Bucks., displayed a large number of blooms of the variety Mrs. A. F. Dutton, which received an Award of Merit. (See R.H.S. awards.)

Messrs. Felton & Sons, Hanover Square, London, exhibited a very interesting collection of the best British-raised novelties. (Silver-gilt Medal.)

AWARDS OF MERIT.

Mary Allwood (see p. 394).—Shown by Messrs. ALLWOOD BROS.

Baroness de Brienen.—This salmon-pink variety received an R.H.S. Award of Merit, November 7, 1911. Shown by Messrs. STUART LOW & CO.

Snowstorm (see p. 394).—Shown by Messrs. W. LAWRENSON & SON.

Mrs. A. F. Dutton (see R.H.S. Awards, fig. 187).—Shown by Mr. A. F. DUTTON.

SANQUHAR HORTICULTURAL.

THIS society held its annual meeting in the Town Hall, Sanquhar, recently. Mr. J. Thomson occupied the chair, and a highly satisfactory report was submitted by Mr. John Milligan, secretary and treasurer. The debt has been cleared off through the results of a successful year's operations, and there is a small credit balance. Mr. Jas. Moffat was elected president, Mr. John Milligan secretary and treasurer, and Mr. R. M'Kendrick, Junr., assistant secretary.

DEBATING SOCIETIES.

STIRLING & DISTRICT HORTICULTURAL.—At the meeting of this association held on the 5th ult., in the Y.M.C.A. Hall, Stirling, a lecture on "Cork, Cork Trees, and Cork Growing" was delivered by Major Yates. The lecture was illustrated by limelight views. Mr. M. Chapman gave a résumé of the outstanding features of the gardens visited by the society during the season.

KILMARNOCK AND DISTRICT GARDENERS'.—The second lecture of the present session was given on the 13th ult. by Mr. A. Hosking, instructor in horticulture to the West of Scotland Agricultural College, the subject being "Plant Hybridisation," with a reference to "Plant Breeding." Mr. Hosking pointed out the necessity of a knowledge of the structure of flowers, the different methods of pollination, and the various precautions to be taken in order to effect successful crossing by artificial means, illustrating his lecture with specimens. After a reference to the historical aspect of the subject, Mendelism and graft hybrids, plant-breeding by selection was dealt with.

BRISTOL AND DISTRICT GARDENERS'.—A meeting of this association was held in St. John's Parish Rooms, Clifton, on November 14. Mr. Thoday presided over a large attendance. Mr. C. H. Cave, vice-president, gave a lecture on "Hybridising of Daffodils."

——— A meeting of the above association was held on the 28th ult. A lecture was delivered by Mr. Lovelock, of the King's Dene Nurseries, on "Pot Fruit Culture." The prizes offered by Messrs. James Carter & Co. for a selection of vegetables were won by Messrs. Benfield, Miles and Young in this order.

CARDIFF GARDENERS'.—The usual fortnightly meeting of this association was held at the Queen's Hotel, Cardiff, on the 12th ult.: Mr. A. H. Cossom presided. Mr. Garnish, a member of the Bristol association, read a paper on "Bulbs in Pots and Boxes for Cutting."

——— At the meeting held on the 23th ult. Mr. A. H. Cossom presided over a moderate attendance of the members. Mr. Fry, gardener at The Court, Llandaff, delivered a paper on "The Perpetual-flowering Carnation." Mr. Fry stated that propagation should be commenced in November. He recommended layering from old plants in July, as plants thus obtained were stronger than those raised from cuttings. Mr. Fry dealt with the various insects and other pests of the Carnation. He stated that if the plants were kept growing in a healthy condition very little trouble would be experienced with rust disease.

BATH GARDENERS'.—A meeting of this society was held at the Foresters' Hall, Bath, on the 12th ult. Mr. Parrott, the chairman, presided. Mr. J. Merchant gave a paper on "The Fragrance of Roses." The lecturer referred to the fine perfume of the old Damask and Provence Roses, and among the newer Roses singled out for special mention on account of their perfume Hugh Dickson, Commandant Félix Faure, Conrad F. Meyer, Rose a Parfum de L'Hay, La France, Maréchal Niel, Madame Alfred Carriére and Cherry Ripe.

CHELMSFORD AND DISTRICT GARDENERS'.—The fourth meeting of the winter session was held in the Institute of Agriculture on the 15th ult. Mr. Malins Smith presided, and about 60 members attended. Previous to the lecture a competitive exhibition of Chrysanthemums was held; the first prize was won by Mr. Hunt, second Mr. Killingby. A non-competitive exhibit of these flowers was shown by Mr. White. Mr. C. E. Searls gave a lecture on "Lawns, Bowling Greens and Tennis Courts."

——— A meeting of this association was held in the Institute of Agriculture on the 29th ult. Mr. C. J. Simpson occupied the chair, and about 40 members were present. Mr. C. Wakely gave a lecture on "Pot Plants and Potting." In order to make the lecture of practical value Mr. Wakely brought specimens of pot plants and potting materials.

RUDDINGTON & DISTRICT GARDENERS'.—At the meeting held on the 12th ult., Mr. R. Sutton gave a lecture on "Gardening" in the absence, through illness, of the appointed lecturer, Mr. Horace J. Wright. Mr. Baynes Smith presided. Mr. R. Sutton said the title of his lecture should be "Gardening, Limited," for he only intended to speak of the first and most important part of a gardener's work. This was double-digging, and though the work was hard, a gardener was well repaid by the better crops which were the result, especially if special manures or soils were incorporated. The Chairman spoke of the fruit grown so successfully in the dry belt in Canada as the result of deep cultivation. Mrs. Wray Hunt, in proposing a vote of thanks to the lecturer, said that the vivid pictures of a garden reminded her of the words of a great man: "If you have beautiful thoughts in your mind, you have always a garden in flower."

WARGRAVE AND DISTRICT GARDENERS'.—A meeting of the association was held on Wednesday, November 13, and there was a good attendance of members to hear a paper on "Seed Sowing" delivered by Mr. J. A. Hall, Gardener at Shiplake Court. He said he would take the question "When shall I sow my seeds?" and endeavour to answer it from his own experiences at Shiplake Court. He first explained that water, heat and air were necessary for germination, but sometimes germination was irregular. There were several causes for this. It was generally found that if seeds were sown soon after they were gathered, germination was speedy. Healthy seeds often rotted owing to excess of moisture. Attention was then drawn to the number of seeds produced by some plants. Thick sowing and overcrowding were greatly deprecated. The various depths for sowing were mentioned, and the different methods of covering till germination occurred were described. Mr. Hall gave a general list which could be used month by month, commencing with January.

——— At the meeting held on the 27th ult. competitions in vase decorations were arranged, and there were 13 entries. The prize-winners in the head gardeners' and foremen's class were:—1st, Mr. A. Histead, Old Vicarage Gardens, Shiplake; 2nd, Mr. W. H. Scott, Hermitage Gardens, Twyford; 3rd, Mr. H. Attlesey, Wargrave House Gardens; and in the class for journeymen: 1st, Mr. Bristow, Scarlet's Gardens, Hare Hatch; 2nd, Mr. R. Baker, Park Place Gardens; and 3rd, Mr. Dancer, Scarlet's Gardens, Hare Hatch. The flowers used in the competitions were sent to the Royal Berkshire Hospital the following morning.

READING GARDENERS'.—A large attendance of members gathered on Monday evening, the 18th ult., at the Abbey Hall, when Mr. E. F. Hazelton, of The Gardens, North Mymms, Hertford, gave a paper on "The Treatment of Pears." The lecturer stated that his experience with different varieties of Pears, and more particularly as to flavour, on various types of soil in widely-separated districts, had been so contradictory that he hardly cared to dogmatise as to which were the best varieties when considered from the point of view of quality. Local experience must be the chief guide in the matter. In the discussion which followed the reading of the paper, points were raised on the respective merits of the Pear and Quince stocks; whether to prune Pear trees the first season after planting or not; the character of good Pear soils, the general deficiency of flavour in Pears in 1912, together with the unusual early maturity of late varieties.

NORTH OF SCOTLAND HORTICULTURAL AND ARBORICULTURAL.—A meeting of this association was held in the Aberdeen University Buildings on Wednesday, 20th ult. A paper entitled "A Trip to Holland and the Bulb Fields," was read by Mr. A. Brown, of Messrs. Alexander & Brown, Nurserymen, Perth. With the aid of beautiful lantern slides, Mr. Brown gave a capital account of a visit he paid to Holland in the spring two years ago. He described in a delightful manner the many varieties of Daffodils, Tulips, Hyacinths, &c., grown in Holland, showed on the screen many photographs of beautiful specimens, and concluded with some valuable and practical hints as to cultivation, drainage, soil, &c. Mr. Douglas, gardener to Alex. Ogilvie, Esq., of Kepplestone, Aberdeen, dealt with flowers. Referring to Sweet Peas, he stated that those which had done best with him during the past unfavourable season had been Lady Evelyn Eyre, Hercules, Dobbie's Cream, and Juliet. Dealing with Primulas, Mr. Douglas said that since the introduction of Primula obconica several fine varieties had been sent out with flowers of varying shades of rose and rosy red, but the aim of many lovers of that plant had been to obtain a really bright red variety. That had now been secured in Primula obconica Kemmercinæ. Mr. Douglas also referred to several new herbaceous plants, specially commending a lovely salmon pink Astilbe.

DEVON AND EXETER GARDENERS'.—At the meeting held on the 27th ult. Mr. Charles Thomas, Poltimore Gardens, gave a lecture on "The Carnation and its Cultivation." Mr. A. Hope presided. Mr. Thomas said that in 1629 Carnations were the greatest of garden favourites. The application of manure at the time of planting was not to be recommended, but if the soil was poor a dressing of manure, wood ashes, or soot would be beneficial. It was necessary to get the young plants well established before the winter months, as a safeguard from frosts and trying winds. The middle of July was not too early to commence layering, and the work should be completed by the middle of August. The lecturer enumerated Duchess of Fife, Mrs. Nicholson (pink), Trojan (white), Midas (buff), Omar (crimson), G. E. Draper, Leander, Uriah Pike, Goldilocks, Aurelian (yellow ground), and Fancy as desirable varieties.

Obituary.

CAPTAIN HENRY ROGERS.—We regret to record the death, at Plymouth, on the 26th ult., of Captain Henry Rogers, R.N., in his 88th year. Capt. Rogers contributed notes on forestry to these pages from time to time, giving his experiments on the commercial value of thinning plantations. The last article appeared in the issue for December 30, 1911. He commenced planting trees as far back as 1857, and kept careful records in a "log" of the growth of the various trees.

ENQUIRY.

CATS AND BULBS.—Can any reader inform me how to prevent cats from scratching up bulbs planted in flower-beds? I have tried pepper, but this is rendered useless by the first rain. *W. A. H.*

MARKETS.

COVENT GARDEN, *December 4.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	2 6- 4 0
Azalea, per dozen bunches	3 -0 4 0
Bouvardia, per dz. bunches	6 0- 7 0
Camellias, white, per dozen	1 6- 2 0
Carnations, per dozen blooms, best American varieties	2 0- 2 6
— smaller, per doz. bunches	15 0-18 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaison, p. doz. blooms:	
— — pink	8 0-15 0
Chrysanthemums, per dozen:	
— white	1 6- 4 0
— pink	1 6- 3 0
— yellow	1 3- 3 0
— bronze	1 6- 2 6
— white, per doz. bunches	8 0-12 0
— coloured	8 0-12 0
Daffodils, per doz. blooms	2 0 —
Eucharis, per dozen	2 6- 3 0
Freesia, white, per doz. bunches	2 6- 3 0
Gardenias, per box of 15 and 18 blooms	3 0- 6 0
Gerbera Hybrid, p. doz.	2 6 —
Honesty, per bunch	1 0- 1 6
Hyacinth Roman, per dz. bnchs.	15 0-18 0
Lapagerias, white, per dozen	2 6 —
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 0- 2 6
— — short	2 0- 2 6
— lancifolium alba, long	1 9- 2 0

	s.d. s.d.
Lilium lancifolium alba, short	1 9- 2 0
— speciosum rubrum, per dz.:	
— long	1 9- 2 0
— short	1 0- 1 3
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
Lily of the Valley. p. doz. bnchs:	
— special	12 0-14 0
— ordinary	9 0-10 0
Mignonette, per doz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	10 0-12 0
— Cypripedium	2 6 —
— Odontoglossum crispum	3 0- 4 0
Pelargoniums, p.doz. bunches	4 0- 5 0
— Double Scarlet	6 0- 8 0
Poinsettias, per dozen blooms	9 0-10 0
Roses, 12 blooms:	
— Mrs. Ward	2 6 —
— Bridesmaid,	2 6- 3 0
— C. Mermet	2 6- 3 0
— Liberty	3 0- 6 0
— Madame A. Chatenay	3 0- 6 0
— Niphetos	2 0- 2 6
— Richmond	3 0- 6 0
— Sunburst	5 0- 7 0
— Sunrise	2 6 —
— Lady Roberts	2 6 —
— Lady Hillingdon	2 0- 2 6
— Franz Deegen	3 0- 4 0
— Kaiserine	3 0- 6 0
Spiræa (Astilbe) japonica, per dz. bunches	6 0- 8 0
Tuberose, p. doz. blooms, long	0 6- 0 8
— — short	0 3- 0 4
Violets, per dozen bunches	4 0 —
— Princess of Wales, per dz. bunches	4 0 -4 6

French Flowers: Average Wholesale Prices.

	s.d. s.d.
Anemone, double pink, per doz.	3 0- 4 0
Lilac, white, per bunch	3 6- 4 0
Marguerite, yellow, per doz. bnchs	2 6- 3 0
Mimosa, pr. bunch	0 9- 1 0
Narcissus, Paper White, pr. pad, 48 bunches	12 0-14 0

	s.d. s.d.
Narcissus, Soleil d'Or, per doz.	3 0- 3 6
Ranunculus, dble scarlet, per dz. bunches	8 0-12 0
Roses, Safrano, pkts. of 24 blms.	3 0- 3 6
Violets, per pad of 48 and 60 bchs.	6 0- 7 0
— Parma, large bunches, each	3 6- 4 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Berberis, natural, per doz. bnchs	3 0- 4 0

	s.d. s.d.
Carnation foliage, doz. bunches	3 0 —
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, gross bnchs.	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	1 0- 1 6

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6

	s.d. s.d.
Croton, per dozen	18 0-30 0
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, p. dz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica hyemalis	15 0-18 0
— nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0
— — in thumbs	3 6- 4 0
— — 60's	6 0- 8 0
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, per doz.	6 0 —

Plants in Pots, &c.: Average Wholesale Prices (Contd.).

	s.d. s.d.
Ferns, choicer sorts, per doz.	8 0-12 0
— in 32's, per dz.	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	18 0-21 0
— lancifolium alba. in pts., dz.	18 0-21 0

	s.d. s.d.
Lilium longiflorum, per dozen	18 0-24 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Scarlet Tulips or Bulbs, per box of 24's	4 0- 4 6
Solanum, 48's, per dozen	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 0- 4 0
— Cox's Orange, ½ bushel	6 0-10 0
— Cooking, per bushel	2 0- 4 0
— Wenatchee, p. case	7 6- 8 6
— American, brls.	27 0-30 0
— Californian Newtowns, case	7 0- 8 0
— Nova Scotian, per barrel	13 0-15 6
— Oregon, Newtown Pipp., cs.	10 0-11 0
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 6
Dates, per dozen	4 3- 5 6
Figs (Italian), bxs.	0 6- 1 0
Cranberries, per case	9 0-14 0
Grape Fruit, case:	
— 96's	8 0-18 0
— 80's	
— 64's	
— 54's	
— per dozen	4 0- 6 0
Grapes (English), per lb.:	
— Canon Hall	2 6- 7 0
— Muscats	2 6- 7 0
— Black Alicante	0 6- 1 6
— Almeria, barrel	12 0-18 0
— Colman	0 8- 2 6
— Lisbon, case	7 0- 8 6
Lemons, per case:	
— Malaga	16 0 —

	s.d. s.d.
Lemons, Messina, per case	8 6-24 0
Melons, Spanish, per case	14 0 —
Medlars, per crate	4 0 —
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt.	48 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 3-0 3½
— Chestnuts, bg.	14 0-26 0
— Walnuts per dozen lbs.	2 6—6 0
— — French, per bag	7 0- 8 0
Lychees, 1lb. box	1 6 —
Oranges:	
— Jaffa, per case	6 6- 7 6
— Jamaica, case	8 6-12 0
— Mandarines, p. box	0 8- 5 6
— Denia, per case	15 0-26 0
— Californian. Seedless, case	16 0-17 0
Pears:	
— French, per box	3 0 —
— — per crate	6 0- 8 0
— Doyenné du Comice, dozen	2 0- 3 0
per ½ bushel	3 6- 6 6
— Californian	
— Doyenné du Comice, p. case	12 0-14 6
— French Doyenné du Comice per crate	5 6- 6 6
— Dutch Catillac, ½ bushel	3 6 —
— American, per barrel	7 0- 8 0
Pineapples, St. Michael	3 0- 5 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	3 6- 4 0
Artichokes (Globe), per dozen	2 6- 3 0
— French	2 0- 2 6
— ground, ½ bus.	1 0 —
— Batavia, p. dz.	0 6 —
— — French, doz.	1 0 —
Beans:	
— French, p. pkt.	0 4- 0 5
— Guernsey, lb.	0 10- 1 3
— Madeira, per handle	2 0- 2 6
Beetroot, per bushel	1 0 —
Cabbages, p. tally	2 6 —
— boxes	1 0- 2 0
— Red, per dozen	1 0 —
Carrots (English), pr. doz. bun.	1 6- 2 6
— dirty, per bag	2 6 —
— washed, bag	3 0 —
Cauliflowers per	
— tally	7 0-10 0
— boxes	2 3- 4 6
Celery, per dozen "fans"	12 0 —
— dirty	4 0- 9 0
Celeriac, per doz.	1 0- 1 6
— French, per dozen	2 6 —
Cucumbers, p. flat	7 0- 9 0
Endive, per dozen	0 6 —
— French p. doz.	1 0 —
Greens, per bushel	1 0 —
— bags	1 6 —
Herbs (sweet), packets., per gross	10 0 —
Horseradish, 12 bundles	12 0 —
Leeks, per doz.	1 6- 2 0
Lettuce (English), Cabbage, p. b.	1 6- 2 0

	s.d. s.d.
Lettuce, French, p. doz.	5 0- 6 0
Mint, p. dz. bnchs.	3 0 —
Mushrooms, cultivated, per lb.	1 3- 1 9
Mustard and Cress, p. dz. punnets	0 3 —
Onions (English) per bag	3 6 —
— per bushel	2 0 —
— Picklers, per bag	4 0 —
— (Spring), per doz bunches	2 0 —
— (Spanish), case	4 6- 5 6
— Dutch, bags	2 6 —
— Guernsey, p. lb	2 0 —
Parsley, per doz. bunches	2 0 —
Parsnips, per bag	2 0 —
— per bushel	1 0 —
Radishes (English) per dozen	0 10- 1 0
Sage, per dozen	2 0 —
Savoys, per. tally	4 0 —
— per box	2 0 —
Seakale, punnets	1 0- 1 6
Spinach, ½ bushel	2 6 —
Sprouts, ½ bushel	1 0- 1 3
— bags	1 6- 2 0
Scotch Kale, busl.	1 0 —
Tomatos, p. dz. lbs.:	
— (English)	3 6- 4 6
— (Canary) per bundle	10 0-14 0
Thyme, dz. bnchs.	2 0 —
Turnips (English), per dz. bunches	1 3- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Turnip tops, bushel	1 0- 1 6
— per bag	2 6 —
Watercress, p. dz. bunches	0 4- 0 6

Remarks—English dessert and culinary Apples continue a very heavy supply, and many growers still have large stocks to dispose of. Importations of Apples in boxes and

varieties of English and imported Pears are available:—Doyenné du Comice, Winter Nelis, Easter Beurré, Passe Crassane and Kieffers. The Kieffer Pears are packed largely in barrels. There are large supplies of English hothouse Grapes with the exception of Muscat varieties. English Tomatos are finished, but Teneriffe Tomatos are arriving in an excellent condition. Mushrooms have not been so plentiful this week. Dwarf Beans from Madeira are an increasing supply, and the Channel Islands Seakale is now more abundant. Forced Peas (Guernsey) are obtainable in larger quantities than hitherto. Walnuts are nearly over, but there is a greater demand for Cobnuts. Other nuts, such as Chestnuts, Brazils, Almonds, &c., are plentiful. Very heavy consignments of fruit are now arriving in readiness for the Christmas trade. Ordinary vegetables are very plentiful. Holly and Mistleto now reach the market in large quantities. *E. H. R., Covent Garden, December 4, 1912.*

Potatos.

	per cwt. s.d. s.d.		per bag. s.d. s.d.
Bedfords	4 0- 4 6	Dutch	2 9- 3 6
Kents	4 0- 5 0	Belgian	3 0- 3 9
Blacklands	3 6- 3 9	German	3 6- 4 6
Lincolns	3 6- 5 0	Dunbars	6 0- 6 6
King Edward	4 0- 4 9	Scotch (grey soil)	4 0- 4 9

Edward J. Newborn, Covent Garden and St. Pancras, December 4, 1912.

GARDENING APPOINTMENTS.

Mr. David Armstrong, for the past 3½ years Foreman at Riccarton Gardens, Midlothian, as Gardener to J. A. Macconochie-Welwood, Esq., Kirknewton House, Midlothian.

Mr. A. W. Mowl, for the past 3 years Gardener to Victor Edelstein, Esq., Oaklands, Bradford, as Gardener to F. Winnington, Esq., Stanford Court, Worcester.

Mr. E. Knowles, for many years Gardener to the late Alderman R. Clough, Beechclippe House, Keighley, as Gardener to Sir Prince Smith, Bart., Southburn, Driffield. (Thanks for donation of 1s. for R.G.O.F.—Eds.)

Mr. F. P. Dickson, previously Gardener at White Lodge, Richmond Park, Surrey, as Gardener to Sir Offley Wakeman, Bart., Yeaton-Peverey, Shrewsbury. (Thanks for donation of 2s. 6d. for R.G.O.F.—Eds.)

Mr. J. Gilbert, for the past 17 years Gardener to Captain Warner, Langton Hall, Market Harboro', as Gardener to C. B. Warner, Esq., Kepwick Hall, Northallerton, Yorkshire.

Mr. E. Percival, for the past 4 years Gardener to Sir John A. Miller, Bart., Heywood Westbury, Wiltshire, as Head Gardener to the Count Conrad, Hockberg, Croydon Hall, Washford, Somerset.

Mr. H. Pritchard, for the past 18 months Foreman to Lady Hickman, Wightwick, Wolverhampton, as Gardener at the same place. (Thanks for 1s. for R.G.O.F.—Eds.)

Mr. R. Ivison, for the past 16 months Gardener at Orton Hall, Westmorland, and previously for 5 years at Naworth Castle, Carlisle, as Gardener to G. O. Sandys, Esq., Graythwaithe Hall, Newby Bridge, Ulverston, Lancashire.

Mr. P. A. Barnes, late Foreman at Bifrons Park, Canterbury, Kent, The Vyne, Oakley Hall, Hampshire, and Rood Ashton Park, Wiltshire, as Gardener to Sir J. A. Miller, Bart., Heywood House, Westbury, Wiltshire. (Thanks for 2s. for the R.G.O.F. box.—Eds.)

Mr. George Haig, for 22 years at Garvald Gardens, Dolphinton, as Gardener to F. Menteith Ogilvie, Esq., Barcaldine, Ledaig, Argyllshire.

Mr. Alex. Chalmers, for 14 years at Haggerston Castle, as Gardener to Mrs. Woddrop, Garvald, Dolphinton.

CATALOGUES RECEIVED.

Amos Perry, Enfield, Middlesex—Rock and Border Plants.
Charles Ramsay & Son, Ball's Bridge, Dublin—Fruit Trees, Roses, Shrubs and Climbing Plants.
T. Smith, Newry—Roses; Trees and Shrubs; Climbing Plants; Hardy Alpine and Hardy Herbaceous Plants.
Clibrans, Hale, Altrincham—Fruits, Forest and Covert Plants, Ornamental Trees, Shrubs, and Climbers.
Wm. Watson & Sons, Ltd., Clontarf Nurseries, Dublin—Fruit Trees, Roses and Shrubs.
W. Drummond & Sons, Ltd., Stirling—Forest, Ornamental and Fruit Trees.
Wm. Fell & Co., Ltd., Hexham—Forest Trees, Shrubs, &c.
J. Cheal & Sons. Ltd., Crawley, Sussex—Trees, Shrubs, Roses and Fruit Trees.
Laxton Brothers, Bedford—Fruit Trees and Roses.
J. Naylor & Sons, Long Ditton, Surrey—Alpine and Herbaceous Plants; Roses, Fruit Trees, Trees and Shrubs.
Little & Ballantyne, Carlisle—Trees.
Austin & McAslan, 89, Mitchell Street, Glasgow—Trees and Plants.
M. H. Sinclair, Queen's Road West, Aberdeen—Roses.
Bertrand W. Deal, Kelvedon, Essex—Sweet Peas.
Dicksons, Chester—Ornamental and Forest Trees, Shrubs.

FOREIGN.

Pape & Bergmann. Quedlinburg—New Plants.
Leonard Lille, 107, Cours Emile-Zola, Lyon-Charpennes, France—New Plants.
Haage & Schmidt, Erfurt, Germany—Novelties in Seeds.
Barbier et Cie, 16, Route d'Olivet, Orleans, France—Roses; Nursery Stock.
Leon Chenault et Fils, 79, Route d'Olivet, Orleans, France—Trees, Shrubs and Roses.

SCHEDULE RECEIVED.

National Rose Society's first spring Rose show to be held on Thursday, May 1, 1913, in the Royal Horticultural Hall, Vincent Square, Westminster. Secretary, Edward Mawley, Rosebank, Berkhamsted.

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending November 30, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—A very unstable condition prevailed throughout generally; there was much cloud with frequent rain, while late in the week a considerable amount of snow fell over a large area in the north and some localities in the south. On the afternoon of the 27th thunder occurred at Jersey and Guernsey.

The *temperature* was below the average very generally; in Scotland the deficit was as much as 5° or 6°. The highest of the maxima were recorded at most stations on the 25th or 26th, and ranged from 57° in the Midland Counties and Ireland N. to 52° in Scotland N. The absolute minima were extremely low in Scotland and the North of England, and were recorded on the 29th and 30th. At West Linton the thermometer on the latter date descended to 1°, at Balmoral, Kilmarnock, and Newton Rigg to 6°, at Cally, Gatehouse, to 7°, and to below 15° in several other localities. Over Ireland and the southern half of England the values ranged from 18° in Ireland N. to 23° in England S.E., and to 35° in the English Channel. The lowest grass readings recorded were 5° at West Linton, 3° at Newton Rigg, 0° (zero) at Balmoral and Worksop, and 4° at Aspatria. The temperature of the soil at the depth of 1 foot was very generally above the normal, and except at some places in the north-east of England, and Aberystwyth, it was also above it at the depth of 4 feet.

The *mean temperature of the sea.*—On nearly all parts of the coast the water was warmer than during the corresponding week of last year, and in most places its temperature was above the average. The means for the week varied from about 51·5° on the extreme south-west coast of England and 51° at Seafield to a little above 41° at Cromarty and Scarborough.

The *rainfall* was considerably in excess of the average in nearly all districts. Falls of more than an inch occurred at some Scottish and Welsh stations early in the week, the highest figures being 1·5 inch at Glasgow on the 24th, 1·6 inch at Bettws-y-Coed on the 25th, and 1·3 inch at Stornoway on the 26th. At Buxton and Worksop the depth of snow on the 29th was 6 inches, and at Rothesay on the 30th 7 inches. At Wick on the 29th the snow yielded, when melted, 0·93 inch of water in the gauge.

The *bright sunshine* did not differ materially from the normal except in Scotland E., when there was a rather considerable excess. The percentage of the possible duration ranged from 11 in Scotland N., and 14 in Ireland N. to 24 in England S.W. and 28 in Scotland E.

THE WEATHER IN WEST HERTS.

Week ending December 4.

A cold week.—This was, on the whole, a cold week, both during the daytime and at night. On the coldest day the highest temperature in the thermometer screen was only 34°, and on the coldest night the exposed thermometer registered 17° of frost—the greatest cold since the beginning of February. The ground is at the present time 3° colder at 2 feet deep and 1° colder at 1 foot deep than is seasonable. Rain fell on four days, to the total depth of three-quarters of an inch. On two days there were slight falls of snow. During the week 3¼ gallons of rain-water came through both the bare soil percolation gauge, and also through that on which short grass is growing. The sun shone on an average for 1 hour 14 minutes a day, which is a quarter of an hour a day short of the mean duration for the same period of the year. The 2nd inst. was a windy day, and in the windiest hour the mean velocity rose to 17 miles—direction west, but during the rest of the week light airs alone prevailed. The average amount of moisture in the air at 3 o'clock in the afternoon fell short of a seasonable quantity for that hour by 7 per cent.

November.

About average in temperature and rainfall, and singularly gloomy.—This was a month of variable temperature. In fact, there were three distinct periods of cold weather and two of warm weather during the course of it. Taken as a whole the temperature was about average. On the warmest day the highest reading in the thermometer screen was 56°, and on the coldest night the exposed thermometer registered 17° of frost. Although somewhat low these extreme readings are nothing very unusual for November. Rain fell on 14 days, and to the total depth of 2⅓ inches, which is about a quarter of an inch below the average for the month. A few flakes of snow fell on two days. The sun shone on an average for 1 hour 10 minutes a day, which is 40 minutes a day short of the mean daily duration for the month—making this, with two exceptions, the most gloomy November I have yet recorded here—that is to say since 1886. On 13 days no sunshine at all was recorded. The wind, taking the month as a whole, was of about average strength. In the windiest hour the mean velocity amounted to 20 miles—direction west. For only 10 hours was the direction of the wind any point between north and east. The average amount of moisture in the air at 3 p.m. fell short of a seasonable quantity for that hour by one per cent.

The Autumn.

Remarkably cold, rather dry, and exceptionally sunless.—This proved a cold autumn, indeed, with one exception the coldest autumn for 25 years. September was very cold, October cold, and November of average temperature. The total rainfall, taking the three months as a whole, was rather below the autumn average. The sun shone on an average for 2 hours 51 minutes a day, which is 24 minutes a day short of the mean duration for the quarter. In the last 18 years there has been only one other autumn as sunless.

Our Underground Water Supply.

Since the winter half of the drainage year began in October the total rainfall has fallen short of the average for the same period in the previous 56 years by three-quarters of an inch, which is equivalent to a loss of 17,870 gallons on each acre in this district. At the same time last year there was an excess of 1,130 gallons per acre. *E. M., Berkhamsted, December 4, 1912.*

ANSWERS TO CORRESPONDENTS.

⁂ *The Editors will be glad to receive, for consideration, large photographs of horticultural subjects, suitable for reproduction in this Journal.*

BOOKS: *Reader.* The *Garden Vade Mecum* is the least valuable of John Abercromby's many books, and may be purchased for a few pence.—*Subscriber. The Garden Beautiful,* by W. Robinson. To be obtained from our publishing department, 7s. 11d. post free.—*A. J. F., Spa. Chrysanthemums,* by Thomas Stevenson (Present-Day Gardening Series). Obtainable from our publishing department, price 1s. 9d., free by post.

BULBS DISEASED: *Enquirer.* The bulbs are injured by the Botrytis fungus, which causes "Lily disease." The injury is superficial, and would not prevent the plant from blooming. It would be well to mix a little powdered sulphur with the soil.

CARNATION: *B. C.* It is impossible for us to determine what is wrong with the plant, as you have sent the flower only. As you suspect eelworm to be the cause, you should examine the roots to see if nodules or warts are present, as these are a sure indication of eelworm. If the foliage appears diseased, send some of the leaves for examination.

CARNATION LEAVES: *E. H. E.* The red spots are caused by the punctures of aphides or mites.

CARNATION PRINCESS OF WALES: *Malmaison, Ireland.* This variety is a rich form of the Pink "Malmaison." When exhibited at one of the Temple Shows it was specially admired by Queen Alexandra, then Princess of Wales, and it received its name from this circumstance.

CHART FOR GREENHOUSE THERMOMETER: *L. & C.* Write to Messrs. Negretti & Zambra, Holborn Viaduct, London.

CHRYSANTHEMUMS OUT-OF-DOORS: *Beginner.* To obtain good blooms of Chrysanthemums out-of-doors, the cuttings should be inserted at any time from now until the end of February. The plants should be grown on in a frame or cool house until April, when they should be removed out-of-doors. They should be planted out in May in well-prepared ground, which need not be heavily manured. The plants should either be pinched or allowed to grow naturally, according to the variety, until the flower-buds appear some time during August, when they should be disbudded to one bloom on each shoot. In certain cases it might be advisable to reduce the number of shoots somewhat to secure flowers of the very best quality. It is sometimes necessary to cover the plants or beds with canvas or tiffany at some distance above the flowers, otherwise the blooms will not open properly. During the summer the plants must not be allowed to suffer from want of water, and the ground should be hoed each week. The following varieties are suitable for the purpose:—Polly, Crimson Polly, Cranford Pink, Framfield Early White, La Pactole, Dolores, Almirante, Touraine, Goacher's Crimson, Bronze Goacher, Countess, Cranfordia, Hector, Normandie, Nina Blick, and Fée Parisienne.

CODLIN MOTH: *W. Q. R., Kirkdale.* A little sacking or hay bands should be placed around the stems in July, about 1 foot from the ground, to prevent the caterpillars from climbing into the trees. The bands should be left on until the winter, or they may be removed at the end of October or in November when fixing the grease bands that are used against the larvæ of the winter moth. Such bands should be burned, for they will contain larvæ. All fruits that have been attacked should be gathered and burnt directly they fall, and before the caterpillars have escaped. Next spring the trees should be sprayed as soon as the blossoms have fallen. The spray generally used is Paris Green, applied at the strength of ½ lb. of Paris Green to 120 gallons of water.

CREOSOTE IN PLANT HOUSES: *F. R.* We are not surprised that plants such as Begonia Gloire de Lorraine and Euphorbia pulcherrima (Poinsettia) were injured after you had sprayed the walls of your glasshouse with strong creosote. The fumes from this material are very destructive of plant life, and there have been cases where plants in flower-beds near newly-made roads of creosoted wood blocks have been entirely destroyed. It will not be safe to use the house for plants until a long period has elapsed. In the meantime, throw the doors and ventilators wide open, so that the fumes may escape. (See *Gard. Chron.* October 1, p. 249.)

FLORAL GUM: *Correspondent.* The following details for the making of floral gum are taken from Quin's *Garden Receipts*: Finest pale-orange shellac broken small, 4 ounces; methylated spirit, 3 ounces; digest in a warm place in a closely-corked bottle until dissolved. The mixture should have the consistency of treacle. Or, borax, 1 ounce; water, ¾ pint; shellac as before, 3 ounces; boil in a closely-covered vessel until dissolved, then evaporate until nearly as thick as treacle. The first gum dries very quickly, the second much more slowly.

GAS TAR FOR DRESSING VINES: *Foreman.* A correspondent, writing in *Gard. Chron.*, January 26, 1907, p. 60, on tar as an insecticide for Vines in winter, gives the following recipe: To one gallon of finely-sifted, dry soil, add half a pint of pure gas-tar (tar varnish should not be used); mix this in an iron pot, and place over a steady fire, adding boiling water sufficient to bring it to the consistency of paint. When cool, the mixture is ready for use.

GRAPES DISEASED: *Correspondent.* The trouble is due to black rot, a fungus disease which has attacked the fruit stalks. During the winter, when the vine is resting, drench every part of it with a solution of sulphate of copper 1 lb. in 25 gallons of water. When the leaves are young, spray the vines with the Bordeaux Mixture at half the usual strength, and again at full strength just before the flowers expand.

HAND BOUQUET OF CHRYSANTHEMUMS: *Exhibitor.* The kind of bouquet is immaterial, as the schedule does not call for either a shower or a bunch arrangement, although competitors in such classes usually exhibit the ordinary or bunch bouquet. The prize is awarded for the most effective and artistic design, and a shower bouquet, if superior, would undoubtedly be placed first. A posy of this nature should be arranged lightly, and the colours of the Chrysanthemums should be selected with great care.

HOLLY: *F. R. S.* It is not unusual for the same Holly tree to bear spiny and spineless leaves. In *Holly, Yew and Box,* a figure on p. 9 shows 16 leaves taken from a single specimen of the common Holly; some of the leaves are very spiny, whilst others have entire margins. The author states that "it is a common thing to find many of the leaves on the mature trees partially or wholly spineless, especially on the upper branches."

JAPANESE CHRYSANTHEMUMS: *Mum.* The following varieties of Japanese Chrysanthemums are suitable for cultivating as specimen plants:—Miss Nellie Pockett (white), W. Duckham (pink), Captain Julyan (pab yellow), William Turner (white), Mrs. R. Luxford (Indian red), C. H. Totty (pink), His Majesty (crimson), Mrs. G. C. Kelly (plum), Mr. L. Thorn (yellow), and W. R. Church (crimson).

NAMES OF FRUITS: *W.* 1, Rymer; 2, Scarlet Nonpareil; 3, King of the Pippins; 4, Winter Ribston; 5, Golden Noble; 6, Comte de Lamy. *H. G. K.* Hollandbury.—*W. K.* 1, Tower of Glamis; 2, Fearn's Pippin; 3, Radford Beauty; 4, Bramley's Seedling; 5, Castle Major; 6, Pear White Doyenné.—*O. W.* 1, Golden Noble; 2, Peasgood's Nonesuch; 3, Norfolk Stone Pippin; 4, Cox's Pomona; 5, Lord Derby; 6, Reinette de Caux, syn. Dutch Mignonne; 7, under proper size.—*T. A. S.* 1, Tower of Glamis; 2, Dumelow's Seedling (Wellington); 3, ditto; 4, Lord Burghley; 1, Pear Baronne de Mello; 2, decayed.—*Eltham.* Pears, 1, decayed; 2, no specimen received; 3, Glou Morceau; Apples, 1, Dumelow's Seedling (Wellington); 2 and 3, no fruits; 4, Northern Greening; 5, Emperor Alexander.—*H. C.* 1, Groom's Princess Royal (syn. Matthew's Eliza); 2, Beurré d'Anjou; 3, Comte de Lamy.—*Cestrian.* 1, Dredge's Fame; 2, Old Nonpareil; 3, Gravenstein; 4, Lemon Pippin.

NAMES OF PLANTS: *Cardiff.* Nerine crispa.—

special value).—*F. F.* 1, Sophronitis cernua; 2, Oncidium pubes; 3, O. barbatum; 4, Cœlogyne flaccida.—*Glen.* 1, Dendrobium Phalænopsis; 2, Cypripedium Leeanum; 3, Dendrobium formosum giganteum.—*W. H. P.* 1, Chlorophytum elatum variegatum; 2, Selaginella caulescens; 3, S. Kraussiana; 4, S. cæsia; 5, S. Braunii.

ONTARIO: *Y. J. H.* The address of the Ontario Government Agent is 163, Strand, London.

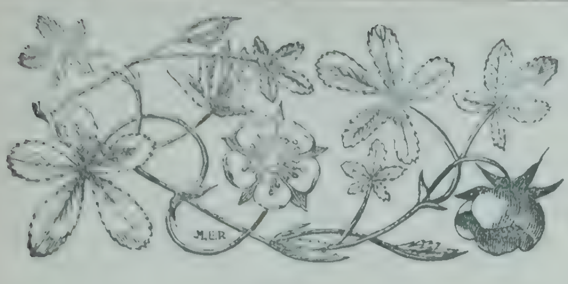
PELARGONIUMS DYING: *A. H.* The injury is caused by Botrytis, which was present in the plant from which the cuttings were taken. There is no cure.

POTATOS: *W. B.* It is impossible to name varieties of Potatos from tubers only.

SEED OF ECHIUM WILDPRETII: *C. W. Anderson.* You will probably be able to obtain seeds of Echium Wildpretii from Mr. Wildpret, Teneriffe.

SOIL PESTS AND INORGANIC MANURES: *G. R.* To destroy eelworms, wireworms and slugs, all vacant ground should be heavily dressed with fresh gas-lime (½ cwt. to the square rod) as soon as possible. This should be allowed to lie on the surface of the ground for about six weeks, and then forked into the soil, mixing it thoroughly. If the dressing is delayed until the spring, only one-half of the quantity of gas-lime should be used, and several weeks must elapse before the ground is planted or sown with seeds, as the sulphur compounds in the fresh gas-lime are deadly to all life. Land which carries crops should be baited with Potatos and Carrots, which must be frequently inspected, and the worms and slugs killed. The roots should be buried just under the surface, and, for convenience in finding them, it is a good plan to first thrust a stick into each. Slugs may also be easily trapped by laying Cabbage leaves, bran-mash or moist oatmeal near the plants they attack. The pests may be easily exterminated by the use of carbon bisulphide, but great care must be taken in handling this highly-inflammable substance, which is also very poisonous. Make a series of small holes in the ground at intervals of about 2 feet, and 9 inches deep, and carefully pour 1 ounce of the bisulphide into each hole. Immediately cover the holes, and the vapour will permeate the soil, killing all insects and larvæ. Sulphate of ammonia is an artificial nitrogenous manure, obtained largely as a by-product of gas making, and, like all nitrogenous manures, has the effect of producing luxuriant foliage and growth. So that its use for crops which yield flowers and fruit should be confined to applications in the early stages of their growth. Cabbages, Asparagus, Celery, Seakale and Rhubarb may profitably be dressed with sulphate of ammonia. It may be mixed with superphosphate of lime, and applied in the spring, but it should never be brought into contact with basic slag, or the ammonia it contains will be liberated and given off as a gas. To obtain full value for the use of sulphate of ammonia, there should be sufficient chalk in the soil to convert the sulphate into carbonate of ammonia, in which form it is a plant food. Kainit consists of sulphate of magnesium, chloride of potassium, and water. Its chief value is as an economical form of potash manure. Muriate of potash contains nearly four times as much potash, but kainit is very much cheaper, and usually answers equally well. Kainit may be safely applied in the autumn and winter. Potash is essential for the production of high quality in flowers and fruit, and although all good garden soils contain sufficient potash for the needs of most plants, the application of kainit is usually beneficial. Horn shavings are useful for incorporating with the soil where permanent crops, such as fruit trees and lawn grass are to be grown, as they contain nitrogen, and yield it slowly, but unless the horn shavings can be bought very cheaply we should prefer to use crushed bones.

Communications Received.—J. M.—M. B.—Burton—L. J. C.—C. M., Wilts.—Yorkshire Gardener—W. B. H.—A. J. C.—W. H. & S. C.—W. A. M.—T. C.—A. & N.—O. T.—W. B.—E. T.—S. G. R.—J. B K.—J. L. G.—C. J. M.—S. B. W.—C. N.—W. G. S.—L. R.—W. I. M.—W. H.—R. A. R.—Dr. K. S., Wi n—S. P.—Rosewood—S. & Co.—R. J. W.—C. P. R.—J. C.—E. R. J.—P. A. B.—R. I.—J. Y.—L. D. K.—N. E. B.—H. C. L.—J. A. F.—M. C. A.—B. C.—A. P. R.—H. G. S.



THE
Gardeners' Chronicle

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THE MARKET FRUIT GARDEN.

NOVEMBER, nearly up to its end, proved a highly favourable month for fruit planting throughout the greater part of the country. My own record shows only one considerable fall of rain, a little over a quarter of an inch, before the 25th, when and afterwards the downfall was somewhat heavy. My total up to the 24th inclusive was only 0.80 in. Only on two occasions before the 24th was the land so wet as to interrupt planting, and even then the delay lasted in each case no more than a day. For the remainder of the month the soil was too wet for any operations in arable orchards; but work was found for the men when rain held off in the digging of a portion of an orchard which has been in grass for six years. The month ended with a fall of snow and a severe frost.

Soil Sterilisation in Orchards.

Properly conducted experiments in the sterilisation of soils in orchards are greatly to be desired, partly with the object of ascertaining whether the process destroys insect pests hibernating in the land, and partly to ascertain whether there is sufficient fertilising effect to pay for the considerable expense. It is also desirable to learn which of the numerous sterilisers would be cheapest to use in an effective quantity. The cost of one advertised steriliser, in the quantity recommended, would be £10 per acre! This, of course, is prohibitive. Another would cost only 28s. per acre. A friend tells me of a fruit-grower who has applied 4 cwts. per acre of naphthaline to destroy insect pests, and says that much benefit has resulted. This would cost about 27s. an acre. I tried naphthaline and flowers of sulphur separately, at the rate of fully 2 cwts. per acre, on a piece of land being prepared for winter Lettuces. The applications were made before the digging, and the Lettuces were planted three days later. One object was to ascertain whether either or both of the sterilisers would kill slugs in the soil. Neither had the slightest effect in this direction, apparently, as three-fourths of the Lettuces had been devoured by slugs. A gardener has used for several years carbide of calcium to destroy woolly aphis on the roots of trees, and to kill wireworm and other grubs, with great success, he says. I have not been able to ascertain who sells this substance, or what its price is. Dr. Russell, in his lecture in connection with the recent National Chrysanthemum Conference, named formaldehyde, pyridene, and calcium sulphide as the most successful chemicals for soil sterilisation, though inferior to steam in most trials. Steam is out of the question in orchards, though used in hothouses, and there is a confusing multiplicity of chemicals for selection, while Dr. Russell says that time is needed to prove which is the best. If he will ascertain which effective steriliser is the cheapest, he will confer a benefit upon all who desire to try experiments. But there is one other point to consider. Will the best of sterilisers produce as good an effect as its value in manures? Moreover, some American experiments have proved that only in soils well stocked with organic matter was there any increase of fertility from sterilisation, and that the process in numerous trials reduced the fertility of soils deficient in organic matter.

Underrated Apples.

There appears to be a great want of discrimination among retail fruiterers as to the comparative merits of different varieties of dessert Apples. While such poorly-flavoured varieties as King of the Pippins and Worcester Pearmain are market favourites, Allington Pippin and Gascoyne's Scarlet Seedling are neglected, and sell only at the prices of the best cookers. Now, it is true that Allington Pippin is more acid than most consumers deem desirable, if eaten soon after it is gathered. But, if allowed to hang on the tree until fully ripe, as it should be—and it is not a variety given to dropping prematurely—it is sweet and of a pleasantly-spicy flavour after being kept until November. Excepting Cox's Orange Pippin, I do not know of any Apple Grown extensively for market, and in season in November and December, which in flavour and beauty excels Allington Pippin. Gascoyne's Scarlet Seedling, again, is not at its best shortly after being gathered. It is then somewhat rough in texture, and for that reason is less pleasant to eat than many other dessert varieties. In November, however, its texture is perfect, and it is thoroughly deserving of a high place as a table Apple. These two varieties are among the few which improve in flavour by long keeping. We have so few good dessert Apples suitable for commercial culture which will keep up to Christmas or longer that the unwarranted prejudice against Allington Pippin and Gascoyne's Scarlet Seedling is much to be regretted. The former variety has been extensively planted in Kent, and it is one of the healthiest and most productive of dessert varieties. I am informed that it is in favour in the West of England; but it is not so in London at present.

Baddow Pippin.

This variety, otherwise known as D'Arcy Spice Pippin, appears only to be grown extensively in parts of Essex. In my soil it neither grows nor fruits well, and possibly the reason why it is not at all commonly grown for market is that it does not generally give satisfaction. In Essex the variety grows and fruits well, and it is one of the very best of dessert Apples. For a late keeper I should rank it next to Cox's Orange Pippin, and I believe it keeps much later in the season. It does not lose flavour by keeping as do some other choice late varieties, such, for example, as Duke of Devonshire and Mannington's Pearmain. The two latter are very nice up to the last, but lose much of their spicy flavour, particularly if they are not allowed to hang on the trees until quite late in the autumn. That is a point of great importance in relation to most late Apples. But the worst of it is that where only two or three varieties are left on the trees until long after others have been gathered, birds play havoc with them.

Loss from Keeping Apples.

Last season late Apples paid handsomely for keeping until December or later. This season, on the other hand, there has been a heavy loss from keeping the fruit, owing partly to extensive rotting and partly to the glut of American and Canadian Apples in the markets having kept prices from rising. Last season great advantage was derived from keeping Lane's Prince Albert, Bramley's Seedling, Newton Wonder, and Dumelow's Seedling until January or February, when they made high prices. Possibly they might do likewise this season if they would keep. But I had to begin to market Lane's Prince Albert in the latter part of November as they were rotting extensively. Prices were no better than they were a month earlier, when the bulk of sound Apples was much greater. Even Bramley's Seedling will not keep longer than the present time without considerable loss from rotting. Bismarcks are keeping better, while Newton Wonder and Dumelow's Seedling, as usual, keep best of all.

Apples off Grass Land.

Although, on the whole, the disadvantages of growing Apples in grass—even after they are seven or eight years from the planting—are so great that I have had much reason to regret having let a part of one orchard go to grass, there are, nevertheless, some compensations. One is that the fruit is much more highly coloured in grass than in arable orchards, and another is that it keeps much longer. The three varieties named above as keeping well this season were grown on grass land. Small proportions of my Lane's Prince Albert and Bramley's Seedling were also from grass land, and these would have kept until January probably if they had been stored by themselves, which was not the case. Similarly some Cox's Orange Pippins, off grass, which were stored separately from those from arable land, kept well after the others had begun to rot extensively.

AN OBJECT LESSON IN GRASS-LAND FRUIT CULTURE.

That the partial compensations for growing Apples in grass are not sufficient to balance the disadvantages in my case will have been gathered from the statement made in the first paragraph of this article, to the effect that the grass land is being dug. The soil is a lightish loam over a subsoil of sand, and possibly this explains why the trees have suffered severely since grass was allowed to grow around them in consequence of the extreme difficulty of keeping it from growing by hoeing. A very striking object lesson has led to the decision that the orchard shall return to its arable condition, and this must now be described. Two years ago some badly cankered trees of King of the Pippins and Stirling Castle were grubbed up, Potatos were grown upon the cleared space in the following season, and the land was replanted in the autumn of last year. The space thus converted to arable land is bordered with Lane's Prince Albert on one side and Worcester Pearmain on the other, both of which varieties had become stunted and unhealthy after grass had grown around them. In less than two years the outside rows of these two varieties, although more than half their roots must have been still under grass last summer, showed a wonderful recovery in vigour. The trees in these two rows had made more vigorous shoots, showed larger and greener leaves and more of them, and bore more numerous and larger fruits than the trees in the adjoining rows which were entirely in grass. It is true that the ploughed piece of land was manured for the Potato crop; but the trees still in grass also had a heavy dressing of farmyard manure, and the grass when cut has always been left on the ground. The striking recovery in the trees in the two rows, therefore, must have been due mainly to parts of their roots being in arable land. This, at any rate, is my conclusion, and therefore the grass land is being dug at great expense. Some big trees of such strongly-growing varieties as Bramley's Seedling and Warner's King have withstood the trial of being in grass comparatively well; but Cox's Orange Pippin, Allington Pippin, and two or three other varieties have suffered as badly as Lane's Prince Albert, and worse than Worcester Pearmain. *A Southern Grower.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA DUPREANA "THE DELL" VARIETY.

THIS noble hybrid (see fig. 193, p. 451) between C. Warneri and C. Warscewiczii is remarkable for its excellence in size, form and colour. Both parents are numbered amongst the showiest of large-flowered Cattleyas, and an examination of the illustration will show that their characteristics are transmitted to the hybrid. The form, and especially the shape of the lip, is of C. Warneri, but the influence of C. Warscewiczii appears plainly in the bright-yellow colour. The sepals and petals are of a deep rose, the lip ruby-crimson, with a pale-lilac margin and gold lines from the base. This hybrid was shown by Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), at the Holland House Show of the Royal Horticultural Society on July 2, 1912, when the Orchid Committee gave it a First-class Certificate.

SPIRANTHES ROMANZOVIANA.

I READ with interest Mr. Webster's remarks on this pretty Irish Orchid (see p. 367). At intervals we read of its extremely local appearance or disappearance. We have here in quantity two species of Spiranthes growing in open, wet meadows, and the flowers can be gathered by hundreds some seasons, but, from careful observation, I have concluded that the flowers are produced biennially. Last year, after a very thorough search, we found but five plants in bloom of Spiranthes cernua; this season the spikes could be seen in hundreds, also those of S. gracilis, which is much the prettier plant of the two. These Orchids flower very late in the summer (the end of September or early in October), and it is surprising that they ripen seeds. It is well known that many Orchids are weakened by flowering even under the best conditions, and it is fair to assume that so small a plant as Spiranthes Romanzoviana might take a year or more to recuperate. We mow the meadows where the plants grow, or the flowers would never be visible. At flowering time there are no leaves to be seen, only a few leafy bracts on the stem. The common name here is "Ladies' Tresses," and the fragrance of a few spikes is equal to that of Epigæa repens. I would be pleased to send Mr. Webster a few roots another year; I am not aware that either species has been cultivated in Britain. *E. O. Orpet, Lake Forest, Illinois, U.S.A.*

NEW ORCHID LITERATURE.

THE eighth number of the second series of the *Bulletin du Jardin Botanique de Buitenzorg* is wholly from the pen of Dr. J. J. Smith, and it is almost entirely devoted to Orchids. Foremost is a discussion of the claims of Cirrhopetalum to generic rank, as separable from Bulbophyllum. Orchidologists have differed on this point from the time of Lindley, Reichenbach and Blume down to the present day. Lindley himself, who founded Cirrhopetalum in 1824, was well aware of the close relationship to Bulbophyllum. Blume and Reichenbach reduced Cirrhopetalum to Bulbophyllum, though the latter writer subsequently described some species in the *Gardeners' Chronicle* under the generic name of Cirrhopetalum; but, as he used to say himself, he was ambitious of providing names acceptable to both horticulturists and botanists! Bentham and Hooker retained both genera, while pointing out that there were species somewhat intermediate in character. Pfitzer restored Cirrhopetalum to generic rank, and Schlechter has followed him in a recent contribution to Orchidology. Now, Dr. J. J. Smith states that he is fully convinced that Reichenbach's view is the correct one, and, accordingly, transfers about 60 species of Cirrhopetalum separately by name to Bulbophyllum. Kränzlin and Rolfe, who have probably examined more living species than any other two botanists, agree in retaining Cirrhopetalum. I do not propose traversing Dr. Smith's arguments, but it is exceedingly doubtful whether we shall ever reach his ideal that all genera should be definable by decided characters. In spite of divergences of opinion, Cirrhopetalum has come to stay, and, considering that families, genera and species are the issue of individual appraisements of the value of various characters, the matter has not the scientific importance that some would attach to it.

Dr. Smith makes some other generic alterations, among them the reduction of Glossorhyncha and Giulianettia to Glomera, resulting in nearly 40 new combinations of names. Schlechter recently restored Gaudichaud's Cadetia, generally regarded as a section of Dendrobium, to generic rank, and Dr. Smith renames about a score of Schlechter's species under Dendrobium. In the same way, Cyphochilus of Schlechter is reduced to Appendicula. We do not pretend to criticise these changes, which may be perfectly justifiable; we record them.

Dr. Smith describes a number of new Orchids, the most remarkable of which is Dendrobium macroporum, of imposing vegetative proportions.

The rest of this part of the Bulletin is taken up with the description of some interesting New Guinea Ericaceæ, from elevations up to about 11,000 feet, belonging to the genera Rhododendron, Vaccinium and Dimorphanthera. It is noteworthy that some of these Ericaceæ occur at no greater elevation than 500 feet. *W. B. H.*

FOREIGN CORRESPONDENCE.

MUSSAENDA SANDERIANA.

IT is stated in the issue of the *Gardeners' Chronicle* for September 21 last, that Mussaenda Sanderiana requires a stove temperature, but I think that such a statement is likely to cause disappointment. I found the plant on the Tranniuh Plateau in Laos, French Indo-China, at a height of from 3,000 to 4,000 feet, where it grows on the outskirts of woods, in the company of Brambles, Wild Roses, Oaks and so forth.

On the plateau, during the months of December, January and February, hoar frosts are common; sometimes it actually freezes to the extent that water in very shallow pools is covered in the morning with a very thin sheet of ice. Curiously enough, these frosts do not seem to do any damage to the vegetation, and although the nights may be chilly, there is always bright sunshine during the day. Of course, at such a height, even in the hottest part of the year, the temperature is never of that hot and steamy kind found in the tropics at low altitudes or sea level.

Intending cultivators would do well to bear this in mind, and not keep the plant in too hot and steamy an atmosphere. At the same time, it wants plenty of light and all the sunshine available. The best proof of what I say lies in the fact that in Singapore the plant has, at least until quite recently, never flowered. Singapore is evidently too hot for it; it just grows and grows, but it does not flower, whilst Mussaenda erythrophylla, which is found in Africa at sea level, seems to revel in the equatorial heat of Singapore, and flowers all the year round. There are many species of more or less beautiful Mussaendas found all over the East, but they mostly grow in the hot, steamy lowlands, and they generally are of such unwieldy dimensions as to make the successful cultivation of them a hopeless task. When I first saw Mussaenda Sanderiana, it struck me at once not only as the finest white Mussaenda I had seen so far, but also as the only one which might be amenable to cultivation and also worth cultivating. The plants were—in March—just masses of dazzling white, a sight marvellous to behold, and I am certain, if well cultivated, the plant will amply repay all the care and trouble bestowed upon it. *W. Micholitz, Batavia, Java.*

BARON VON MUËLLER.

The presidential address delivered by Mr. J. H. Maiden to the Royal Society of New South Wales is referred to elsewhere (see p. 451). We reproduce here the interesting account which the president gives of the personality of that remarkable man and botanist, Baron von Muëller :—

Nothing other than a tombstone has been instituted to commemorate Baron von Muëller. As a working botanist, I still think that the memorial suggested in my 1897 address is necessary, viz., a complete list of his works, with bibliographic annotations. The list should be in strict chronological order, with a botanically classified supplement. Such a list would find a place on the work-table of every student of Australian plants, and would go far to keep his memory green. The value of such a publication would be greatly enhanced if there were added to it reprints of some of his papers in obscure or rare serials; at present they are lost to most of us.

One of his executors frequently announced his intention of writing a life of the Baron, but he probably realised that he had not the necessary technical knowledge, as he died without accomplishing anything. Meantime Mr. C. A. Topp, a competent authority, during a visit to England, [illegible] as to the encouragement he would receive in writing a life, and abandoned the idea. The probability is now that a full life of Muëller will never be written.

A well-informed life of this remarkable personality would have been very interesting, but the reputation of this great botanist is not dependent on an extraneous circumstance like this. His reputation rests on his published works, and any steps taken with the view of rendering his works more available and more complete, will enhance that reputation.

Personally I think Australia is poorer through no memoir of him as a man having been published. I will leave aside the question of a publication concerning him as a botanist for the present. The late Dr. A. W. Howitt had, and the venerable Mr. Panton, late Police Magistrate of Melbourne, has, innumerable reminiscences of the man who was invariably known as "The Baron." Mr. Panton is one of our best authorities on Australian geography and exploration, and on these subjects Muëller was intensely interested.

He was fond of homage from the younger men. For some years business and private affairs took me frequently to Melbourne, and I always paid my respects to him, except once, when I was making a very brief stay and I was full of business. To my horror, he and his chum, the late Sir Frederick McCoy, bore down on me in Collins Street, and the Baron gave me a good talking to. I had never made such a hole in my manners before, and on the next occasion of my visit to him, perhaps in the way of heaping coals of fire, he paid me the unusual compliment of seeing me into the old St. Kilda bus, and this is how he looked.

He was dressed in a rusty suit of black, with dress coat, the trousers very much too short, showing much blue-grey woollen stocking, while his feet were shod with sabots. Round his neck were several folds of muffler, made of Angora wool, with the ends hanging down. The whole surmounted by a chimney-pot hat of unfashionable model, which had been brushed the wrong way. So long as he had clothes on, the cut or the age of them never entered into his head. He was the pink of courtesy, and sometimes it was difficult not to smile a little at him.

This Angora scarf was historical, and was one of several that had been made from wool that Count de Castelnau, French Consul-General at Melbourne in the 'sixties, gave him. The Count was interested in acclimatisation matters, and certain Angora goats introduced into Victoria turned out very fine animals. An admirer of the Baron had the wool made into mufflers for him, and this pleased him very much, for he was interested in all good works, his attention being by no means confined to botany.

On one occasion I had visited the Baron, and, as usual, had, after a visit of two hours, been unable to get a word in edgeways. As I rose to leave, he noticed that I was recovering from a cold, and, before I could clearly comprehend, he unrolled his Angora scarf from his own neck and quickly rolled it round mine. As he did this he said, "You know I am an M.D." (so he was, honoris causa), and I thoroughly enjoyed the joke. When I got a little distance from the "baronial castle" (as it was playfully called), I removed the scarf, and returned it from Sydney, washed and folded, with grateful thanks. It came to me again by return of post with a letter of mild remonstrance. I am sure you will excuse these brief personal sketches, which are typical of the man.

He was one of the most charitable and unselfish men I ever met, and for many years he was in a chronic state of impecuniosity because he could never resist an appeal for help, while botanical expenses which might have been a charge against the public funds were paid out of his own pocket to a large amount. So he told me many a time. He was a bachelor, and his personal expenditure was of the most modest description—everything went to science and charity.

On two occasions he thought about getting married. Once things went so far as getting the wedding presents, and one of them, a clock, is in the Melbourne herbarium to this day. I think it was well that the wedding never came off. He could not possibly have found time for his wife's company, and it would not have been fair to put her into competition with, say, a new Eucalypt.

Some of his idiosyncrasies were most amusing. If he barked, which he did now and then, there was no bite. He was the quaintest and most picturesque figure I have ever known amongst Australian scientific men.

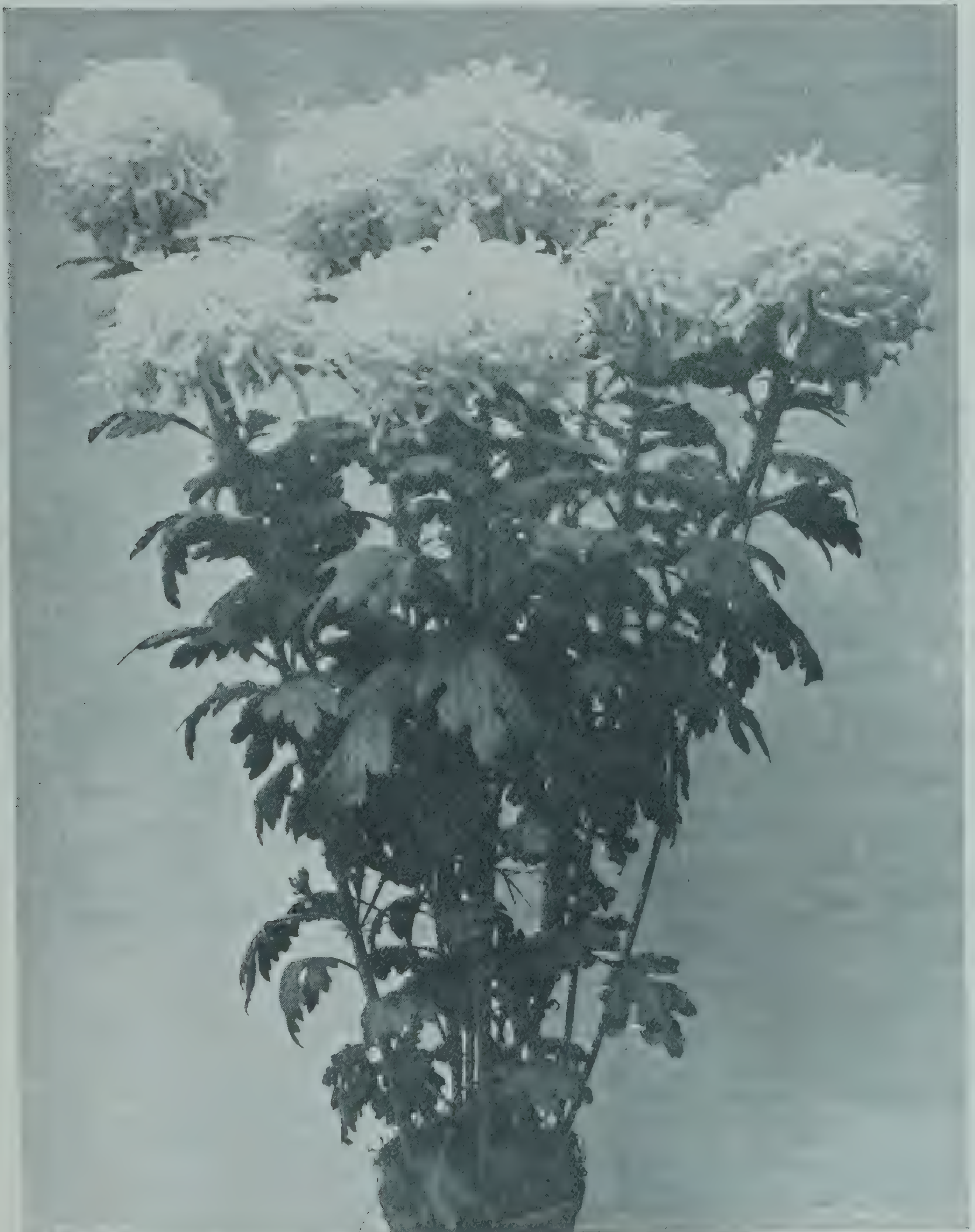


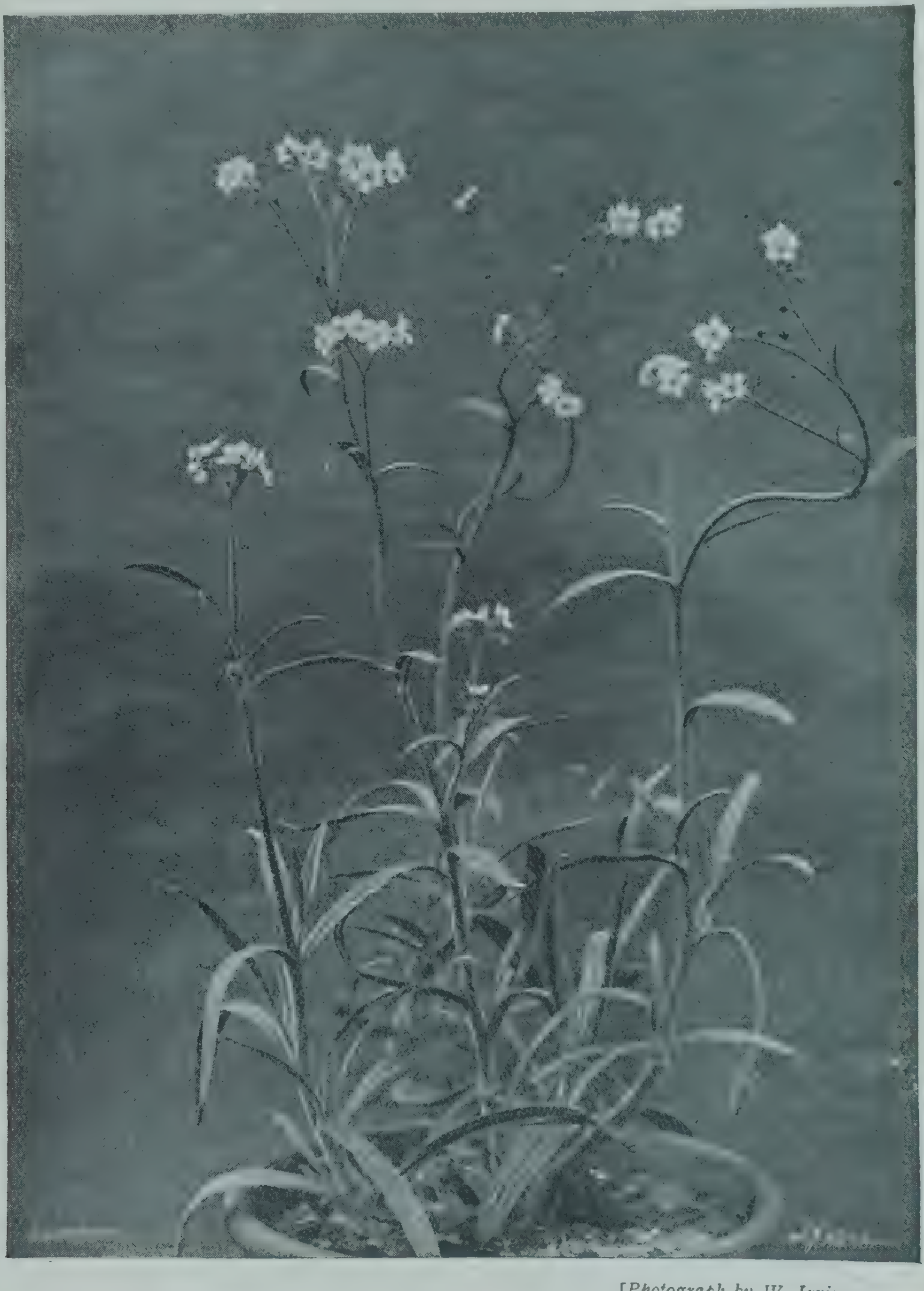
Fig. 188.—CHRYSANTHEMUM MRS. SWINBURNE, AS EXHIBITED BY COL. LOCKWOOD, M.P.
(R.H.S. Cultural Commendation, December 8.)

CHRYSANTHEMUM MRS. SWINBURNE.

The Chrysanthemum plant illustrated in fig. 188 is one of a large number exhibited at the meeting of the Royal Horticultural Society on the 3rd inst. by Colonel Lockwood, M.P., Bishop's Hall, Romford (gr. Mr. G. Cradduck). The largest specimen bore 11 fine flowers and one bud, and was only 2 feet high. There appeared to be some difference of opinion as to the variety, which was not known to Mr. Cradduck, and was declared by some to be Maud Jefferies; it may possibly prove to be a sport, as it appeared with Moneymaker. The pots were only 4½ inches in diameter.

TREATMENT OF LAWN-TENNIS COURTS.

Although lawn-tennis is now largely played throughout the year, it is essentially a summer game. Hence reference in December to grass courts will be thought by some to be out of place; others, however (and we are all more or less interested in what has become, since 1874, a national game), will not consider such comments as untimely as bear upon the management and preparation of the grass for the coming season. Without a doubt, much has been accomplished in the way of weeding and so forth during the past month, but in many instances concentration in this work has led to the neglect of many other cares.



[*Photograph by W. Irving.*

Fig. 189.—Cynoglossum cœruleum: a new species from East Africa.

Nets which should be in the hands of the repairer have been put aside and forgotten; the posts need a coat of varnish; the club chairs and tables should be overhauled, the groundsman's machine well oiled and put away for the winter. Much trouble, too, can be saved by a little forethought.

As a labour-saving instrument the lawn-tennis marker is held to be invaluable; whitewash and linseed oil, made into a hot soup, well mixed, and rubbed into the ground with a brush is, however, much more lasting, and will, in a normal season, last two or three weeks.

Every vestige of the light whitewash lines put on by the marker has by that time disappeared. Some of the little iron T's have been lost or broken; but the careful man has an admirable substitute in wooden pegs. These should be preferably of Oak or some other hard wood; they should be driven into the ground an inch below the surface at the junction of the lines; a small hole will be left above each peg, and on re-marking the ground the corners will be easily found.

Less than 40 years ago, when Lord John Hervey played on his croquet ground in Suffolk, lawn-tennis was scarcely known, and, without a doubt, it owes its prominence to lovers of tennis on the hard court, who realised the advantages of the former as a summer game. Then came the evolution. New rules and regulations came in turn, with the necessity for level courts on a hard and well-drained surface, in which road metal, gravel, a depth of rich soil, the best of grass seeds, or the finest turf that could be procured formed essential parts.

But while sinkage on courts so made is almost imperceptible, on other courts laid out on natural soil depression in the ground is of frequent occurrence, and this should receive the attention of the groundsman in November. Armed with a line or a straight piece of wood and a spirit level, he will see at a glance the sunken places. The turf, sodden by recent rain, can be easily raised to an inch above the level by the use of a garden fork. In places the sod must be removed with the turfing iron, a thin sifting of soil being introduced between the surface and the turf and left until the spring.

By this simple method much can be accomplished; but at the end of every season the turf, on the serving lines, needs to be relaid, and to some small clubs the cost is prohibitive. This is also work which should be done when the ground is thoroughly soaked and before severe frost. Cutting, hauling and laying the sod all mean heavy items in the annual expenditure; these, however, may be greatly reduced, for on every club ground there are, between the courts, patches of turf, which may be removed to the service lines, and replaced by well-worn sod; while a full yard in width may be removed from either side of the net, the soil made and sown with seed or the turf replaced by some of inferior quality without detracting from the value of the court. The careful man, however, who has an eye to the future goes one better. He overlooks nothing, and, should there be waste patches or disused corners of rough grass under his control, they are dug up and tilled with grass seeds of a mixture of Crested Dogstail, Hare's Fescue, Sheep's Fescue, other grasses, and a sprinkling of Clover, according to the nature of the soil, thus in the future saving considerable expense to the club.

Other grievances with which the groundsman has to contend are worms and even moles, while impoverished grass becomes Moss-grown. And this brings one on to the question of manure. Soot, sulphates, phosphates, ammonia and common salt appeal to one as being easily used and productive of certain, quick results. These, however good they may be, merely stimulate, and it is questionable, where possible, if it would not be more advantageous to hark back to the old-time methods of our fathers and use sheep—a flock of ewes! These, if borrowed from a farmer for a day or so in November and enclosed securely, would not only benefit the land, producing richer growth, but, moving continually, would solidify the ground. Farmyard manure from fatting stock, evenly spread, and raked off the ground early in spring, would also have a lasting effect. Such matters as these, however, must be left to the discretion of the secretary of the club, without whose supervision throughout the autumnal as well as the early months of the year no lawn-tennis club can hope to prosper. *Harry Danes.*

CYNOGLOSSUM CŒRULEUM.

Seven species of Cynoglossum are found in Central Africa, but C. cœruleum is probably the only one in cultivation, and, judging from dried specimens in the Kew Herbarium, it is the most attractive. The Cynoglossums generally are not suitable plants for cultivation, although certain of the Himalayan species, including C. nervosum and C. Wallichii, have numerous ornamental blue flowers. Plants of C. cœruleum flowered in Messrs. Barr & Sons' nursery this autumn; they were raised from seeds received from British East Africa. The growth is erect and neat, about 12 inches to 18 inches high, and furnished with narrow leaves, the longest of which are about 3 inches. The bright-blue flowers are produced very freely in panicled cymes, and may be likened to those of the Forget-me-not. The species has a somewhat wide distribution, for it is found also in Uganda and Abyssinia. A variety, with broader leaves, named Johnstonii, is found on Mount Kilimanjaro, at an elevation of 6000 feet. In common with all the members of its family, the plant is easily raised from seed. It is not certain whether the plant is hardy, but it is a native of fairly high eleva-

CORSICA.

(Concluded from p. 425.)

A Journey Through the Island.

Twice a week, a steamer leaves Marseilles for Ajaccio. The crossing takes from 12 to 14 hours. It is difficult to imagine a more beautiful sight than that presented by the Bay of Ajaccio on a bright winter morning. The sea is like a sheet of glass, which, at the rising of the sun, reflects every possible colour; the blues and greens so delicately graded that it is impossible to tell where one begins and the other ends. As the light morning mist disperses, the wooded hills emerge, and the mountain peaks tower over the landscape, the rising sun painting their summits the most beautiful colours—violet, red, pink, until at last, the sun having reached its zenith, the pure white snow-covered tops dazzle the sight. Between the sea and mountains occasional glimpses are caught of the town with its innumerable, snowy-white buildings.

Ajaccio is sheltered from cold winds by a barrier of mountains clothed with Olive trees; and the town enjoys an ideal climate during at least eight months of the year. Rain seldom falls in the daytime, but, thanks to the proximity of the mountains, a good deal comes down in the night. At the time of the birth of Napoleon, Ajaccio was a mere village, with the narrowest of streets, across which hung lines of drying linen—red and yellow, according to the Italian fashion. A new town has sprung up since then, with wide avenues and large squares planted with Phœnix dactylifera, P. canariensis, Schinus Molle, Grevillea robusta, Ficus, and other plants. Several monuments have been erected to the great emperor, and it is possible to visit his first home. This latter is very unpretending—merely the *nest* of the eagle; his true home was on the battlefields of Europe.

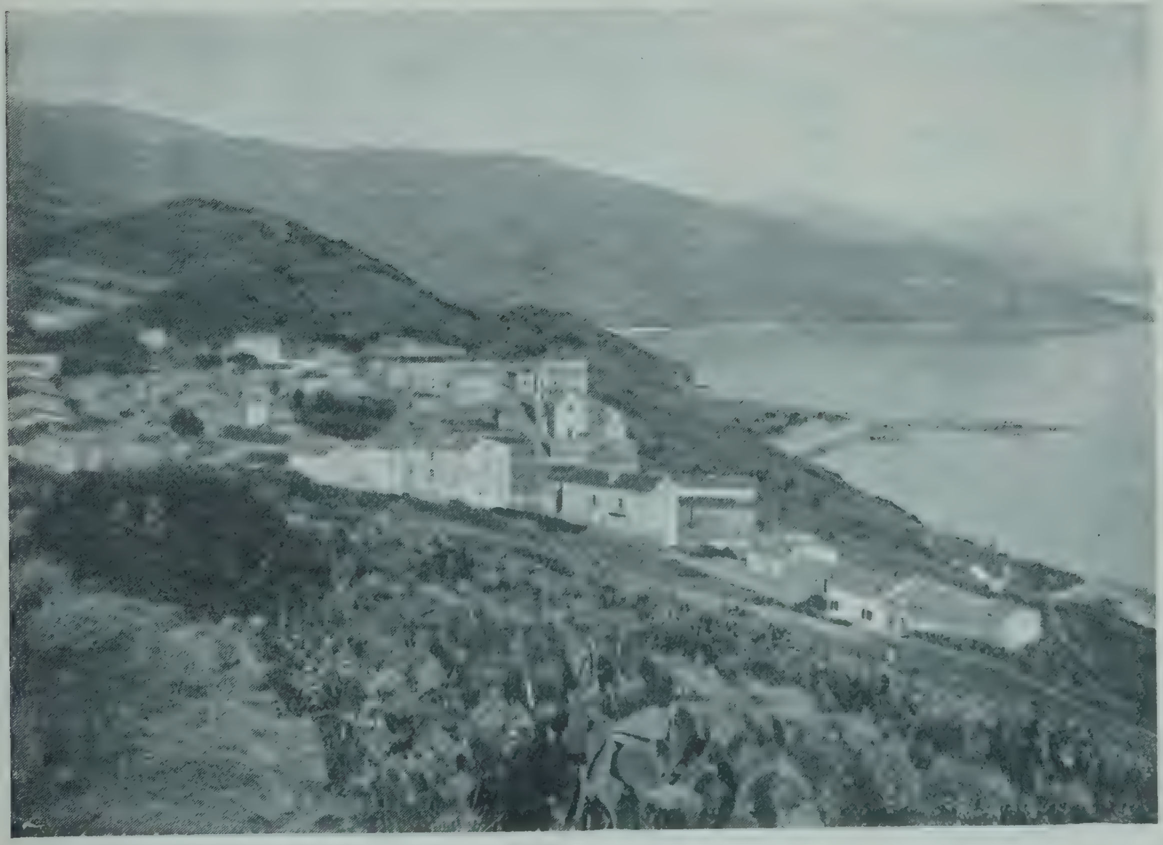


Fig. 190.—View of Carghese, Corsica.

Ajaccio is full of interest for the botanist, especially from December to June. Beside the "maquis" already described, there are huge bushes of Opuntia ficus indica, which present a most striking appearance and often attain a height of 10 to 12 feet; trails of Smilax aspera are fond of climbing up the stems, and give the plant a curious aspect. The flowers of the Opuntias are gorgeous, and are followed by the sweet Pear-like fruits (prickly Pears). The taller-growing bushes are frequently broken by the wind; but the prostrate stems curl themselves round into the shape of a concave vessel, and so retain and hold all available moisture.

The stems nourished in this manner soon throw out fresh roots, from which new stems spring: the plant thus indicating the method by which it may best be propagated. It has often been found that if the joints are planted upright, they fail to grow or root; but if they are laid flat on the ground, they invariably grow and flourish.

Another Opuntia is also naturalised. Its joints are smaller than those of O. ficus indica, and it has strong and very abundant spines. Its fruits are not edible, and it makes a first-class hedging shrub. Unfortunately I have been unable to ascertain its name.

Oxalis Lybrica = O. cernua is very luxuriant, and becomes extemely troublesome where any sort of cultivation is attempted. Fifty years ago, Ajaccio was the only place in Europe where it was to be found; but since then, it has become disseminated all over the French and Italian Riviera. During the winter its clover-shaped, brilliant green leaves make a vivid groundwork, over which the long-stemmed umbels of bright yellow flowers hang in profusion. The flowers shut at night, but open widely with the first rays of the rising sun. This species is said to be seedless; it is propagated by means of a rhizome, which grows underground and produces numbers of small bulbs.

Early in winter, the bright flowers of Crocus minimus are everywhere to be seen, while Scilla italica and S. amoena hide their little bells under the leaves of the Cistus. Cyclamen repandum is also very common. In moist places, Arisarum vulgare may be observed in December and January, with its curiously shaped spathes; a less common Aroïd—Arum muscivorum—is found in one or two places round Ajaccio. Under the Olive trees, Narcissus Tazetta covers large areas of ground; and Lathyrus Clymenum, L. angulatus, and Psoralea bituminosa flower profusely along the roadsides. Romulea Columnæ is found in a few dry, sandy places, where it forms a thick carpet; it is a small, somewhat scarce, bulbous plant, with thin, dark leaves and blue flowers, starlike in form. With it are often associated R. Revelieri and R. Requienii.

With the spring, several Orchids make their appearance. Among others may be mentioned Barlia longibracteata, Ophrys Bertolinii, Orchis papilionacea, Serapias Lingua, S. cordigera, Limodorum abortivum, and Aceras densiflora. When ascending Mount Pozzo at the beginning of May, we have come across wide areas covered with Orchids in profusion. In June, when vegetation begins to suffer from the heat, Pancratium illyricum and P. maritimum produce their handsome umbels of Lily-shaped flowers; the bulbs are of large size, and deeply rooted, which makes it difficult to get a good specimen to carry away.

Ajaccio is the capital of Corsica, and is perhaps the pleasantest spot in an island which is full of beauty and interest. Travelling southwards from Ajaccio by steamer, we land first at Bonifacio. The town is built on a high cliff of limestone (the only limestone in the whole island), which has been bored out into long grottos and caves by the action of the sea. Even under the town itself, there are long tunnels which have been slowly fretted out by the restless waves. Vegetation is scarce, and the want of trees gives to the landscape a sad and depressing aspect. Many interesting plants, however, are to be found growing between the bare rocks. At a short distance from the semaphore, in a deserted, sandy place, Morisia hypogaea forms a carpet of yellow flowers, the colour both brighter and more intense than can be obtained in cultivation. Near the shore Mesembryanthemum nodiflorum and M. crystallinum may be found in large quantities; and where a little soil has been formed, Helichrysum angustifolium, Cineraria maritima, Matthiola incana and Anchusa italica are to be seen. On the road-sides, plants of the Leguminosæ family are predominant, including several species of Lathyrus, Vicia and Lotus.

Looking southwards from Bonifacio, the dark-fringed shores of Sardinia are to be seen plainly on the horizon. From Bonifacio back to Ajaccio one may travel overland, and it is a very interesting journey, though terribly slow. Means of locomotion are hardly up-to-date; they consist of an old stage coach drawn by three mules over what is called merely by the barest courtesy a "road." A pleasant excursion may be made from Ajaccio to the "Calanches de Piana"; the distance is about 70 miles altogether, and can be done in one day in a motorcar. The road runs through the Greek colony of Carghese (fig. 190) follows the coast for a time, and then climbs a steep slope through the sweet-scented "maquis." Higher up, the road passes between high rocks; and suddenly, after a sharp turn, a huge mass of rock is confronted, seemingly lying right across the way. This is known as the "Levrier" (or Greyhound) and marks the entrance to the "Calanches." The road now passes through a wonderful chaos of mountain and rock; huge masses of stone are piled one on the top of the other by a perfect miracle of balance; they are chiefly composed of orthoclase, and under the blazing sun they seem to be of a dazzlingly bright pink colour. The road runs through these rocks for about two miles, and then, with the suddenness of a revelation, the intensely blue Mediterranean bursts upon the vision, lying like a sea of glass. This is the Golfe de Porto (see fig. 191). It is impossible to describe with the least adequacy the exquisite beauty of the view; the azure bay, surrounded by rocks of the most delicate shades of rose, makes one of the loveliest pictures which Nature has produced. It is difficult to bring one's mind to bear upon the details of the flora, which is scanty enough; we note rapidly Pinus maritima, several varieties of Cistus, Cytisus triflorus, and Dianthus virgineus.

To reach the highlands of Corsica, it is necessary to use the railway between Ajaccio and Bastia. The line follows the Vallée de la Gravonne; and Corsican railways are sufficiently leisurely to allow plenty of time to admire the picturesque route, and to observe the flora; indeed, no plant growing within reasonable distance need be missed! On the lower slopes, Iris Pseudacorus grows very tall. A few hundred feet above sea level Helleborus corsicus shows its prickly leaves, crowned in winter with large flowers.

After travelling for 2½ hours we arrive at Vizzavona, only 35 miles from Ajaccio, but 2,400 feet above the sea. No sooner have we left the train, than we enter one of the finest forests in the island, entirely composed of Pinus Laricio, the Corsican Pine. The trees grow thickly, and are tall and straight; the forest is the property of the State, and is perfectly kept. Several paths have been cut across the best parts, and Vizzavona is like a sylvan park. As soon as the winter snow has melted, Crocus minimus covers the ground with its bright flowers, and here and there clumps of Helleborus corsicus and bushes of Daphne laureola are to be seen. Vizzavona is used as a summer retreat by well-to-do Corsicans; several hotels and villas have been erected on the slopes of Monte d'Oro. This mountain—one of the highest in Corsica—possesses several rare plants, such as Aquilegia Barnardii Draba Loiseleuri, Lepidium humifusum, Helichrysum frigidum and Linaria hepaticæfolia. The Monte d'Oro is full of interest for the botanist, and also the ordinary tourist; and the same may be said of all the mountains in Corsica. The reward is well worth the trouble, and the journey is one which is not likely to be regretted. *C. L. Degoy.*

THE SEED SUPPLY.

(See also article on p. 450.)

The seed supply for the present season may be described as deficient generally, for the few cases in which normal quantities of good seeds are to be found in the markets scarcely affect the general yields.

Moreover, whilst last year the crops were also very light, the quality uncommonly high and the percentage of germination extraordinary, this season there is no such compensation, for much loss has been experienced in the cleaning and grading, and the germinating qualities may prove to be moderate and disappointing.

Speaking first of flower seeds, it may be said that, at the commencement, seedling plants of perennials and biennials were extremely scarce in the autumn of 1911. These plants stood the winter well, but during the flowering season (April and May) the want of rain, the prevalence of cold, with two or three sharp frosts, and the drying winds, checked the flowering and seeding of such plants as Polyanthus, Primroses, Auriculas, and Sweet Williams.

Canterbury Bells likewise suffered from the same cause, and the supply is deficient, although somewhat better than last year.

Myosotis was injured by the cold winds of April and May, and an indifferent crop resulted.

Wallflowers fared rather better, and produced a fair crop of good seed, but, owing to the shortage of plants, the seed available is of a limited quantity.

The continuous wet of August, followed by a dry September, caused plants of Antirrhinums to bloom freely a second time, and this fact somewhat destroyed the bright outlook of a good crop; still the supply is moderately good.

Taking annuals collectively, the crops are light to medium. A few kinds, such as Candytuft, Gypsophila, and Nemesia, are good, but many other popular annuals are scarce.

At one time Sweet Peas promised to be a very good crop, but they finished one of the worst on record. The crops in America and other countries were as bad, or worse, and the supply will not be equal to the demand.

Mignonette produced good crops in certain districts, but in other localities the yield was deficient. However, as a whole the supply is of medium quantity.

China Asters suffered from the wet of July and August, more especially the early varieties, which were then in bloom. Medium and late-flowering varieties, improving greatly during the favourable weather in September, produced a fair crop. The percentage of germination, however, cannot be expected to reach a high standard, and this remark may apply to most flower seeds this year.

Heavy rains during August destroyed the bright prospects of a heavy crop of Nasturtium. The plants grew to leaf too freely, instead of throwing an abundance of flowers. The supply is moderate.

It is, however, among the late-seeding annuals that the greatest shortages are felt, such as Ageratum, Calliopsis, Godetia, Larkspur, Lobelia, Marigold, Scabious, and Stock. These were extremely late in blooming, and they were suddenly checked by the frosts of early October.

Turning to the vegetable crops, Beet plants were unable to get a good start owing to the spring drought, and later were affected by excessive wet. The seed supply is deficient.

Some fields of Brussels Sprouts were badly blighted owing to the drought, but there is a fair supply of seeds.

Cabbage and similar crops encountered unsuitable conditions throughout the season. Great difficulty was experienced in getting the plants through the ground in the autumn of 1911, and they were very small. As a result many failed to "run" in the spring. Those that did were badly affected by the drought and much blighted. The seed supply is deficient.

The Carrot crop was fairly good as a rule, although many fields were destroyed entirely by the heavy rains of the late summer.

The great majority of Celery plants failed to stand the winter. Soup Celery is an abnormal price this year, and Celery seed generally is scarce.

The Leek supply is very deficient owing to the lack of plants. It was extremely difficult to raise plants during the summer of 1911.

In most cases Lettuces failed completely. The plants were healthy, and promised full crops up to the middle of July, but cold and damp weather set in just as they were in full bloom, with the consequent ruin of the crop.

The acreage planted with Onions was much below the average, owing to the shortness of bulbs, but the crop was fairly satisfactory and the supply of seed is moderate.

Parsley was one of the worst crops; as the plants were so small when planted out in the autumn, the majority of them failed to "run" to seed.

The Parsnip crop, usually one of the most reliable, was this year practically a failure. The small quantity of seed harvested was of poor quality. There is a certain amount of foreign seed, but it is doubtful whether the produce of such seed will be appreciated by English growers.

At one time it was feared that the Radish crop would be a failure, as the seed failed to germinate owing to the dry weather which set in immediately after it was sown. It came up very unevenly, and the plants made no headway for a long time. Rains fell just in time to save it, but the crop was extremely late.

Spinach was the best crop of the year.

Fig. 191.—Golfe de Porto, Corsica.

Turnips suffered very severely from the drought and subsequent blight, and were a very light crop.

Swede, like Turnip, is a very poor supply.

Mangold Wurzel was a fair crop, but many fields suffered severely from the spring drought, and failed to recover.

After several seasons of short crops, when prices have been high, many people are tempted to grow inferior stocks for seed purposes, procured from cheap sources. This is bad alike for the seedsman and the grower. The seedsman, however, who takes all possible pains, and goes to great expense to produce seeds of high quality from pedigree stocks, has to compete with inferior produce, and the grower who is unfortunate enough to use this bad seed suffers loss and annoyance when his crop is grown. Unfortunately the quality of seeds cannot be judged by the sample, but only by the produce, and if people would bear this in mind they would not be tempted to buy seeds of doubtful origin for a slight difference in price, which is trifling in comparison with the value of the resulting crop. *Correspondent.*

NEW ROSES.—V.

CLIMBING ROSES.

The list of new climbing Roses brought out during the past four years is a long one. The result of my more or less successful experiments is as follows:—

Alexandre Girault (Wich., Barbier, 1908).—The parentage of this Rose makes it attractive—Wichuraiana × Papa Gontier. The Rose is a strong grower, very free flowering, and quite a good garden plant. It is a carmine colour, with a slight tint of orange, but I must admit the shade of colour has been a little disappointing this year. It flowers in mid-season, i.e., about the third week in June. Some give the date of introduction 1907, but I do not think it came much into this country till 1908.

American Pillar (Multi., Conard and Jones Co., 1909).—Taken all round, I incline to think this the best and the most distinct in character of our new climbing Roses. It is a fine strong grower, easily making growth of 12 feet to 15 feet in a season. The bark is a nice light green, and the foliage very thick, glossy and dark green, clothing the plant down to the base like Ivy, and lasting nearly as long. The flowers are single, bright pink in colour, with a white eye and yellow stamens, and are carried in big, solid trusses. They are most decorative, and always attract immediate attention in a stand of garden Roses. This Rose comes into flower about the end of the second week in June, and lasts in flower for about six weeks It seems quite free from mildew and other diseases, and has no faults that I know of. Unfortunately, it has only one flowering season. The laterals from the previous year's growth, which carry the flower bunches, make very long arms, and this should be borne in mind in planting and training, or they may be damaged by the wind.

Fig. 192.—corsica: the village of corte.

Ards Rambler (H.T., A. Dickson & Sons, 1908).—This is a vigorous grower and perpetual, that is, it flowers again in the autumn. In the summer blooming it often gives quite well-shaped flowers of a carmine colour. It makes strong shoots, and may be used either as a pillar Rose or for a big bush, where plenty of room can be given. I do not think it has flowered with me quite so freely as Ards Rover, which I incline to think the best of the three (Ards Rover, Ards Pillar and Ards Rambler). Still, perpetual-flowering climbers are scarce, and down to the present these three Roses constitute a class which is quite distinct.

Ariel (Wich., Paul & Son, 1910).—This beautiful climber was raised as a cross between R. Wichuraiana and Tea Rambler, and may almost be described as a single-flowered Tea Rambler, but it has, I think even more beautiful foliage. Like this Rose, it makes fine, strong, summer shoots, but not all from the base of the plant. The colour is coppery pink, which we have found harmonises very well with Irish Glory. The contrast of flower and beautiful foliage is the attraction of this Rose. It seems quite hardy and free from mildew.

Coquina (Wich., Walsh, 1908).—One of the prettiest, most-useful and most-distinct of the newer Wichuraiana hybrids. It is very effective as a pillar, each bunch arranging itself so as to display its flowers to great advantage, and the plant carries pretty, lightish-green foliage. The flowers are small and rather cup-shaped, of a porcelain pink, shading deeper to the tips of the petals, which have a yellow base. The bunches are fairly large, and last remarkably well. The length of time the plant continues in flower is, however, its strongest point: it comes out late, about the first week of July, is at its best about the 15th, and thence onwards has continued flowering till November. Moreover, this year has shown that it will stand any quantity of rain. The later flowers are not, of course, produced in such quantity as those of the summer, but in decidedly greater quantity than the occasional flowers of Dorothy Perkins. By some accident this pretty and useful little Rose has escaped notice in the N.R.S. *Catalogue*. It is, unfortunately, almost scentless.

Diabolo (Wich., Fauque, 1908).—This Rose has strong, rather upright growth and single flowers of a fine, deep-crimson colour, with conspicuous yellow anthers. It flowers early, about June 10. Its strong point is its handsome colouring, which is unique in its class. It is said to be a cross between Wichuraiana and Xavier Olibo.

Excelsa (Wich., Walsh, 1909).—Another Rose of striking colour, the flowers of Excelsa being of a very bright, light crimson. It is a mid-season Rose, coming into flower between the middle and end of June. We had a pillar of this Rose in front of a large arch of Hiawatha, and when it was first out it quite put Hiawatha in the shade for brightness of colouring, but when they had both been out some little time it was just the other way about, that is, though brighter at first, it loses colour more quickly than Hiawatha. When it was first shown at the Temple from plants grown under glass I remember asking Mr. Paul, "Can we hope to get that colour in the garden?" Well, the answer is, we do get it, but not for very long. Still, it is gorgeous while it lasts. The flowers are double and sweetly scented. I do not know its parentage.

Goldfinch (Multi., Paul & Son, 1908).—This is a seedling from Hélène. It is vigorous, strong and hardy. The buds are deep yellow, opening to creamy-yellow flowers. It is a good and useful climber, with nice, light-green foliage and stems, and makes a good pillar Rose. It is a mid-season climber, opening about the third week in June. I am pleased with this little Rose, which is one of the best yellow climbers at present, but it does not quite show off its flowers as well as it might do. They are best in the bud stage and are fragrant.

Lady Godiva (Wich., Paul & Son, 1908).—This is a pale-blush sport from the well-known Dorothy Perkins, and, I think, down to the present the most beautiful of its sports. The colouring is very soft and pleasing, and it has all the vigour and good qualities of its parents. Christian Curle (Cocker, 1908), slightly more salmon, and Dorothy Dennison (A. Dickson, 1909), shell pink, are so near to this Rose in colour and habit that they ought not to be kept distinct.

Refulgence (Sweet Briar, Wm. Paul, 1908) is hardy and a good grower. The flowers are nearly single and scarlet-crimson in colour. It is the best of its class since Lord Penzance's Sweet Briars came out.

Shower of Gold (Wich., Paul & Son, 1910).—This Rose is said to have been obtained as a cross between Jersey Beauty and Instituteur Sirdey. It has beautiful, glossy, dark-green foliage, which lasts well, and is a most effective feature of the plant. The flowers are small, double, and rather cup-shaped, golden-yellow at first, becoming pale later, but retaining their colour better than most yellow Roses of this type. The trusses of bloom hang downwards in a graceful manner, and look well on the plant. My flowers began to open this year (1912) on June 16. It may thus be put in the mid-season section. It has all the vigour of its parent Jersey Beauty, and is the best yellow Rose of its class at the present time.

Starlight (Multi., Paul & Son, 1908).—This is a single-flowered Rose, with smooth, shiny, almost-thornless stems, and rather large foliage. The flowers are large for their class, white, edged with a soft-violet rose. The petals, however, are a little wanting in substance, and do not stand rain well.

Sylvia (Wich., Wm. Paul & Son, 1911).—This is a pretty little Rose with lemon or creamy-white flowers. The special feature of this Rose is that it is more or less perpetual. I have only had a plant for one year, and, therefore, must write of it with some reserve. The perpetual Multifloras, such as Trier, are inclined to make bushes rather than the rampant-climbing shoots such as we get in Crimson Rambler and Blush Rambler, and it remains to be seen whether this Rose will not be rather of the habit of Trier than Dorothy Perkins. At all events, my plant has not at present made any very long shoots, though it has given a second crop of flowers.

White Dorothy (Wich., B. R. Cant and Paul & Son, 1908) is another climbing sport from

Dorothy Perkins, with white flowers. It has the habit of its parent, and was the best white climbing Wichuraiana at the time of its introduction. Its weakness is a tendency to sport back to the pink colour of its parent. Like its parent, it belongs to the late section. *White Rose.*

(To be continued.)

KEW NOTES.

COTONEASTER ROTUNDIFOLIA.

This Himalayan species is one of the three best Cotoneasters in cultivation. It forms a spreading bush 4 feet to 5 feet high, with rather flattened branches, which, at the present time (November 24), are clothed with roundish, deep-green leaves and quantities of shining red berries. It is worth recording that, though the fruits of this Cotoneaster are large and fleshy, they are generally the last to be touched by the birds. Though the older bushes often lose a few leaves at the ends of the branches, most of the leaves are persistent until early in spring; thus the bush is semi-evergreen. The species may be seen at Kew in a bed by the Orchid houses and in large groups elsewhere in the gardens.

SENECIO CANALIPES.

This South African climber is flowering freely on one of the rafters at the cooler end of the succulent-house. It is the most vigorous of the three climbing species of Senecio, the other two being S. auriculatissimus and S. macroglossus. The heart-shaped leaves are lobed and thick in texture. The rich-yellow flowers, each about ¾ inch in diameter, are arranged in loose, terminal inflorescences. The plant is readily propagated from cuttings and is a vigorous grower. It is a free-flowering plant and unsurpassed as a climber for a cool greenhouse at this season of the year.

LUCULIA GRATISSIMA.

A specimen 12 feet in height of this deliciously-fragrant greenhouse shrub in the large temperate house is covered with blossoms. The delicate flesh-pink flowers are borne in many-flowered terminal cymes. The plant may be propagated by cuttings and seeds. It grows best in a mixture of sandy loam, peat or leaf-mould and coarse sand; the bed or border should be well drained. After the flowering is over, the shoots may need pruning to keep the plants in good shape.

ILEX PERNYI.

The largest specimen at Kew of this new Chinese Holly is fully 6 feet in height. Young plants are comparatively slow in growth, but this specimen has grown well during the past summer; the shoot forming the leader has increased fully 2 feet in height and is stout in proportion. Mr. E. H. Wilson states that the plant forms a tree in Central China 20 feet to 30 feet in height. The habit is close growing. The leaves (see *Gard. Chron.*, January 30, 1909, fig. 41) are deep, shining green, 1 inch to 1½ inch long, armed with two or three pairs of strong spines on the lower halves and one at the apex.

RUBUS GIRALDIANUS, Focke.

This species is one of the most conspicuous of the newer Chinese Brambles planted in the collection near to the pagoda. Its white stems rival the Himalayan R. biflorus for autumn effect, whilst in summer the plant forms an elegant bush some 8 feet or 9 feet high, with attractive pinnate leaves. The young shoots are sometimes 10 feet long, and, branching at the upper half, terminate in graceful arched growths. The old stems should be removed as soon as the fruit is ripe. This work must be done with care, as the white substance on the bark is readily rubbed off. The plant was illustrated in *Gard. Chron.*, March 9, 1912, fig. 61, as an unnamed species. *K.*

The Week's Work.

FRUITS UNDER GLASS.

By E. Harriss, Gardener to Lady Wantage, Lockinge House, Wantage, Berkshire.

Early Peaches.—The temperatures of the houses which were closed early last month may be increased about 5°. During very mild weather the temperature may reach 60° during the day, but it should be 5° lower during the night. If possible, during the early stages of growth, warm the house by means of the pipes which are farthest away from the trees. It will be noticed that red-spider invariably appears first on those parts of the trees which are nearest to the hot-water pipes. In consequence of this, the pipes at the back and front of the house should be regulated by separate valves. Admit air during the forenoon whenever the weather is mild, but close the ventilators before the sun has lost its power. It is beneficial to open the top ventilators slightly at night. Spray the trees with lukewarm rain water on bright mornings, and keep the atmosphere moist by sprinkling the walls and paths in the house as often as necessary. Disbudding may be commenced when the shoots are about 1 inch long. One-third of the buds may be removed at this stage, and they should be taken chiefly from the undersides of the shoots. This work should be spread over several weeks, so that the trees may not receive a check. Always start the work at the top of the trees. Fumigate the house with a nicotine compound before the flowers expand to destroy any aphis that may be present. More than ordinary care is needed to ensure the flowers setting at this time of the year. During this stage the temperature should not fall below 55°. Ventilate the house carefully and keep the temperature as equable as possible. Pollinate the flowers at noon, brushing each flower with a rabbit's tail. Endeavour to set fruits on the upper sides of the shoots. Syringing should be discontinued whilst the trees are in flower, as the flowers set best when the atmosphere is dry.

Second Early Peaches.—The trees should be prepared for forcing early in the New Year. If the pruning, cleansing and tying of the shoots be finished at once, the house may be thrown open for a week or two prior to starting the trees into growth. When the buds show signs of swelling, close the front ventilators if the wind is cold and the weather frosty.

Vines.—Vines intended for planting in the spring should be cut back before the end of the year and the cut surfaces painted with styptic when they are dry. The vines may be plunged in ashes and left outdoors till a week or two before they are required for planting. Young vines which were planted last season should be pruned. The main rods may be cut back to about 2 or 3 feet, or even less, if they have not made satisfactory growth. These vines should not be allowed to fruit until they have grown for another season, and then only lightly. Overcropping young vines is a frequent cause of failure.

THE FLOWER GARDEN.

By J. G. Weston, Gardener to Lady Northcote, Eastwell Park, Kent.

Protecting Plants and Shrubs.—The time has arrived when severe weather may be expected. Therefore, protecting materials should be placed in readiness, but they should not be employed unless absolutely necessary. Chamærops Fortunei, C. humilis, Phormiums and Cordylines are much hardier than is generally believed, but it is well to give them a little protection during times of severe frosts. Do not afford too much covering to these plants, or they may become tender and be liable to injury when they are exposed again in the spring. For some years past I have placed dry Bracken Fern or, in the case of roots, dry leaves around the stems and bases of tender plants, keeping the leaves in position with branches of such evergreens as Rhododendrons and Laurel. Wire-netting may also be employed to prevent the leaves from being blown away by winds, and the netting will be hidden by the evergreens. Tender climbers on walls should be covered with mats or canvas, but these coverings should be removed whenever the weather permits. If dry Bracken and evergreen branches are used, the air will circulate freely about the plants and prevent them becoming tender. Coal-ashes are useful for protecting the roots of certain plants from frost.

Planting Climbers.—The present is a suitable time for planting many of the hardier climbers. Although it is advisable to delay the removal of tender kinds until the spring, the sites for these should be prepared now, so that there may be no delay when planting time arrives. As climbers occupy the ground for a long time, the soil should be well prepared and enriched. In all cases the ground should be trenched deeply; if the subsoil is of inferior quality, it should not be brought to the surface, but it should be well broken up with the spade. Wet ground should be drained. Plenty of decayed manure should be incorporated with the soil at the bottom of the trench, but it must not come in contact with the roots. The plants will be benefited by the manure after they have become established. The majority of climbers thrive in ordinary garden soil, but if the ground is poor, loam should be added before planting. If it is intended to plant peat-loving subjects, such as Lapagerias, the stations should be marked and a suitable compost provided. When planting wall climbers, introduce choice dwarf-growing shrubs at intervals to allow plenty of space at the top of the wall for the stronger-growing subjects, such as Clematis and Roses. Jasminum nudiflorum, Lonicera fragrantissima, and Chimonanthus fragrans should be planted for early blooming. Garrya elliptica is a very attractive wall plant: it produces its grey-green catkins in mid-winter. Magnolias are suitable shrubs for planting against walls, especially M. grandiflora. Spaces should be left for tender climbers, such as Solanum jasminoides, Cobæa scandens, Passifloras, Lophospermum scandens, and Eccremocarpus scaber.

THE ORCHID HOUSES.

By J. Collier, Gardener to Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Phaius. — These plants are still growing freely, but from now onwards until the early spring they will require very little water at the roots, provided their surroundings are kept moist: endeavour to keep the compost just moist. P. Cooksonii, P. Norman, P. Marthiæ, and P. amabilis are beautiful hybrids and very floriferous; they require far less room than plants of P. grandifolius and varieties of P. assamicus. Phaio-Calanthe Sanderiana, P.-C. Berryana, P.-C. Arnoldiæ, and P.-C. Colmanæ should be afforded similar treatment to the above. These plants are very subject to attacks of thrip and scale insects, which should be kept in check by sponging the leaves frequently with an insecticide. They should be grown in an intermediate temperature and afforded plenty of fresh air at all times, but they must not be exposed to cold draughts.

Miltonia. — Plants of Miltonia vexillaria and its hybrids are growing freely. An intermediate temperature is suitable for these Orchids, and the compost will not become dry so quickly as in a house where much fire heat is employed. Stand the plants in a light position and allow them to develop steadily. The young leaves frequently adhere to each other, and should be separated by means of the thin part of the handle of a budding knife. A brown, damp-looking, outer sheath at the base of the young growths often clasps the stem so tightly that the roots push upwards inside it instead of growing into the compost. This sheath should be removed in small pieces without causing injury to the plant. The above remarks apply also to M. Blueana, except that a slightly higher temperature should be afforded this plant. M. Roezlii needs a higher temperature and more atmospheric moisture than those mentioned above. The plant is more or less in active growth throughout the year, and the roots should be kept moist at all times. The foliage should be sprayed on all favourable occasions to keep down the attacks of insect pests. M. candida, M. Clowesii, M. Regnellii, M. Bluntii and others of this section should be staged in the intermediate house and kept on the dry side all through the winter.

Phalænopsis.—P. amabilis, P. Sander'ana, P. Schilleriana, P. Stuartiana, and P. leucorrhoda are in flower or developing their flower-spikes. These plants should be watered with great care during the winter, as an excess of moisture at the roots may set up decay in the leaves. The plants should be examined each morning, and if the Sphagnum-moss is dry it should be lightly sprinkled as soon as the temperature rises above 65°. At the same time damp the sides of the receptacles and the roots that are clinging to them with tepid rain-water. Care must be taken that the water does not lodge in the centres of the plant or in the axils of the leaves. The flower-spikes should not be allowed to remain on the plants for long after the flowers are developed or the plants will be weakened and permanently injured. These Orchids should be afforded a light position, but not exposed to direct sunshine. Certain of the green-leaved varieties, such as P. violacea, P. speciosa, P. Luddemanniana, P. Marie, and P. sumatrana are still growing actively, and should be afforded sufficient water to keep the Sphagnum-moss fresh and green. They must also be protected from direct sunshine even at this season. The surroundings of the plants should be damped on both mornings and afternoons, regulating the amount of moisture according to the weather. The bare spaces may be allowed to become dry for a short time during the middle of the day. The night temperature of the house during mild weather should be about 65°, with about 5° increase during the day. On very cold nights, when much fire-heat is necessary, a few degrees lower will suffice, for a close, hot, moist atmosphere is harmful. Admit fresh air to the house without causing cold draughts, opening the top ventilators slightly on the side of the house sheltered from the wind.

PLANTS UNDER GLASS.

By Thomas Stevenson, Gardener to E. Mocatta, Esq., Woburn Place, Addlestone, Surrey.

The Glasshouses.—The roof-glass outside soon becomes covered with soot and dirt in winter, especially in smoky districts, such as the neighbourhood of large towns. This deposit robs the plants of much light, and should be removed on frequent occasions. The glass outside should be wetted by means of the hose, scrubbed with a long-handled brush, similar to that used for cleaning railway carriages, and finally cleansed with a stream of clean water. During the next month or six weeks very little potting will be necessary in the houses, and the opportunity should be taken to give the interiors a thorough cleansing. It is best to empty the house of all the plants, as this will save much time, and prevent the foliage becoming splashed with dirty water. Scrub the paint-work and well wash every part of the house. If red spider, thrip, or mealy bug be present, the walls and woodwork should be syringed with paraffin and water. Opportunity should be taken to limewash the walls and paint the hot-water pipes, but this should be done before the paraffin is applied. When the work is finished, turn on the hot-water valves and open the ventilators for a day or two before introducing the plants again. In the meantime the plants themselves should be overhauled, the leaves sponged, and the pots washed, so that everything will be clean and tidy when the house is rearranged.

The Conservatory.—In most establishments there is a large demand for plants and flowers at Christmas; the conservatory, especially where it adjoins the dwelling-house, should be made as bright as possible at this season. Flowering plants, including Poinsettias, Euphorbias, Richardias, Chrysanthemums in variety, Primulas, Cyclamens, Freesias, Roman Hyacinths, Solanums, Coleus thyrsoideus, and Begonias may be used for indoor decorations, and the embellishment of the conservatory. There will probably be a demand for cut blooms at Christmas, and surplus plants of these subjects in frames and other structures will prove very useful.

Plants in Frames.—Frames are not so dry as plant-houses, and unless they are well furnished with hot-water pipes there is a danger from too much moisture in mild, wet weather. Because of this the plants need to be watered with extreme care. Bedding plants in frames should be examined frequently with a view to removing decaying foliage, as decay soon spreads. Pelargoniums should be afforded plenty of space to keep the growth stocky. Calceolarias, Veronicas, Pentstemons, Antirrhinums, and similar subjects in cold frames should be fully exposed during fine weather by removing the lights entirely. All these plants are well-rooted, and they should be kept as hardy as possible. Under this treatment they will not be so liable to injury during times of severe frost, when extra protection should be afforded them.

THE KITCHEN GARDEN.

By Edwin Beckett, Gardener to the Hon. Vicary Gibbs, Aldenham House, Hertfordshire.

Spinach.—Last year it was difficult to find a really healthy bed of winter Spinach; but this year the crops have done remarkably well, and promise to yield good supplies. Care should be exercised in the gathering; the largest leaves should be plucked separately, and the younger foliage handled with caution to prevent injury. At intervals, the hoe should be run over the ground between the rows, to break the surface, and enable the rain to be carried away more readily. The perpetual variety of Spinach, though not usually considered to be of a very high quality, is extremely hardy, and most useful in mid-winter. A few good rows will yield a surprisingly large quantity, and this sort should be used during severe weather, in order that the tenderer kind may not be gathered too closely. In case large quantities should be required, and crops show signs of not lasting well into the spring, it is a good plan to sow a few rows at this season in a portable frame on a very gentle hot-bed of leaves. The soil should be made up to within about 8 inches of the glass, and the plants thinned to a reasonable distance while the seedlings are quite young. Careful attention should be paid to watering and ventilation, but all coddling must be avoided.

Rhubarb. — In order to obtain satisfactory results in forcing, the crowns must be permitted a certain period of rest prior to introducing them to heat. It should be remembered that some varieties lend themselves more readily to forcing than others, and these should be selected for the purpose. The roots must be carefully dug up with as large a ball of earth as possible, and placed under a north wall. A little long litter should be strewn over them, and they should then be placed in the desired heat, to succeed the earliest batch. If a new plantation is necessary, the ground should be thoroughly trenched *now* to a good depth, and plenty of good farmyard manure dug in. The surface should then be strewn with a liberal supply of burnt garden refuse, and the ground left fallow until the time of planting.

Seeds.—It is often desirable to perpetuate special strains of certain kinds of vegetables, such as Peas, Beans, and Parsnips. The season has not been favourable for the ripening of seeds; those that have been harvested should be cleaned of rubbish and placed in packets duly labelled. Beans and Peas should be sorted, and small and worthless seeds rejected. Small seeds may be cleaned by passing them through sieves with different-sized mesh. The seed-room should be dry and not too warm. The seeds should be placed either in drawers or on shelves, where they may be handled readily when the time arrives for sowing. It is a suitable time for putting the seed-room in proper order and making alterations that may be an advantage. The old stocks should be examined, and worthless seeds discarded, to make room for the new seeds.

Potatos.—Potatos are best forced in pots or boxes, and if the "sets" are sprouted a commencement may be made. Pots 8 or 10 inches in diameter are the most suitable receptacles. They should be well drained and filled with a light compost, consisting of three parts well-decayed leaf-mould, one part sandy loam free from wireworm, and a sprinkling of soot. The pots should only be filled to three-parts their depth, to allow room for top-dressings after the plants are well advanced in growth. The soil should be made only moderately firm, but it should be well soaked with water. Moisture will not be needed again until the shoots appear above the soil. Place the pots in a moderately warm house; they may be stood under the plant stages if care is taken to prevent water from the plants above dripping on to the soil. Immediately the shoots appear, the plants should be removed to a position near to the roof glass. The temperature should be from 50° to 55°, and the atmosphere moist, but not too damp, as this would result in weak growth. Admit air when the weather is favourable. After a time the weaker shoots should be removed.

Celery. — The plants should be protected whenever the weather is very cold, but they should be exposed directly the frosts have disappeared again. If the soil is heavy, it should be loosened with a fork at the bottom of the ridges, to allow rain-water to pass away freely.

Onions. — The larger bulbs should be examined frequently, as many continued to grow after the ripening stage, owing to the damp weather. Decaying bulbs should be removed at once. Make a small sowing of Onions for use as salad.

Mushrooms.—The Mushroom house should not be kept too warm, but should be damped frequently. When Rhubarb is forced in this structure, slugs may be introduced, and these pests must be sought for and destroyed, or they will damage the young Mushrooms. As soon as the beds arrive in bearing, the covering material should be removed. Make fresh beds as soon as suitable material is available.

THE HARDY FRUIT GARDEN.

By F. Jordan, Gardener to Lady Nunburnholme, Warter Priory, Yorkshire.

Trees from the Nursery.—The nurseryman is often blamed for young fruit trees proving unsatisfactory, whereas the real cause may be something over which he has no control. For instance, injuries or delay suffered in transit, and keeping the roots for too long out of the ground after the trees are delivered are all harmful, and may result in failure. If planting is impossible when the trees are received, owing to the condition of the soil being unsuitable, the roots must receive attention. If the trees are frosted they should be placed in an open shed and well covered with litter until thawed. But, assuming they arrive in favourable weather, the package should be opened at once, and all damaged roots trimmed neatly. If the latter are very dry, they should be immersed in a tank of water, or dipped in stiff puddle for a short time. If the stations have been prepared beforehand, the trees may be planted as soon as the roots are partially dry again. Puddling is preferable at this season to watering, which causes the soil to be wet and cold for a considerable time afterwards. Trees received and planted early in the autumn do not often require these attentions, but those received in February or March, or at any date after the sap has commenced to rise, should always be treated in this manner. Staking is another important operation, for if the trees are not made secure after planting they may make but little progress. If tied loosely, the stems may be chafed through rubbing, but the tying should not be done so tightly that when the soil settles the roots are drawn through the soil.

Labelling.—The proper labelling of fruit trees is an important matter. The small paper tallies attached to the trees by the nurserymen soon perish, and should be replaced by permanent labels directly the planting is finished. It is advisable to make a plan of the plantation, showing the various trees and their names: the plan should be nailed on a board and hung up in the fruit room. Labels made of sheet lead, with the names stamped on them, are very durable. A little white paint smeared into the lettering will show up the names conspicuously. These labels may be made in the garden. But there are numerous other kinds on the market equally as serviceable. If the tallies are attached to the trees with wire, an examination should be made at least once a year to see that the wire is not injuring the bark. Lead wire is pliable, but it does not last so long as ordinary wire. The labels should be placed where they may be seen readily, and those attached to the trees always at about the same height.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the PUBLISHER, 41, Wellington Street, Covent Garden, W.C.

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

APPOINTMENTS.

MONDAY, DECEMBER 16—
Nat. Chrys. Soc. Executive Com. meet.

TUESDAY, DECEMBER 17—
Royal Hort. Soc. Coms. meet (no exhibition).

WEDNESDAY, DECEMBER 18—
Royal Meteorological Soc. meet.

THURSDAY, DECEMBER 19—Linnean Soc. meet.

Average Mean Temperature for the ensuing week deduced from observations during the last Fifty Years at Greenwich—40·5.

Actual Temperatures:—

London.—*Wednesday, December 11* (6 p.m.) Max. 52°; Min. 46°.

Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, December 12* (10 a.m.): Bar. 29·7°; Temp. 48°; *Weather*—Fine.

Provinces.—*Wednesday, December 11:* Max. 54° Shields Min. 47° Aberdeen.

SALES FOR THE ENSUING WEEK.

MONDAY and WEDNESDAY—
Rose Trees, Shrubs, Lilies and Bulbs, at Stevens's Auction Rooms, 38, King Street, Covent Garden, at 12.30.

MONDAY and FRIDAY—
Dutch Bulbs, Herbaceous and other Plants, at 12; Roses, at 1.30; at 67 & 68, Cheapside, E.C., by Protheroe & Morris.

TUESDAY—
The Greenhouses, Piping, Frames, Lights, Brickwork, &c., at the Nurseries, South Woodford, by Protheroe & Morris, at 12.

WEDNESDAY—
Hardy Bulbs, Perennials and Border Plants, &c., at 12; Palms and Flowering Shrubs, at 5; Special Sale of Roses, at 12.30; at Protheroe & Morris's rooms.
Palms, Azaleas and Rhododendrons, at Stevens's Auction Rooms, at 12.30.

THURSDAY—
Miscellaneous Bulbs and Roots, at 11; 3,316 cases of Japanese Liliums, at 2.30; at Protheroe & Morris's rooms.

Our Almanac. — We shall shortly issue a *Gardeners' Chronicle* Almanac for the year 1913. *In order to make it as useful as possible for reference, we shall be obliged if Secretaries of Horticultural, Botanical and Allied Societies, or any of our correspondents, will send us* IMMEDIATE INTIMATION *of all fixtures for the coming year.*

Catalogues and the Seed Supply. Gardeners are just now endeavouring to estimate their seed requirements for next season. The trade catalogues are in course of distribution, and orders will soon have to be despatched. The lists are sometimes made out in such a liberal manner as to satisfy all the desires of the cultivator, but in other cases the most careful consideration is necessary in order to keep the value of the order within the means of the purchaser. Every year the keen gardener feels a very reasonable desire to try a few of the season's novelties, some in the vegetable garden, others in the flower garden, but, unfortunately, the newest varieties, always dearer than standard sorts, are not easily obtainable by those whose annual expenditure on the garden is fixed at a moderate sum. So it is that the

out of a seed order, instead of being the easy matter it seems, is really one of those very difficult tasks that require as much time and thought as can be given them with due regard to other matters.

When we state that we have seen orders that were compiled with extreme care cast aside on reflection for others in which the adjustments seemed to promise to get just a little nearer the ideal it is probable that it will serve to remind many of our readers of experiences within their own recollections. So many variations are possible in an annual seed order for an average garden that probably no two persons would ever draft similar orders for the same garden; tastes differ in regard to desirable kinds, and the views of cultivators do not always agree as to what constitutes a sufficient quantity for a given purpose.

This latter thought leads us to observe that in some cases the means for purchasing a few extra novelties might possibly be saved by reducing the quantities of standard sorts until they represent the minimum that will give satisfaction; for it is to be remembered that unduly thick sowings give but poor results, and it is not good management to have a lot of seeds still unused at the end of the planting season.

We have referred to the difficulties of the seed order, but it must not be thought that the catalogues themselves do not provide liberal compensation. With what pleasure we look forward to them, and how eagerly we turn over the pages during these long, dark evenings. They seem to help us to form ideal garden pictures for the coming season; an illustration here and description there are destined to give us an interest in certain novelties which will last until we ourselves have found in what measure it is possible to realise the promises the catalogue holds out. "Castles in the air" some of the dreams of the long evenings may prove to be, but most of them will materialise, and next year as now the catalogues will quicken our interest as the horticultural heralds of summer.

Poring over the catalogues we are set thinking of whence all the new seeds come, and what conditions favour the production of plentiful harvests of good seeds. We are not able on this occasion to pursue the first question beyond stating that hundreds of acres of land are annually devoted to seed culture in these islands, and many thousands of trained men are engaged in the cultivation, harvesting, and cleaning of the seeds; whilst the machinery used in this latter process is not less ingenious than that employed in any other industry. But in regard to the further question which refers to the conditions favourable to the crops, we know that the principal influences are of a meteorological character. The proportion of dry and rainy weather, of sunshine and cloud—these are the main factors, beyond the selection of site and the exercise of good cultivation, that determine the quantity and quality of the yield. On another page

season in respect to some of the principal crops, both of flower and vegetable seeds, furnished by a correspondent with exceptional means of estimating the supplies. It is a matter for regret that there are great deficiencies to be faced, and it cannot be said, as last year, that compensation is to be found in the superior quality of the seeds.

In the first place, the weather during the winter of 1911-12 was comparatively mild, and the biennial plants were induced to make a certain amount of growth when they should have rested; consequently, severe weather which occurred in April caused serious injury to many kinds, including those which are usually hardy enough in normal conditions. April was followed by a drought which lasted for seven weeks, at a time of the year when rains were needed to induce the seeds of annuals to germinate and favour the planting out of seedling plants. Directly the long drought terminated there commenced a period of frequent rains, accompanied, during the latter part of July and in August, by unseasonable cold, which prevailed at a season when the hottest weather is usually experienced and vegetation is making rapid growth. During this period it was next to impossible to note any progress in growth, but happily September showed some improvement, and owing to the greater amount of sunshine the situation came to present a less serious aspect than threatened. Cool weather, of course, is not injurious to all crops in the same degree, and there are some classes of seeds which did not suffer nearly so much as in the hot summer of 1911.

To sum up, it is the early-flowering plants which seeded most sparingly, and later plants showed a little improvement. The crop of seed Peas was undoubtedly much better in quantity than the harvest produced last year, but there have been heavy losses during the cleaning operation which will reduce the supply of good seeds. The yield of Sweet Peas was extremely poor, and the crops in America and elsewhere were worse even than our own.

There is one matter connected with these successive years of poor crops that has a very serious aspect for the general cultivator, namely, the deterioration of stocks that necessarily follows. If a field of Cabbage or Beetroot, for example, has to pass through a season of extremes of weather, it is only the coarser and sturdier plants that survive. The more delicate plants die, and these latter belong often to the choicer strains, the result being that there is a marked difference between the parent stock seed and the produce. In some cases, also, carefully saved stock seed, the result of years of selection, is irretrievably lost.

All these matters will be in our minds as we peruse the catalogues, with their alluring descriptions and fascinating pictures, and cause us to feel at least some appreciation, and even sympathy, for those who in good seasons and bad contrive to supply us with good seed which shall spring

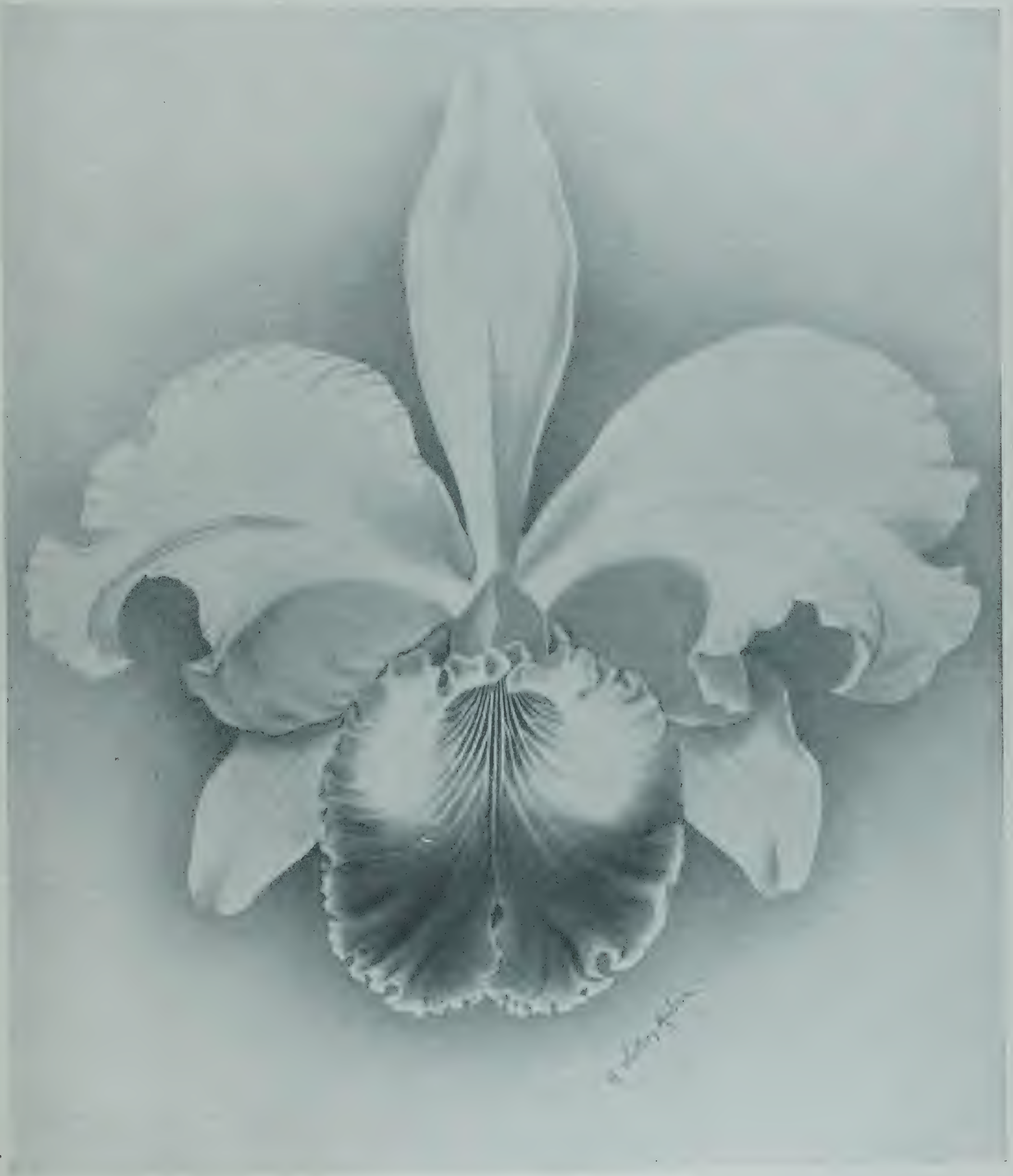


Fig. 193.—Cattleya Dupreana, "The Dell" variety: colour of sepals and petals deep rose; lip marked with crimson.

(For text see p. 442.)

Botany in N. S. Wales. The presidential address delivered to the Royal Society of New South Wales by Mr. J. H. Maiden, Government Botanist and Director of the Botanic Gardens, Sydney, will be read with interest and appreciation by botanists in all parts of the Empire. Among the subjects with which Mr. Maiden deals are Sir Joseph Hooker's contributions to Australian botany, which began as the result of the Antarctic voyage of the "Erebus" and "Terror" in 1839-1842, continued throughout Hooker's official life at Kew, and terminated only with his death. Mr. Maiden's address contains an interesting review of the development of the early scientific societies in New South Wales, of which the Philosophical Society of Australasia, founded in 1821, was the parent. Now, as in this country, the number of scientific societies is legion.

Of great interest also is Mr. Maiden's account of the Northern Territory Expedition of 1911, which was organised by the Commonwealth Government, and charged with the work of exploring the natural resources of the great Northern Territory. Accounts of the recent Antarctic expeditions of Scott, Amundsen, and other explorers are, of course, included in this section of Mr. Maiden's paper.

One of the most noteworthy changes which have occurred in the flora of New South Wales is the escape from cultivation and wide dissemination of the Prickly Pear, and it is natural that Mr. Maiden should devote a considerable part of his address to tracing the history of this instance of acclimatation. Of the many species of Opuntia which grow in Australian gardens the following have escaped, and established themselves in various parts of the Continent:—Opuntia aurantiaca, O. imbricata, O. nigricans, O. inermis, O. ficus-indica, O. tomentosa, O. monacantha, O. Dillenii, O. microdasys, an unnamed species of Opuntia, and Nopalea (Opuntia) dejecta.

The Prickly Pear of New South Wales legislation is Opuntia nigricans, and the pest Pear is a variety of O. inermis. The latter is the serious pest, both in New South Wales and Queensland, and has shown itself so adaptable to Australian conditions as to have become "one of the wonders of the world in plant acclimatation." On the recommendation of Mr. Maiden, a committee has been appointed to investigate means of exterminating this pest, and has secured the services of a botanist to carry out the experimental work necessary for this purpose.

Among other subjects dealt with in the address are the teaching of botany in Australian schools, the new census of New South Wales plants, and the functions of a botanic garden. With respect to the last topic, it is interesting to learn that the Sydney Botanic Garden, now in charge of Mr. Maiden, came into informal existence in 1788, at the time that the first fleet arrived at Sydney from Rio de Janeiro, bringing with it vegetable seeds from England and economic plants from South America. These were planted, and thus was formed the nucleus of the Botanic Garden. The formal establishment of the garden took place some 20

Coloured Plate.—The subject of the coloured plate to be published with the next issue is Momordica Charantia.

The Surveyors' Institution.—The next ordinary general meeting will be held in the Lecture Hall of the Institution on the 16th inst., when a paper will be read by Mr. M. C. Duchesne, entitled "The Value and Marketing of English Timber." The chair will be taken at five o'clock.

Market Gardeners' Compensation Bills Withdrawn.—In the House of Commons on Wednesday last, Mr. Cecil Harmsworth, speaking on behalf of Mr. Runciman, stated that it was the desire of the President of the Board of Agriculture that the Market Gardeners' Compensation Bills, Nos. 1 and 2, should be discharged from the committee. The Government have withdrawn these bills because of their contentious character, there being no prospect of carrying them into law. It is suggested that an agreed Bill should be introduced early in the New Year.

The Aftermath of War.—It is not only the trade in attar of Roses which is suffering from the Balkan war. The Eastern market in Prunes is idle, Figs from Smyrna are few, and, as we learn from Mr. H. Martinet's note in *Le Jardin,* Roumania is suffering from the fact that its harvest of Haricots is laid up at the wharves owing to the blockade. To the watcher of events from afar these may seem but small matters; but the reflective mind recognises that the failure of commerce is not the least tragic aspect of the grim disaster of war.

Biphosphate.—The new artificial phosphatic manure—biphosphate—which is produced as a by-product in the course of manufacture of nitrate of lime, is stated to contain 26 per cent. of phosphoric acid and 23.8 per cent. of nitrate of lime. Samples of this artificial fertiliser are on view at, and small quantities may be obtained by British manufacturers from, the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall Street, London, E.C.

Tobacco Growing in Ontario.—In the south-western peninsula of Ontario tobacco growing has become a very profitable branch of farming. In order to place the industry on a substantial footing, the Dominion Department of Agriculture some three years ago established an experimental station at Harrow, in the county of Essex. The station, which comprises 38½ acres, is carried on to some extent as an ordinary farm. Last year 15 acres were devoted to tobacco experiments, in which nine of improved Burley and six of Warne varieties were dealt with. Tests were made with different kinds of beds, methods of curing, various combinations of fertilisers, seed selection, combating the tobacco worm, &c. It has been found that white Burley is the better for the average farmer to grow. During the past three years the average price secured for this tobacco has been 1s. per lb., or an average gross return of £50 sterling per acre.

The Reims Congress.—The congress on electricity in relation to horticulture which was held recently at Reims, demonstrated the remarkable variety of the ways in which electricity serves the ends of horticulture. At the last session of the congress it was decided to establish prizes for researches in electro-culture, and to found an International Association to be devoted to the interests of this subject. A second

New Hybrid Freesias.—According to the Italian journal *La Campagna* a number of remarkably beautiful hybrid Freesias have been raised by M. Carlo Lorenz, a horticulturist of Palermo. The *Revue de l'Horticulture Belge* (Nov. 1, 1912), in giving an account of the new forms, states, on the authority of the Italian journal, that the hybrids in question are generic and that they have been produced by crossing Freesia refracta with Sparaxis tricolor. It is stated further that the cross which was made first in 1905, with the Freesia as seed parent, yielded three plants, of which two resembled Freesia refracta and the third possessed flowers of a deeper violet and with clearer stripes. From this plant all the hybrids have been obtained. In the varied structure of the corolla and its expanded form and consistence, as well as in the amount of branching and in the narrow, stiff leaves the hybrids resemble Sparaxis tricolor. It is to be regretted that the two Freesia-like plants were discarded, and it is to be hoped that more information will be forthcoming on the subject of these productions.

Frilled Cyclamen.—On several occasions (see *Gardeners' Chronicle,* March 5, 1898, p. 135, fig. 55) we have illustrated varieties of Cyclamen in which the flowers are modified in various directions, some of them having segments with beautifully-frilled margins. Flowers of this latter type have been sent recently by Mr. Jas. Hawkes, gardener to the Earl of Jersey, at Osterley Park, and they represent a very good strain. Some of the flowers were 3½ inches in diameter, of brilliant colours, and exhibited extraordinary fimbriation. Our correspondent states that he has tried to develop this strain for some years by crossing and seed selection, and he is satisfied that the flowers have such substance that they are capable of lasting an unusually long time in good condition

A Reserve of Wild Nature.—Under the above title the *Times* announced recently the gift—to the National Trust for places of historic interest or natural beauty—of Blakeney Point, Norfolk. The land thus vested in the National Trust lies on the north coast of Norfolk, and is about 1,000 acres in extent. The facts that Blakeney Point possesses an interesting maritime flora and is remarkable for the variety of its birds, make the gift, which is due to the generosity of the Fishmongers Company and of certain private individuals, a particularly valuable one.

Chrysanthemum Diseases.—In a report on the treatment of diseases of the Chrysanthemum, presented to the recent congress of Chrysanthemistes and summarised in *Le Jardin* (No. 619, December 5), Mr. Crepin recommends the following species: *Leaf-scorch* (Septoria Chrysanthemi): Treat by pulverisation on the upper and lower sides of the leaves of a mixture containing potassium penta-sulphide, permanganate of potash and water in the proportions of 1 ounce, ⅙ ounce and 2 gallons of the respective ingredients. This treatment should be followed by vigorous dredging with flowers of sulphur or nicotined sulphur. It serves also as a preventive against rust. *Rust*: When an outbreak of rust has occurred, Mr. Crepin recommends the use of the mixture described, with the addition thereto of ⅙ ounce of formalin (formaldehyde). The plant may be dipped and stirred in the mixture, and whilst the plant is still wet sulphur should be dredged upon it. Plants which have been brought into glasshouses or under shelter, if affected with any fungous disease, should be treated with a solution of per-

SCOTLAND.

FIRE IN A GLASGOW FRUIT WAKEHOUSE.

Through an outbreak of fire, which took place late on the night of Sunday, December 1, the large warehouse of Messrs. Simons, Jacob & Co., wholesale fruit merchants, Glasgow, was destroyed. Upwards of 200 firemen and 16 motor fire-engines were engaged, but all they could do was to prevent the fire from extending to adjoining properties.

The fire also destroyed the Central Commercial Salerooms, used by several firms for fruit sales. The premises of Messrs. Thomas Allen and Co., fruit merchants, in the lane between Candelriggs and Brunswick Street, were also damaged by fire and water. The damage is estimated at about £60,000.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Phalænopsis intermedia Portei (see fig. 194).—It may interest your readers to know that after five years resting the large plant of Phalænopsis intermedia Portei, which has been at Tring for over 30 years, has again flowered. It produced this year three large-branched spikes, with a total of 185 flowers and fully-developed buds. The largest spike has 13 branches with 84 flowers and buds, the next largest 7 branches with 61 flowers and buds, and the smallest 5 branches with 40 flowers and buds. The plant was among an importation of Phalænopsis Aphrodite sent home by Boxall to Messrs. Hugh Low & Co. some 32 years ago. *Walter Rothschild, Tring Park, December 9.*

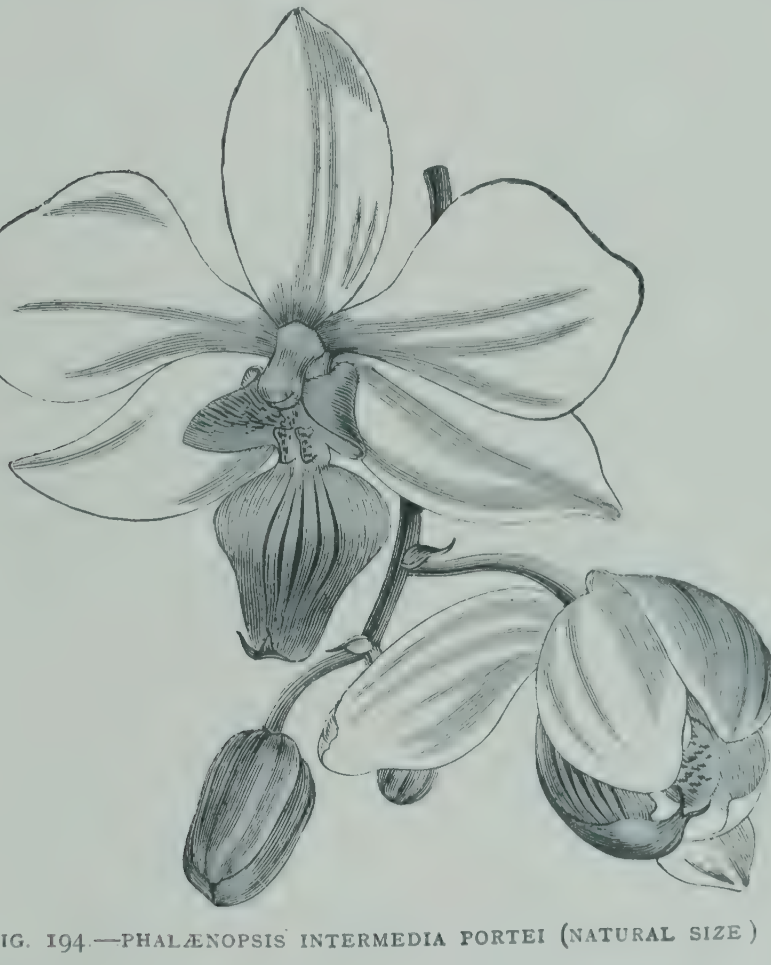


FIG. 194.—PHALÆNOPSIS INTERMEDIA PORTEI (NATURAL SIZE)

The R.H.S. Trials and Names. — Messrs. Kelway & Son raise a most important question in the last number of the *Gardeners' Chronicle*. I do not agree with all Messrs. Kelway say. I might ask why did not they themselves send a full collection of Delphiniums? Have they so many orders for them at a guinea a time that they could not spare them? The point of their letter is that in R.H.S. Records the name of the raiser should follow the variety obtaining an Award whenever possible, and I agree in this, and so I think will all fair-minded people. May I suggest to the R.H.S. that they take a leaf out of the book of the National Sweet Pea Society and record trials thus:—"Sweet Pea Countess Spencer (Cole-Sydenham, 1904)." Cole is the raiser and Sydenham the introducer in 1904. The R.H.S. could improve on this. It could give the raiser and, in their case, the sender's name in different type. It would run thus:—"Sweet Pea Countess Spencer (Cole—*Sydenham*), F.C.C., 1901." The information in some cases would be difficult to obtain, but if, when inviting trials, it was requested that the raiser's name in every known case be added after the name of the variety, many would be obtained and gradually a mass of valuable historical information would be accumulated. *W. Cuthbertson (of Dobbie & Co., Edinburgh).*

Hot-water Method of Forcing. — On October 25 last I lifted a fine plant of the common Lilac, also six specimens each of the varieties Charles X and Mme. Legraye and planted them in tubs. They were placed in a temperature averaging 65° and subjected twice daily to a heavy syringing of water warmed to 120°; the roots were also soaked once weekly with water at the same temperature. On November 26 I cut spikes of the common Lilac, there being over 300 inflorescences on the plant. The flowers of the other varieties were a little later. Although the blooms of the common variety are not large, they are very useful, and possess a delightful fragrance. I adopted the plan through reading the article in *Gardeners' Chronicle* on the use of hot water for forcing, in the issue for December 4, 1909, p. 378. *S. Gilthorpe, Nynehead Court Gardens, Wellington, Somerset.*

Hybrid Nomenclature (p. 431.)—There is little in Mr. Rolfe's remarks on this subject which might be referred to as matter of general interest. The Latinised names which he cites as being given by me were perfectly in order, as they applied to primary hybrids, and were not given to supersede previously-recorded names. But there is one remark which might be discussed with advantage, namely, his quotation from the Vienna rules: "Ternary hybrids, or those of a higher (more complex) order, are designated like ordinary hybrids." That implies that the more mixed the parentage the higher the order in their standing as hybrids." My opinion is that garden-raised plants of complex parentage are not hybrids at all in the true sense, and the term is only applied to them for convenience. The following extract from the "Rules of Nomenclature" at Brussels, 1910, clearly indicates the nature of the hybrid of a higher order:—"Ternary hybrids or those of a higher order (crosses between *species* of the same genus) are designated by a name or a formula." That is a very different thing, and it goes quite far enough. Indeed, I cannot see for what reason ternary hybrids were brought into the question. It is well known to those who are on the practical side of Orchid raising that the more complex the parentage, the more unreliable the progeny in any recognisable character, and so far from being of a "higher order," while there may be an occasional fine form, the bulk of a cherished batch sometimes gets put on the fire. Some discussion on this variability would be very interesting; I have notes on the subject which one would scarcely believe were they not well authenticated. *James O'Brien.*

———Formerly the practice was that botanists gave names to genera and species and gardeners gave names to varieties and "sorts." When hybrids were raised artificially, the gardeners gave them names also. Botanists looked on unconcernedly. A hybrid Rose, Rhododendron, Erica, Pelargonium, Calceolaria or Hippeastrum was to them of no more importance than a new Apple or Cabbage. They did not object to the use of Latin names such as bicolor, Broughtonii and hybrida. When they altered the names of Kentias, Latanias, Seaforthias and Geraniums, gardeners paid no heed. Orchids came into horticulture very gradually, and when they were new a botanist, generally Dr. Lindley, named them. He was succeeded by the autocrat, Reichenbach, who had a keen eye for differences, which led him to make too many genera and to see species where he should have seen varieties. This pleased the growers and dealers, of course. When the breeders got to work on Orchids, they obtained results which proved that a considerable number of these genera were so nearly related as to interbreed, a proof of blood relationship too close to admit of their standing as separate genera. The trouble began when botanists failed to recognise this. They preferred to look upon such hybrids as bigeneric, and gave them names to indicate this, such as Brasso-Cattleya, Epi-Cattleya, Sophro-Cattleya. The practical commonsense plan would have been to give the hybrid the same generic name as the parent it most resembled, seeing that names need not be pedigrees nor yet histories. Now we have such absurd names as Brasso-Cattleya-Lælia, Sophro-Cattleya-Lælia, and we may soon have Epi-Sophro-Brasso-Cattleya-Lælia! The same kind of nonsense occurs in the specific names of hybrids, as, for example, Cypripedium Leeano-Chamberlainianum, Lælio-Cattleya crispo-Schilleriana, and Brasso-Cattleya Digbyano-Mossiæ. Many years ago, a Daffodil conference was held for the purpose of setting the names of the plants in order. It was then decided to name all the hybrid and seedling Daffodils in the florist's, not the botanist's way. The late Professor Michael Foster, a gardener-botanist, held that such names should be easy to write, read and speak. This should be the one golden rule for all garden plant names. There is the very practical objection to these fearful Orchid names that they are the exact opposite to what the worthy Professor recommended. Gardeners are themselves largely to blame for this, because, instead of naming their home-bred Orchids, as breeders of other kinds of plants do, they asked the botanists to do it for them. I agree with much of what Mr. O'Brien says, and can also sympathise with Mr. Rolfe's defence of the plan adopted in the *Orchid Stud Book*, notwithstanding his effort to make us swallow Paphiopedilum and Phragmopedilum. I am heretic enough to say blow the conferences and confound the botanists who have helped to make Orchid names what so many of them are. Mr. O'Brien says we need a simple plan of naming over which there can be no dispute; I would go further by saying we require something more drastic to make the names of garden Orchids easy to read, write and speak. This is a matter that concerns the gardener and fancier, not the botanist. The leading breeders and growers should therefore confer and put the names in order, "mopping off" the long and ugly ones and substituting better, as was done in the case of Daffodils. Until this is done we shall continue to get more of the same objectionable names. Only last week two new Orchids were shown and certificated with the following names:—Sophro-Lælio-Cattleya Carna and Lælio-Cattleya Golden Oriole var. Ruby. I should have called them Cattleya Carna and Cattleya Ruby. *W. W.*

GRAPE MADRESFIELD COURT.—In Barron's *Vines and Vine Culture* a remarkable error respecting the cracking of the berries of Madresfield Court Grape remains uncorrected, even in the fifth or latest edition. How such an error has hitherto escaped the notice of the various reviewers of this standard book and has been allowed to be repeated in each of the subsequent editions remains a mystery. A paragraph in the cultural notes on Madresfield Court vine reads:—"If allowed to hang long, the berries are somewhat liable to crack." Such a statement is entirely inaccurate and misleading, for, as all good cultivators know, it is during the earliest stages of changing colour and whilst the berries are swelling a second time after the stoning process that any cracking of the berries takes place. Once the colouring and swelling are complete, no matter how long the Grapes may hang, no cracking takes place afterwards. The splitting is due entirely to wrong atmospheric conditions of the vineries from the very commencement when the grapes begin to change colour. Every season we are asked by numbers of growers—chiefly amateurs—the cause of their Grapes cracking, and, when informed of the true cause, they are somewhat puzzled. The mistake should be corrected in future editions. *W. Crump, Madresfield Court Gardens, Malvern.*

MR. H. W. ADNITT, RETIRING JOINT SECRETARY OF THE SHROPSHIRE HORTICULTURAL SOCIETY.

A STEP IN THE RIGHT DIRECTION.—All gardeners will note with pleasure that the Board of Agriculture are about to show their recognition of the importance of horticulture by appointing inspectors in this branch of their department. It is to be earnestly hoped that the Board will appoint good, practical men to the vacancies (as advertised in *Gardeners' Chronicle* for December 7), and will not follow the example of the London County Council and give the appointments to military officers. Gardeners and their calling have long been neglected, but it is now to be hoped that their worth and merit will in future be appreciated at their proper value. When one compares the results achieved by gardeners and the many difficulties they have to contend with, surely no one will excuse me of egotism when I claim that gardeners are, as a rule, men of grit and intelligence, whose services should be recognised and rewarded according to their full value, which has not hitherto been the case. *Wilmot H. Yates, Rotherfield Park, Hants.*

POTATO HAULM AS FOOD FOR COWS (see p. 431).—During the dry summer of 1911 I used several acres of Potato haulm as food for milch cows and young stock with good results. The Potatos had made much top growth, and by the second week in September I concluded the leaves had nearly fulfilled their function, and commenced cutting the haulm for the cows, as grass was very scarce. The animals appeared to appreciate their daily allowance, and repaid us for the treat of green food by giving additional milk. *E. Molyneux, Hampshire.*

SCARING BIRDS (see p. 392).—Whether "the gardener's first duty is towards his employer," as *A. C. B.* asserts, is open to question, and must be left to the conscience of each individual gardener to decide for himself. But gardeners, in common with all other men, have duties to their neighbours (i.e., the rest of the community) which are quite as important, but are apt to be forgotten. For instance, if a gardener finds that a certain kind of bird is destructive in his garden, is he justified in endeavouring to exterminate that kind of bird in his district, without regard to the probable fact that it is very useful to a neighbouring gardener, who grows some other kind of crop, which would be destroyed or seriously damaged by insects which form the favourite food of the bird in question? The obvious answer is: "No, certainly not; but he should take steps to keep the bird from his crops without endangering his neighbours'." Well, then, why doesn't he? The answer is again obvious: "To do so without killing off the bird would mean endless bother and expense, and it is much easier to kill the birds." The corollary to this is, of course, "Never mind the selfish and brutal side of the question, so long as *my* purpose is achieved, namely, the saving of my employer's crops." I mean no offence to any correspondent in thus writing, but wish to put before them a view of the case which is usually overlooked. I am glad Miss Gardiner has written, but surely a person need not be a "bird enthusiast" to appreciate the callous brutality of shooting a harmless and beautiful gull—scarcely "in self-defence," *A. C. B*!—to scare a few tits from one's Sweet Peas. I can imagine the hullabaloo *W. A. M.* and A. J. Elgar would kick up if someone were to shoot their pet dogs and cats—probably real nuisances to their neighbours!—to make rugs or doormats of, or to use for scaring cats or birds, respectively, as the case might be, from his garden. Yes, but, of course, we know those dogs and cats are private property and therefore sacred (!), whilst the wild birds—well, to whom do they belong? Certainly not to *A. J. E.* and *W. A. M.* more than to the rest of mankind. *C. Nicholson, Hale End, Chingford.*

THE SHROPSHIRE HORTICULTURAL SOCIETY.

RETIREMENT OF THE JOINT SECRETARIES.

OUR readers will hear with regret that Messrs. H. W. Adnitt and W. W. Naunton, the hon. secretaries of the Shropshire Horticultural Society, who have acted in that capacity from the establishment of the society, 38 years ago, have decided to resign these offices. Those who have followed the fortunes of the Shrewsbury shows, whether as judges, exhibitors, or journalists, know full well that the marvellous success which has been achieved is directly attributable to the business capacity, the horticultural sympathy, and the unvarying courtesy of the two principal officers.

Since the small and unpretentious beginning in the year 1875, the society has pursued its aims with uninterrupted success. During the period referred to, the total income has exceeded £131,000, and from its profits the committee has voted at various times donations amounting to nearly £14,000 to the Corporation of Shrewsbury for improving the show grounds, public buildings, and institutions of the town. But, beyond the financial assistance rendered locally, the general taste for horticulture has been encouraged by the splendid exhibitions held every year. They have attracted the best cultivators of horticultural produce in these islands, and it is not too much to say that the displays of indoor fruits have been unequalled for their superb quality. Messrs. Adnitt and Naunton gained and held the sympathy of exhibitors in a remarkable degree, and were ever looking for some means of adding new features to give fresh interest to their shows. Many years ago the development of the mixed groups of ornamental plants gave Shrewsbury a distinct prominence amongst provincial shows, and, later, the institution of the champion challenge class for Grapes caused the displays to be talked about wherever gardeners happened to meet. The Shropshire Society, too, was amongst the first to encourage high-class exhibits of vegetables, and the strict rules enforced in regard to this and all other sections of the exhibition had the effect of maintaining a very high standard. It is true that the exhibitions were accompanied by various kinds of amusement in the Quarry grounds; but if the society felt bound to have these for raising the funds that were necessary to success, it must be freely acknowledged that the hon. secretaries never failed to hold the horticultural exhibitions in the highest regard, and their efforts were always directed first to furthering the interests of those who visited the Quarry for the purpose of inspecting the show. Messrs. Adnitt and Naunton will carry with them in their retirement the good wishes and grateful recognition of all who know the splendid work they have done for the Shropshire Society and for horticultu

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

December 3.—*Present:* Mr. E. A. Bowles, M.A. (in the Chair); Sir Harry Veitch, Messrs. A. Worsley, G. Wilson, J. O'Brien, J. Fraser, J. T. Bennett-Poë, C. E. Shea, A. W. Sutton, W. Hales, J. Odell, R. Hooper Pearson, and F. J. Chittenden (hon. sec.).

Prunus Miqueliana.—Mr. G. Wilson drew attention to this beautiful shrub which flowers in the open in December in Sussex and elsewhere (see *Gardeners' Chronicle*, December 7, 1912.) Its appearance suggests a garden origin, for the flowers are semi-double.

Fern in bottle.—Mr. J. Fraser showed a specimen of a Fern, Cystopteris fragilis, growing in a bottle, in which it was found in a garden. Though this Fern usually loses its leaves in July, the present specimen was still green.

Orange-fruited Holly.—Mr. E. A. Bowles showed orange-coloured fruits from a Holly in his garden. The tree is probably identical with that referred to in Dallimore's *Holly, Yew and Box* under the name Ilex aquifolium fructu-aurantiaco. It is there suggested that this is a seedling from the yellow-fruited variety, and the tree in Mr. Bowles's garden is apparently of similar origin.

Lælia pumila × Lælio-Cattleya Ophir (Lælia xanthina × Cattleya aurea).—Mr. G. Wilson said this hybrid with cream-white sepals and petals and purple labellum was raised by Mr. R. G. Thwaites, of Streatham Hill, and was shown by him in support of his hypothesis that white flowers are produced by a mixture of red, blue, and yellow.

The committee will not meet on December 17, there being no general show on that day.

HORTICULTURAL CLUB.

December 3.—After the usual monthly dinner of this club, at which Sir Harry Veitch presided and upwards of fifty members and friends (including many ladies) were present, Mr. Arthur W. Sutton, F.L.S., gave a lecture entitled "My Desert Camping Tour to Mount Sinai," illustrated by a hundred splendid photographs taken by him *en route* and beautifully coloured. Mr. Sutton, who takes a particular interest in the evidence afforded in favour of the accuracy of biblical records by the actual localities to which they refer, explained at the outset that he was heavily handicapped in this direction by the shortness of time at his disposal and the difficulty he felt in not dwelling at too great a length on the many interesting points in this particular connection. The lecturer commenced with a map of the region which he had traversed circuitously for some 200 miles in company with Dr. Mackinnon, the well-known medical missionary of the Edinburgh Mission in Damascus. The first visit made was to the traditional spot where the passage of the Red Sea was effected by the Israelites. It would appear, however, that there are three places which claim to be the site of the passage. One, to the north, where the water is very narrow and shallow, is considered by some travellers as the most likely, as an exceptional state of tide and wind might have facilitated the passage, while the other two involve the traversing of deep water and a much greater distance. The views of the desert were excellent, apparently limitless streaks of barren sand without a trace of vegetation, alternating with views of brilliantly green oases of Palms, sometimes, thanks to a local supply of water and the generally warm climate, of such luxuriant growth as to be traversable only with difficulty. The general temperature varied from 100° in the shade during the day to very near the freezing point at night. The pervading conditions of sand and the consequent limitation to camels for transport of both travellers and their impedimenta rendered the whole journey a most difficult one, camel riding being so uncomfortable as to compel frequent descents for a rest and walking being in its turn equally exhausting, so that recourse to the camel's back for variety's sake involved no particular charm, and this, with short intervals of rest on the dry, heated plain and day after day, did but little to recommend the Sinai Desert as a popular resort. In time, however, Mount Hebron and its hills of brilliant red, interspersed with black and other coloured outcrops everywhere devoid of even a blade of grass, indicated the approach to Mount Sinai; at Mount Sinai, of course, the biblical records were brought home to the traveller most vividly by the character of the surroundings of these heights, and impressed the grandeur of the Bible story on the minds of the travellers. At Sinai both travellers and their guide and camel drivers enjoyed a welcome rest at the famous monastery prior to the return journey.

PERPETUAL-FLOWERING CARNATION.

ANNUAL DINNER AND GENERAL MEETING.

December 3.—About 30 members and friends of the above Society assembled at dinner on this date in the Holborn Restaurant, under the chairmanship of Mr. J. S. Brunton.

After the usual loyal toasts had been honoured, Mr. M. Todd, of Edinburgh, proposed "Success to the Perpetual-flowering Carnation Society." Mr. E. Hawes responded.

Mr. S. Mortimer proposed the health of the chairman of committee, Mr. J. S. Brunton, who had done so much for the Society. The toast was received with enthusiasm.

The annual general meeting followed the dinner. The report was read by the Hon. Secretary, Mr. E. F. Hawes, and passed. The Hon. Treasurer, Mr. L. J. Cook, presented the financial statement, which showed a small credit balance. All liabilities, said Mr. Cook, had been cleared off, in addition to the £25 voted to the Royal International Exhibition.

The election of officers followed. Lord Howard de Walden was unanimously re-elected president, and several new vice-presidents, including Sir Harry Veitch, were also elected. Mr. J. S. Brunton was re-appointed chairman, and Mr. W. E. Wallace vice-chairman. Mr. L. J. Cook was appointed hon. treasurer, Mr. Hawes having retired from the post, Mr. T. A. Weston was unanimously elected secretary. Mr. Hawes was appointed show superintendent. The General Committee was also elected, the retiring members again serving.

MR. W. W. NAUNTON, RETIRING JOINT SECRETARY OF THE SHROPSHIRE HORTICULTURAL SOCIETY.

THE CONFERENCE.

December 4.—There was a large attendance of the members at the conference, which was held in the Lecture Room of the Royal Horticultural Hall on the above date. Mr. J. S. Brunton presided, and Mr. J. Gardner, of Batsford Park Gardens, Gloucestershire, read a paper on "The Culture of Perpetual-flowering Carnations." We publish the following extracts:—

The Perpetual-flowering Carnation is fast gaining the position of the premier winter-flowering subject for the production of cut blooms. For the decoration of dwelling-rooms, dinner-tables, and similar purposes, the Carnation is unsurpassed by any other flower, and few other flowers continue in a fresh condition for so long a period. These qualities alone are sufficient to render it popular, without taking into account the fact that it is not a difficult plant to grow.

The same plants may be had in flower for 12 months, and, if they are well managed, they will produce blooms during the whole time. Not only do modern varieties produce superior blossoms, but in many cases the habit of growth and the constituents of the plants are distinctly in advance of the old-time favourites.

A matter that might be taken into consideration is the production of varieties with sweet scent; for, although a bloom may be perfect in shape, and the plants possess every good characteristic, if the flowers are scentless they are destitute of a most delightful charm. Whether they possess smooth-edged petals like May Day, or serrated edges like Baroness de Brienen, is really not an important matter, as there is room for both types, for they each appeal to different tastes.

It is essential to devote a suitable house to

Carnations if their cultivation is to be made a success, for it is impossible to grow them well in an indifferent greenhouse among a collection of miscellaneous plants. A span-roofed house provided with a centre stage, and a stage all round next to the outside, is suitable for growing these plants. The house should face to the south so as to obtain the maximum amount of sunshine during the winter, and be fitted with a 4-inch flow pipe under the outside stages, with the returns conducted under the centre stage to maintain the requisite amount of leaf in winter. The stages should be covered with fine shingle or small cinders. Both the top and bottom ventilators should be made to open outwards to the fullest extent.

The best way to make a start is to procure strong plants in small pots early in March; if treated properly they will make fine, bushy plants and commence to flower in October. In subsequent years, with the exception of purchasing any novelties that are required, it is preferable to raise one's own stock. The best time to commence this work is during the latter part of December, and cuttings may be inserted until March.

At Batsford we obtain good results by inserting cuttings in August, procured from plants growing in the open garden. The growths are generally firm and well matured at that season, and they make better plants than those rooted in the winter. By propagating in August, strong plants in 60's are obtained by October; these should be kept in a cool house during the winter, and, after the turn of the year, potted on.

When taking cuttings, it is essential to obtain them from plants that are vigorous and free from disease, so as to ensure the continuance of a healthy stock. Those from the centre part of the stem are the best; they should be removed when about 3 inches long, and prepared in the usual way. We obtain good results by inserting them singly in small thumb pots filled with a compost of loam, leaf-soil, and silver-sand in equal parts. The pots are plunged in fibre in a propagating frame, with a bottom heat of 60° and an overhead temperature of 55°. The frame is kept fairly close until they are rooted. A little air is admitted in the morning for an hour or two, and, at the same time, the condensed moisture is removed from the glass.

It is desirable to shade the cuttings lightly from bright sunshine, and give a gentle spraying overhead with the syringe if required. In such conditions they root readily in from three weeks to a month, when they should be gradually exposed to more air. Of course, this treatment varies a little according to circumstances. Pot the young plants on into 60's, using more loam and less sand in the compost, but make sure that they are moist at the root before being potted, and grow them on in a temperature of from 50° to 55°.

Some growers prefer to root their cuttings in sand only, and by this means more can be propagated in a given space. When this method is followed, the frame should be covered at the bottom with a layer 3 inches deep of firm, moist sand, and the cuttings rooted in the sand; but taking into account the fact that they have to be potted into very small pots before they can be placed in the 3-inch pots, it is doubtful if there is any advantage. When they are rooted in pots they can be potted on without much disturbance at the roots. When the young plants are 5 or 6 inches high, pinch out the tops to induce them to produce side shoots and form a bushy habit. They may also be stopped again later, but not after the end of June.

(To be concluded.)

CIRENCESTER AND DISTRICT GARDENERS'.

November 14.—The first open show of the above society was held in the Bingham Hall, Cirencester, on this date. The entries totalled 236 in 51 classes. Flowers and vegetables were well represented. Honorary exhibits of collections of flowers and plants were staged by Messrs. John Jefferies & Son, Royal Nurseries, and Messrs. Orpet & Son, Cirencester.

In the Chrysanthemum classes the principal prize-winners were Mrs. W. Cripps, the Hon. C. Biddulph, Capt. Gordon Dugdale, and Capt. H. Gordon.

For a miscellaneous group of plants Capt. H. Gordon was awarded the 1st prize, and Lord Grantley, Chesterton, the 2nd prize; and for table plants Mr. T. Kingscote, M.V.O., and Major Ripley were 1st and 2nd respectively.

The principal prizes in the fruit classes were won by the Hon. C. Biddulph, Mrs. W. Cripps, and Capt. Gordon Dugdale.

In the amateur section the chief prize-winners for flowers were Mrs. F. Hobbs, Mrs. Scotford Harmer, Mr. J. C. Eden, Mrs. H. T. Gardener, and Mrs. J. J. Grove.

NEWCASTLE CHRYSANTHEMUM.

November 20, 21.—The eighth annual exhibition of the Newcastle-on-Tyne and District Chrysanthemum Society was held at the Town Hall, Newcastle, on the above dates. The exhibits generally were very good, but in the open class for 36 blooms the competition was not so keen nor the exhibits quite so good, as on some previous occasions.

In the open class for 12 vases of Japanese Chrysanthemums, comprising not fewer than 12 varieties, three blooms in each vase, the Countess of Ravensworth, Cresswell Hall, Morpeth (gr. Mr. R. Addison), was placed 1st. The varieties Mrs. A. T. Miller, Lady Talbot, Bessie Godfrey, and Miss E. Fulton were especially fine. Dr. J. B. Simpson, Bradley Hall, Wylam (gr. Mr. J. Kerr), was placed 2nd, and Capt. Laycock, D.S.O., of Wiseton, Bawtry (gr. Mr. G. Musk), 3rd. The flowers of F. S. Vallis in this latter exhibit were awarded a Medal as the best blooms in the show.

For six vases of Japanese Chrysanthemums (various), the Countess of Ravensworth was again placed 1st, with a fine exhibit, in which the varieties Elsie Fulton, F. S. Vallis, and Lady Talbot were especially noticeable. The Rt. Hon. Walter Runciman, M.P. (gr. Mr. Askew), was placed 2nd, and Capt. Laycock 3rd.

For four vases of Japanese (various), the 1st prize was gained by C. Lacy-Thompson, Esq., Farlam Hall, Cumberland (gr. Mr. A. W. Appleton), and the 2nd by Capt. Laycock. For one vase of white Japanese, the Countess of Ravensworth was again successful, with "White Queen"; 2nd C. Lacy-Thompson, Esq. For three blooms of a yellow Japanese variety, Capt. Laycock was awarded the 1st prize. In the class for three blooms of Japanese varieties of any colour but yellow, Capt. Laycock was again placed 1st, and the Countess of Ravensworth 2nd. For four vases of Incurved blooms, the Rt. Hon. W. Runciman was awarded the 1st prize.

For two vases of Incurved varieties, the Rt. Hon. W. Runciman was placed 1st, and Capt. Laycock 2nd, whilst for six vases of single Chrysanthemums, Capt. Laycock was awarded the 1st prize and Lord Allendale the 2nd prize.

One section was open only to exhibitors from Northumberland and Durham. In the class for four vases of Japanese blooms, various, Dr. J. B. Simpson was placed 1st. He showed fine blooms of F. S. Vallis, Frances Jolliffe, and the Hon. Mrs. Lopes. The cup offered in this class is now Dr. Simpson's own property, as he has won it three times in succession. For four vases of Japanese blooms, open to exhibitors within a radius of three miles of Newcastle, the 1st prize was awarded to Mrs. Hunter, The Grange, Wickham.

The 15-guinea challenge cup offered for four plants was won by J. Readhead, Esq.; 2nd, Mr. Thompson, of South Shields. For a group of Chrysanthemums with foliage and other flowering plants, Mr. A. G. Bambridge was placed 1st, with a very artistically-arranged exhibit. 2nd, C. I. Kindell, Esq., Preston House, North Shields (gr. Mr. Hetherington).

A cup of the value of 10 guineas, and a money prize of £2 were offered for a table 6 feet by 4 feet, decorated with flowers. The 1st prize was won by Mr. Lovett (gr. to A. Collingwood, Esq., Lilburn Towers).

Fruit.—For two bunches of white Grapes, the 1st prize was won by the Earl of Durham, Lambton Castle (gr. Mr. W. Smith), and for two bunches of black Grapes C. I. Kindell, Esq., was placed 1st. For six dishes of cooking Apples, the Rt. Hon. Sir Edward Grey, Bart., Fallodon Hall (gr. Mr. J. Henderson), was awarded the 1st prize, and Dr. Stewart, Hexham (gr. Mr. Lloyd), the 2nd prize.

The North of England Horticultural Society awarded several Gold and Silver Medals. A Gold Medal was awarded to Lord Ridley for a miscellaneous group of flowers; another to Messrs. Finney, of Newcastle, for floral designs. Messrs. Sutton & Sons, Reading, were also awarded a Gold Medal for a collection of 75 varieties of Potatos; Mr. Lawrenson, of Newcastle, received a similar award for miscellaneous flowering and foliage plants. Silver Medals were awarded to Mr. W. A. Armstrong, Messrs. Mitchin & Co., Messrs. Dicksons, of Chester, and Messrs. W. J. Watson, Ltd., of Newcastle.

EDINBURGH SEED TRADE ASSISTANTS' ASSOCIATION.

December 6.—The 18th annual dinner of the Edinburgh Seed Trade Assistants was held in the Royal British Hotel, Princes Street, on this date. The company numbered 110. Mr. James Welsh (of Messrs. Dicksons and Co.) presided. Several employers were present.

Mr. David King, in proposing the toast of the evening, "The Seed Trade Assistants," said that Edinburgh assistants in the past had made a reputation for themselves and for Scottish trade in all parts of the world. Mr. James Lyon replied.

Mr. J. W. Forbes (Advocate) proposed the toast of "The Seed and Nursery Trade." Edinburgh, he said, was one of the great centres of the trade. On looking back some hundred years there were then only three or four firms of importance in the Edinburgh trade, and they are still in existence, but the number of firms had increased five or six times, which showed that Edinburgh was still upholding its great reputation. He referred also to several prominent seedsmen who had become distinguished citizens of Edinburgh. He coupled the toast with the name of Mr. A. Chalmers (of Messrs. Stewart and Co.), who, in replying, said that in the last few years trade had become very difficult. There used to be a time when they could calculate the seed crops with a fair amount of accuracy, but now it was impossible to make up a seed catalogue until a very short time before the seeds came in, as the seed market was so much larger that a shortage in one country made prices fluctuate greatly in all others.

SMITHFIELD CLUB.

December 9-13.—Whilst the chief interest in the Smithfield Show at the Royal Agricultural Hall, Islington, centred in the fat beasts, and especially in those exhibited from the Royal farms, there was much of horticultural interest. As usual, Messrs. Carter & Co., Raynes Park, displayed in a fascinating manner excellent examples of various root and stem vegetables grown from their seeds. Of the several kinds of Onions shown, we were especially interested in the variety Silver Ball, a round, flattish bulb, of good size, mild flavour, and with a skin as silvery as that of the well-known pickling variety. Onion "Carter's Record" should be a splendid exhibition variety; the bulbs were very large, solid, and heavy, and of handsome appearance. The Carrots, Summer Favourite and Red Elephant, were of immense size and vivid colour, but not at all gross. Not the least interesting portion of Messrs. Carter's exhibit was a Wardian case containing large numbers of seeds in various stages of germination.

One of the most valuable and instructive features in the stand of Messrs. Sutton & Sons, Reading, was the glass cases containing specimens of injurious insects and their ravages. Besides the "Flea" beetles, Carrot-root fly, and wireworms, of natural size, and also greatly enlarged, there were examples of the dreaded black scab or wart Potato disease. Of other exhibits by Messrs. Sutton, the Cyclamen in 48-sized pots bore very large but dainty flowers. Tomatos were firm and brightly coloured: the varieties were Winter Beauty, Princess of Wales, and Sutton's Abundance. Of the various Onions, the colour of the variety Crimson Globe attracted attention. Such garden Carrots as Sutton's Intermediate, although of much more than average size, seemed very ordinary beside the immense roots of the varieties grown for farm use.

Messrs. John K. King, Coggeshall, showed such varieties of Potato as Lord of the Isles, The Dean (a very dark purple), and King Edward VII. The Tomatos Lord Roberts and Day Dawn might well have been grown in

August. Onions and Carrots were also shown in excellent quality.

Messrs. Toogood & Sons, Southampton, included examples of lawn grass with the admirable Gourds, Vegetable Marrows, Tomatos, and Carrots.

Messrs. Fred. Smith & Co., Woodbridge, brought their gold medal exhibit of vegetables from Norwich, and added many bags of garden Pea seeds, and, in Ladysmith, a desirable late kidney Potato. The russet-skinned tubers are of very good shape and are shallow-eyed.

Messrs. E. Webb & Sons, Wordsley, Stourbridge, staged many varieties of Potato, including the varieties New Guardian, Stourbridge Glory, and Empire. The "Champion Prizetaker" Leeks were exceptionally long and very white. Besides immense Ailsa Craig Onions, the white Autumn Mammoth Cauliflowers were splendid.

Mr. Alex. Blatchford, Coventry, showed many excellent samples of Peas (Excelsior, Sherwood, and Fillbasket), Dwarf Beans (Early Prolific), and roots of Beet, Carrots, and other vegetables.

Messrs. Harrison & Sons, Leicester, also exhibited praiseworthy examples of high-quality Leeks, Carrots, Potatos, and Onions.

The various exhibits of Apples and Pears, chiefly of varieties which bear high colour, served to brighten the stands to an acceptable degree. The King's Acre Nursery Co., Hereford, showed such varieties of Apple as Gloria Mundi, Potts's Seedling, Scarlet Costara, and Devon Red, as well as young, vigorous trees ready for planting. Messrs. W. & J. Brown, Peterborough, arranged some very fine fruits and sturdy, well-trained trees, also the new Potato "Vitality," which was said to have been in full leaf as late as September 10. Messrs. W. Horne & Sons, Cliffe, Rochester, also showed trees and fruits of Apples and Pears. The fruits of Apples Lord Derby, Charles Ross, and Annie Elizabeth were excellent. Messrs. W. Seabrook & Sons, Chelmsford, displayed many standard varieties of Apples. Messrs. Dicksons, Ltd., Chester, contributed fruit trees, forest trees, and the flowers of grasses suitable for permanent pastures.

There were more exhibitors solely of Potatos than usual. Messrs. Fidler & Sons, Reading, had a very large assortment, which included almost every variety worth growing. The tubers of Dreadnought, Invincible, and King George V were clean and good, as also were those of the dark-skinned varieties Herd Laddie, Edgecote, and the pink Leda. Mr. A. Findlay, Auchtermuchty, Scotland, made a speciality of his "New Late Kidney." Potatos were also shown by Mr. R. W. Green, Wisbech; Messrs. J. Poad & Sons, Lundin Links, Fife; and Mr. G. R. Sharp, Blackford, Perth. Messrs. E. W. King, Coggeshall, included Carrots and Onions with their Potatos. Mr. T. A. Scarlett, Edinburgh, exhibited bushes and bottled fruits of a new Black Currant "Edina," and "Champion" Brussels Sprouts, as well as many Potato tubers. Messrs. W. Davie & Co., Haddington, Scotland, and Messrs. Little, Ballantyne & Co., Carlisle, also showed Potatos. The latter firm also had especially good fruit and forest trees. Mr. E. H. Taylor, Welwyn, Herts., exhibited an Apple-storing cabinet, bee appliances, and bouquet wire. The British Basket Co., Crownpoint Works, Glasgow, showed many forms of chip baskets. Messrs. Cardon & Gresno, Chancery Lane, London, set up various samples of Chestnut-wood and wire fencing. Mr. John Unite, Edgware Road, London, had quite a shop, showing canvas for tents, plant-protecting and various tying materials. The Four Oaks Company, Sutton Coldfield, demonstrated the value of their pneumatic sprayers and syringes; and Messrs. Marshall & Phelp, Aberdeen, illustrated the handiness of the "Fountain" spraying and lime-washing machine. Mr. A. E. Hawker, Mark Lane, London, had on view edible Peas and other seeds treated with Corvusine, which not only protects them from birds and mice, but also assists germination.

Chemical and other manures were shown by "Fisons'," Ipswich, and Messrs. Knights &

CONFERENCE ON ORCHIDS.

THE PHYSIOLOGY OF FERTILISATION.*

It has been known for many years that in the majority of plants pollination is essential to seed-formation. The fact is so well established and familiar that pollination, which in strictness denotes the transference of pollen from the stamens to the stigma of a flower, is used sometimes as the equivalent of the term fertilisation.

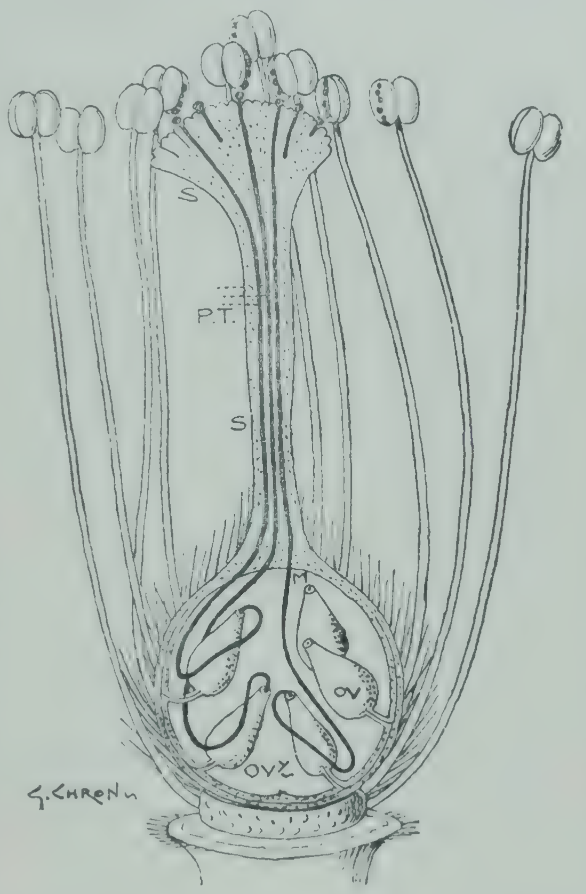


Fig. 197.—Diagrammatic section of flower of Helianthemum marifolium showing pollen tubes.

(P.T.) growing through the style (S), passing into the ovary (OVy) and each reaching the opening (micropyle M) of an ovule (OV), modified (After Kerner & Oliver).

Nevertheless, as we shall see, pollination is but one of a series of somewhat complicated processes which result ultimately in seed formation. Although the dependence of seed-production on pollination has long been known, the nature of the process which intervenes between these events baffled the curiosity and ingenuity of man until comparatively recent times. Of late years our knowledge of these intervening processes has increased very greatly, and since that knowledge is both interesting in itself and useful in its practical bearings, I propose to sketch in rapid outline the figure of our understanding of the process of fertilisation.

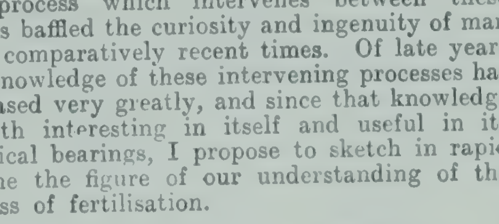


Fig. 198.—Phalænopsis amabilis.

(A column) stigma unpollinated; (B column) 6 days after pollination of stigma; (C column) 6 days after "pollination" with dead pollen; (D) section of column after "pollinating" with cotton wool soaked with pollen extract (After Fitting).

The foundations of our knowledge of the nature of fertilisation were laid a little over three-quarters of a century ago by Amici, who, in 1830, discovered that pollen grains deposited on the stigma send out tubes which pass down the style, enter the ovary and make their way unerringly to the open ends of the ovules (fig. 197). It was not till many years after Amici's time that the real act of fertilisation was observed. Some 40 years ago it was discovered that the pollen tube, after passing through the opening in the coats of an ovule, becomes thin and soft and discharges part of its contents into the ovule.

At the upper end of the ovule lies a minute but definite mass of living substance or protoplasm, which we may describe as the representative of the seed-parent or as the egg-cell. To this egg-cell a similar living mass derived from the pollen tube makes its way, and so representative cells, one of the seed parent and one of the pollen parent, lie close beside one another. Each consists of a denser central body called the nucleus and a more watery envelope of cytoplasm. The two representative cells fuse with one another—nucleus with nucleus and cytoplasm with cytoplasm—and so form a single cell with a single nucleus. This cell, which because of its twofold origin is called the zygote, undergoes growth and division and gives rise to the embryo or plantlet of the seed. The adult plant is derived exclusively from the zygote, which in turn is formed by the union of the two representative cells.

The essentials of this process of fusion are to be observed not in flowering plants only, but also in all but the most rudimentary of the lower plants. These essentials are to be discovered also in animals. Hence we may define fertilisation as the fusion of two representative sexual cells or gametes, and the production therefrom of a single cell, the zygote, which is an incipient individual.

Since the female gamete or egg cell of an ovule does not as a rule form an embryo unless it encounters and fuses with a male gamete, it is evident that this fusion is the essential part of fertilisation and that pollination and the growth of the pollen tubes are but the necessary means to that end. One of the most striking facts which emerge from these discoveries is that both parents make material contributions to the substance of the offspring.

The nuclear contributions appear to be equal in amount and generally similar in kind, but the contributions of cytoplasm made by the two gametes or sexual cells appear to be unequal: the cytoplasm of the egg-cell being considerable, that of the male gamete being smaller in amount and in some cases nil. In the similarity between the nuclei we have the explanation of the well-known fact that, of the many characters exhibited by the offspring, some are derived from one parent, others from the other parent, and others again are intermediate between the paternal and maternal characters. We are not yet, however, in a position to assert that *all* the characters of the offspring are contributed in equal measure by the two parents.

On this subject, however, despite its interest and importance, we cannot dwell now; for we must continue our sketch of the phenomena of fertilisation. Inasmuch as the normal egg-cell does not develop unless it has united with the male gamete, it follows that the latter not only contributes living material toward the upbuilding of the future plant, but that the male cell also provokes or stimulates the egg-cell to grow into the embryo. It might be supposed, and indeed it was supposed until recently, that the growth of the fertilised egg-cell is the direct consequence of the yoking together of the male and female gametes. Just as one horse alone might not be able to draw a cart which two horses may pull easily, so it might be imagined that the female or egg-cell alone is unable to carry on the work of development, which work is easy to the combined forces of the male and female gametes. Recent experiments have shown that this supposition is not correct, and that the development of the egg-cell to form the embryo is due to a definite shock or stimulus which it receives from the male gamete. In terms of our simile, under the powerful stimulus of the whip the single horse may make a supreme effort and set the cart in motion. We are therefore obliged to recognise that fertilisation has a two-fold significance. On the one hand it allows of the formation of an individual which derives materially from the father and the mother and hence may exhibit paternal and maternal characters; on the other hand the male gamete in entering into the egg-cell exerts a stimulus which starts the latter on a course of growth and division resulting in the formation of the embryo.

The evidence in support of the latter conclusion is clear. Thus it has been shown in certain animals and plants that the fertilisation stimulus may be imparted to the egg cell artificially and without the aid of the male gamete.

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* Lecture by Frederick Keeble, Sc.D., Professor of Botany,

For example, Loeb has demonstrated that, if the egg cells of sea-urchins be taken from the parent and placed in sea water free altogether from male cells, an alteration either of the composition or concentration of the sea water suffices to cause the egg cells to develop into embryos. Nature herself provides us with illustrations of a similar phenomenon in the case of parthenogenetic plants. Species of Hieracium, Alchemilla, Taraxacum, and other plants are known to give rise to good seed even though the egg cells be not fertilised. Similar examples of the parthenogenetic development of eggs into embryos are known among various kinds of animals, and particularly in insects—for instance, in the summer broods of aphides.

In parthenogenetic plants and animals the egg cells carry, as it were, their own stimulus to development; or rather the egg cells of such plants differ from those of the majority of organisms in that they retain the power of development, and are not compelled to await the advent of the male gamete in order to resume their growth. Even more remarkable than the chemical embryos just described are the mechanical embryos which have been produced recently by Bataillon. This experimenter removed the ripe, unfertilised eggs from the frog, punctured each egg by means of a fine glass needle and covered the eggs with water. Of the punctured eggs many died, but out of 1000 which were operated upon no fewer than 120 hatched into tadpoles and actually reached the stage at which the legs are developed and the tail is disappearing.

Astonishing and well-nigh incredible as are these facts they are attested so well that they must be accepted. They are, moreover, susceptible of interpretation in terms of the hypothesis at which we have arrived already. The needle-puncture sets up a disturbance in the egg cell, the effect of which is similar to that exerted by the entrance of the male gamete into the egg cell. In either case, growth and division occur, and the embryo is produced. Needless to say, a tadpole begotten in this manner constitutes a novel and absolute kind of orphan, namely, one that never had a father. It can possess maternal characters only.

Finally, it may be mentioned that Delage and others have succeeded in raising larval animals (Echinoderms) by fertilising egg cells deprived of their nucleus by normal male cells. Such larvæ have nuclear material of paternal origin only, and on current hypothesis they should exhibit paternal characters only.

We are now in a position to state with clearness the significance of fertilisation. By the fusion of the nucleus of the male and female gametes parental characters are transmitted to the offspring; by the entry of the male cell into the egg cell the latter is provoked or stimulated to form the embryo. The stimulation is of a chemical or mechanical nature, and may be brought about by artificial means.

That these conclusions apply also to plants there can be no doubt, and it is by no means improbable that the experimenter of to-morrow may be able to induce plants to develop seed by chemical or mechanical stimulation similar to that which, as we have seen, has proved effective in the lower animals.

It is possible, however, that this experiment has been performed already by Nature herself in the case of Zygopetalum Mackayi.

So far as I know, this Orchid does not produce seed unless it is pollinated. When it is pollinated with the pollen of certain other species, i.e., Odontoglossum crispum, it produces good seed, but to use the words of my friend Mr. O'Brien, the extent of whose knowledge of Orchids is rivalled only by the generosity with which he imparts it, "the progeny still remain Zygopetalum Mackayi, with only sufficient suggestion of a difference in the flowers to prove that the cross has been made. This cross has been made several times with the same result, and other combinations have given rise also to the same progeny." As a contribution to the explanation of this remarkable behaviour, I would offer the following suggestions:—First, that the offspring of the cross Zygopetalum Mackayi by Odontoglossum crispum are pure Zygopetalum Mackayi; second, that the effect of the pollen of the Odontoglossum is that of Bataillon's needle; the pollen or pollen tubes, although they make no material contribution to the egg cell, give the fertilisation-stimulus without which the egg cells of Zygopetalum are unable to develop. Given this stimulus the egg cells develop parthenogenetically. I am willing to admit, however, that the behaviour of this remarkable plant may be yet more subtle than this, but into a discussion of these subtleties this is not the place to enter. The suggestion just offered, that the only part or lot that Odontoglossum crispum has in the fertilisation of Zygopetalum Mackayi is in providing a fertilisation-stimulus, may appear far-fetched to any but those acquainted practically with the ways of Orchids.

Those who work with more torpid, less highly-strung plants may be disposed to ask what justification is there for the suggestion that the pollen of Odontoglossum crispum deposited in the stigmatic surface of Zygopetalum Mackayi may, whilst failing to effect fertilisation, yet act as a stimulus to the parthenogenetic development of the egg cells of that plant.

But the man who works among Orchids will not be disposed to be so sceptical. He is aware of the fact that a fly or even specks of dust settling on the stigma may provoke changes in the flower similar to those which follow on pollination. A striking illustration is provided by the specimens of Odontoglossum crispum, bearing both normal white and canary yellow flowers, which are sent frequently to the *Gardeners' Chronicle* by growers who want to know whether the yellow flowers represent a sport. As is known to experienced Orchidists the latter colour is assumed by the flower as a consequence of pollination. It may also be induced, as the specimens show, by a contact-stimulus set up by dust or grit falling on the stigma. Having in view such facts as these and also their application to the case of Zygopetalum Mackayi, it will, I think, be of interest if I bring this paper to a close by describing the progress of attempts to unravel the several processes which are set going in the floral mechanism as a consequence of pollination.

All gardeners know that pollination does indeed set going a long series of changes in the flower and even in the neighbouring parts of the plant.

It is a well-known fact, for example, that many pollinated flowers wither more rapidly than unpollinated flowers.

So marked, indeed, is the difference between pollinated and unpollinated flowers in this respect, that it is worth while in the case of certain self-fertilised flowers to prevent pollination by the removal of the pistil or stamens.

Again, it is a notorious fact that some seedless fruits, certain Grapes, Currants, &c., do not swell unless they are pollinated. Pollination is useless so far as inducing seed formation is concerned, but it nevertheless fulfils the secondary purpose, in some seedless fruits, of giving rise to a chemical stimulus under which the fruit walls swell and become fleshy or succulent.

These illustrations, which might, of course, be multiplied, serve to demonstrate that pollination, beside bringing about fertilisation, sets up disturbances in the flower, and even in other parts of the plant.

The nature of these disturbances has been investigated recently in Orchids and other plants, and as a result of these investigations, although they leave much unexplained, we know definitely that pollination may bring about three types of events. First, fertilisation, of which we have treated already. Second, changes due to the contact of pollen with the stigmatic surface. Third, results which may be described as intoxications, or responses to chemical stimulation. Illustrations of marked results arising as the consequence of mere contact of the pollen with the stigmatic surface are exhibited by plants such as Mimulus, Orchids, and doubtless many others.

Place a little of its own pollen on the stigma lobes of Mimulus cardinalis, and they begin to close. If more pollen be placed on the lobes they close sooner, and remain closed longer. If much pollen be used in the experiment the lobes remain closed; if only a little be placed on the stigma, the lobes separate after a short time.

Careful experiments by Lutz have shown that the closing movement is due to a contact stimulus. As has been known for a long time, the closing movement of the stigma lobes of Mimulus and similar plants with sensitive stigmas may be brought about by stroking the surface of the stigma with the finger-nail or with a knife.

The cells of the stigmatic surface are in tension, and charged with water. The irritation, either by a load of pollen or by stroking or scratching, brings about a discharge of water from these cells. Those of the upper surface lose more, and contract more, and, shortening, pull the lower surfaces upwards till the lobes meet.

Any pollen, live or dead, will serve to bring about this closure, but unless the pollen used be alive and that of the species itself, the stigma lobes, after a longer or shorter interval, separate once again from one another. That is to say, the shrunk cells re-absorb water, return to their original size, and push the lower surface outward and downward.

But if a good load of pollen of Mimulus cardinalis be put on the stigma of a flower of that plant, the stigma lobes close, and open no more. Here we have an illustration of the second of our three results of pollination, namely, that of intoxication. I do not suggest that the failure to re-open means that the stigma of Mimulus is plunged in a drunken sleep; but that the failure of the lobes to separate is due to the fact that the pollen excretes a poisonous substance which brings about a disorganisation of some of the cells of the stigma, as a result of which they can no longer absorb water, hence cannot press back the appressed lobes. That this explanation is correct is demonstrated by the fact that a watery extract of the pollen suffices to bring about both a closure and a failure to reopen; the former by setting up a contact-stimulus; the latter by poisoning certain of the cells of the stigma, killing them, and thus rendering them incapable of absorbing water.

Toxic actions of this kind would appear to be the key to the explanation of many of the most curious phenomena bearing on pollination. It is well known, for example, that in certain Orchids, Oncidium flexuosum and others, to put the plant's own pollen on the stigmatic surface is to poison it. The flower withers prematurely and fails to set seed (see Darwin's *Annuals and Plants under Domestication*, vol. 2, p. 115).

It is just possible, as suggested by Fitting, that sterility may not infrequently be due to a similar cause, and that it might be worth the while of anyone who wished to obtain seed of a sterile form of Orchid, or other plant, to immerse the pollinia, or pollen, in water or a weak sugar solution for three or four hours, in order to remove the toxic substance before using the pollen for breeding purposes. Again, it appears probable that such a toxic action may be reciprocal; that is, that the stigma may, upon occasion, exercise a poisonous influence on, and so prevent the development of, the pollen. Here, again, artifice may perhaps be used to overcome the difficulty. If the stigmatic surface were wiped clean of its sticky fluid, and if, in place of that fluid, other from the stigma of the pollen parent were smeared on the stigmatic surface, it is possible that subsequent pollination might result in fertilisation. Only experiment can show whether either of these suggested methods would prove of use, and such experiments are for the botanist rather than the grower to carry out.

No plants show better than the Orchids the diverse effects of pollination, and inasmuch as these effects have been analysed carefully by Fitting, they must be described, albeit, briefly.

The chief changes induced by pollination of Orchids are: premature withering of the flower, swelling of the tissues of the column so as to enclose the stigmatic surface, swelling and greening of the ovary, and development of the ovules. Fitting worked with species such as Phalænopsis violacea and P. amabilis, the unpollinated flowers of which, in their native habitat, persist for a month or more. He showed that withering, as I have indicated already, is the result of contact-stimulus. It is induced when not only living, but also dead pollen, or even grains of sand, are placed on the stigmatic surface. Although the withering effect is due also to a contact or wound-stimulus applied to the stigmatic surface, the second consequence of pollination, the arching of the column over the stigmatic surface (fig. 198D), is not. This effect is not induced by sand or other fine particles, although it is produced by the plant's own pollen which has been killed by exposure to steam or chloroform. It is the result of a chemical stimulus or intoxication, as is proved by the fact that a watery extract of the plant's pollen, if put on the stigma, induces

Thus a little cotton wool which has been dipped in such an extract, suffices, when placed on the stigma, not only to produce withering by its contact effect, but also to produce the swelling of the column by its chemical effect.

Further, the swelling and greening of the ovary only occur after the pollen-tubes have grown some way down towards the ovary, and these changes are to be attributed to yet another chemical effect produced by substances excreted by the developing pollen tubes.

Such, in brief, are the facts which recent research has brought to light with respect to the significance of fertilisation, and the origin of the accessory effects of pollination. They show in graphic way what a highly organised mechanism is the flower. They indicate that it is attuned to respond in definite manner to different kinds of stimulation, and they prove that many responses on the part of the plant are called forth by definite chemical substances. Although our knowledge is yet too imperfect for it to be of evident service to the Orchid raiser, it is not without promise that it may throw light on the strange phenomena of sterility, and perhaps provide us with means of overcoming that refractoriness. Thus we may anticipate the making of yet more wonderful mongrels than those which now delight the amateur, confound the botanist, and confuse the student of nomenclature.

Mr. O'Brien said he was afraid that in the case of the Zygopetalum he was not in a position to carry the subject much further. As regards the general question of obtaining mature fruits by irritation of the stigmatic surface by means of grit or a similar substance, in the place of pollen, he could give particulars of some interesting experiments which he made some 40 years ago, in one of which fertilisation (proved by the withering of the labellum) took place even without irritation of the stigma. The subject chosen was Miltonia Russelliana, the least showy of the M. Clowesii section; the petals in this variety are thrust forward above the labellum, and guard the column from the approach of insects, unless the invader, in search of food, thrusts the petals aside. Mr. O'Brien said he had found that pushing aside the petals by means of a pencil had the effect of inducing the labellum to wither immediately, although the stigmatic surface had not been touched.

In fact, in this instance, and also in cases where fully-grown fruits were obtained without the use of pollen, there was evidence that the tissues concerned in reproduction acted as though proper fertilisation had taken place, and each function was duly carried out on this assumption, though fertile seeds were not produced.

That false fertilisation may occur also in a wild state was clearly indicated by the late Consul F. C. Lehmann, who, remarking on the comparative paucity of seed-vessels in the best type of Odontoglossum crispum, stated that he had nevertheless occasionally seen small batches laden with fruits, and that these were invariably to be found in exposed situations, where dust and grit were blown about in large quantities by the wind.

With regard to the flower of Phalænopsis, which Professor Keeble had shown with segments withering after fertilisation, this was of the P. Aphrodite section, which has membranous segments. The other section, having waxlike sepals and petals, did not wither, but the colour faded, the flowers becoming green, and in some instances indistinguishable from the foliage. In both cases, the principle was the same; that attractive features, when no longer needed, were dispensed with.

Obituary.

JAMES WATSON.—*Horticulture* records the death of this florist, at Settle, U.S.A. Mr. Watson, who was 77 years of age, was born in England.

WALTER S. NICHOL.—We learn from *The Florists' Exchange* of the death of this nurseryman at Barrington, Rhode Island, on the 12th ult. Mr. Nichol was a native of England, and accompanied his parents, who settled in America when he was five years of age. He was for two years Master of the Patrons of Husbandry and a member of the Rhode Island Agricultural Society.

MARKETS.

COVENT GARDEN, *December 11.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	3 6- 5 0
Azalea, per dozen bunches ...	4 -0 5 0
Bouvardia, per dz. bunches ...	6 0- 7 0
— white and coloured ...	6 0 -8 0
Camellias, white, per dozen ...	1 6- 2 0
Carnations, per dozen blooms, best American varieties ...	2 0- 2 6
— smaller, per doz. bunches	15 0-18 0
— Carola (crimson), extra large	4 0- 5 0
— Malmaison, p. doz. blooms:	
— — pink ...	12 0-15 0
Chrysanthemums, per dozen:	
— white	2 0- 4 0
— pink	2 0- 4 0
— yellow	1 6- 3 0
— bronze... ...	2 0- 4 0
— white, per doz. bunches ...	10 0-15 0
— coloured ...	9 0-18 0
Daffodils, per doz. blooms	1 6- 1 9
Eucharis, per. doz.	2 6- 3 0
Freesia, white, per doz. bunches...	2 6- 3 0
Gardenias, per box of 15 and 18 blooms ...	3 0- 6 0
Gerbera Hybrid, p. doz.	2 6 —
Honesty, p. bunch	1 0- 1 6
Hyacinth Roman, per dz. bnchs.	15 0-18 0
Lapagerias, white, per dozen ...	2 6 —
Lilium auratum, per bunch ...	4 0- 5 0
— longiflorum, per doz., long	2 6- 3 0
— — short ...	2 0- 2 6
— lancifolium alba, long ...	2 0 —

	s.d. s.d.
Lilium lancifolium alba, short ...	2 0 —
— speciosum rubrum, per dz.:	
— long	2 0 —
— short	1 0- 1 3
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	12 0-18 0
Lily of the Valley. p. doz. bnchs:	
— special... ...	10 0-12 0
— ordinary ...	8 0- 9 0
Mignonette, per doz. bunches...	3 0- 4 0
Orchids, Cattleya, per doz. ...	10 0-12 0
— Cypripedium	2 6 —
— Odontoglossum crispum ...	3 0- 4 0
Pelargoniums, per dozen bunches ...	4 0- 5 0
— Double Scarlet	8 0 —
Poinsettias, per dozen blooms	9 0-10 0
Roses, 12 blooms:	
— Mrs. Ward ...	2 6 —
— Bridesmaid,	3 0- 4 0
— C. Mermet ...	4 0 —
— Liberty ...	4 0- 6 0
— Madame A. Chatenay ...	3 0- 6 0
— Niphetos ...	2 0- 2 6
— Richmond ...	4 0- 6 0
— Sunburst ...	5 0- 7 0
— Sunrise ...	2 6 —
— Kaiserine ...	3 0- 6 0
Spiræa (Astilbe) japonica, per dz. bunches ...	6 0- 8 0
Tuberose, p. doz. blooms, long...	0 8- 0 9
— — short ...	0 5- 0 6
Tulips, red, p. doz. bunches ...	12 0-15 0
— white	15 0-18 0
Violets, per dozen bunches ...	4 0 —
— Princess of Wales, per dz. bunches ...	4 0 -6 0

French Flowers: Average Wholesale Prices.

	s.d. s.d.
Anemone, double pink, per doz.	3 0- 4 0
Lilac, white, per bunch	3 6- 4 0
— mauve	4 0- 4 6
Marguerite, yellow, per doz. bnchs	2 6- 3 0
Mimosa, pr. bunch	0 9- 1-0
Narcissus, Paper White, pr. pad, 48 bunches ...	12 0-14 0

	s.d. s.d.
Narcissus, Soleil d'Or, per doz.	3 0- 3 6
— yellow	8 0- 9 0
Ranunculus, dble scarlet, per dz. bunches ...	8 0-12 0
Roses, Safrano, pkts. of 24 blms.	3 0- 3 6
Violets, per pad of 48 and 60 bchs.	6 0- 7 0
— Parma, large bunches, each	4 6 —

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches ...	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0-18 0
— Sprengeri ...	10 0-12 0
Berberis, natural, per doz. bnchs	3 0- 4 0

	s.d. s.d.
Carnation foliage, doz. bunches...	3 0 —
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	8 0-12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, gross bnchs.	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Azalea, white and coloured, per dozen pots ...	30 0-36 0
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, per dozen... ...	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated ...	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen ...	9 0-12 0
Chrysanthemums, 48's ...	6 0-12 0

	s.d. s.d.
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ...	2 6-10 6
Croton, per dozen	18 0-30 0
Cyclamens, 48's ...	10 0-12 0
Cyperus alternifolius, p. dz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0-12 0
Erica hyemalis ...	15 0-18 0
— nivalis	15 0-18 0
— — 60's ...	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's ...	12 0-15 0
— — in thumbs	3 6- 4 0
— — 60's ...	6 0- 8 0

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, per doz.	6 0 —
Ferns, choicer sorts, per doz. ...	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Hyacinths, white, in pots, per dozen	12 0-15 0
— Roman... ...	2 0- 2 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0

	s.d. s.d.
Lilium lancifolium rubrum in pts., per dozen ...	18 0-21 0
— lancifolium alba. in pts., dz.	18 0-21 0
Lilium longiflorum, per dozen ...	18 0-30 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's ...	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Scarlet Tulips or Bulbs, per box of 24's	4 0- 4 6
Solanum, 48's, per dozen	10 0-12 0
Spiræa japonica, per dozen pots	6 0- 8 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 0- 4 0
— Cox's Orange, ½ bushel ...	6 0-10 0
— Cooking, per bushel	2 0- 4 0
— Wenatchee, p. case	7 6- 8 6
— American, brls.	27 0-30 0
— Californian Newtowns, case	7 0- 8 0
— Nova Scotian, per barrel ...	13 0-15 6
— Oregon, Newtown Pipp., cs.	10 0-11 0
Bananas, bunch:	
— Doubles ...	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured...	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 6
Dates, per dozen...	2 9- 3 0
Egyptian, p. cwt.	25 0 —
Figs (Italian), bxs.	0 6- 1 0
Cranberries, per case	9 0-14 0
Grape Fruit, case:	
— 96's	8 0-18 0
— 80's	
— 64's	
— 54's	
— per dozen ...	4 0- 6 0
Grapes (English), per lb.:	
— Canon Hall ...	2 9- 7 0
— Muscats ...	2 9- 7 0
— Black Alicante	0 6- 1 6
— Almeria, barrel	12 0-18 0
— Colman ...	0 8- 2 6
— Lisbon, case ...	7 0- 8 6

	s.d. s.d.
Lemons, per case:	
— Malaga ...	16 0 —
Lemons, Messina, per case ...	8 6-24 0
Melons, Spanish, per case ...	14 0 —
Medlars, per crate	4 0 —
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt....	54 0-62 0
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 3- 0 4
— Chestnuts, bg.	14 0-26 0
— Walnuts	
— French, per cwt.	30 0 —
— Naples, p. cwt.	64 0 —
Lychees, 1lb. box...	1 6 —
Oranges:	
— Jaffa, per case	6 6- 7 6
— Jamaica, case	8 6-12 0
— Mandarines, p. box	0 8- 5 6
— Denia, per case	15 0-26 0
— Californian. Seedless, case	16 0-17 0
Pears:	
— French, per box	3 0 —
— — per crate ...	6 0- 8 0
— Californian	
— Doyenné du Comice, p. case	12 0-14 6
— French Doyenné du Comice per crate ...	5 6- 6 6
— Dutch Catillac, ½ bushel ...	3 6 —
— American, per barrel	7 0- 8 0
Pineapples, St. Michael ...	3 0- 5 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	4 3- 4 6
Sprue, per bundle	0 8 —
Artichokes (Globe), per dozen ...	2 6- 3 0
— French ...	2 0- 2 6
— ground, ½ bus.	1 0 —
— Batavia, p. dz.	0 6 —
— — French, doz.	1 0 —
Beans:	
— French, p. pkt.	0 4- 0 5
— Guernsey, lb.	1 9 —
— Madeira, per handle	3 0- 3 6
Beetroot, p. bushel	1 6 —
Cabbages, p. tally	2 6 —
— boxes	1 0- 2 0
— Red, per dozen	1 0 —
Carrots (English), pr. doz. bun....	1 6- 2 6
— dirty, per bag...	2 6 —
— washed, bag ...	3 0 —
Cauliflowers per	
— tally	7 0-10 0
— boxes	2 3- 4 6
— Cornish, crate	3 0- 4 0
— Italian, crate...	2 9 —
Celery, per dozen "fans" ...	12 0-15 0
— dirty	9 0 —
Celeriac, per doz.	1 0- 1 6
— French, per dozen	2 6 —
Cucumbers, p. flat	7 0- 9 0
Endive, per dozen	0 6 —
— French p. doz.	1 0 —
Greens, per bushel	1 0 —
— bags	1 6 —
Herbs (sweet), packets., per gross	10 0 —
Horseradish, 12 bundles ...	12 0 —
Leeks, per doz. ...	1 6- 2 0
Lettuce (English), Cabbage, p. b.	1 6- 2 0

	s.d. s.d.
Lettuce, French, per crate ...	3 0 —
Mint, p. dz. bnchs.	3 0 —
Mushrooms, cultivated, per lb.	0 10- 1 0
Mustard and Cress, p. dz. punnets	0 4- 0 6
Onions (English) per bag ...	3 6 —
— per bushel ...	2 0 —
— Picklers, per bag	4 0 —
— (Spring), per doz. bunches	2 0 —
— (Spanish). case	4 6- 5 6
— Dutch, bags ...	2 6 —
— Guernsey, p. lb	2 0 —
Peas, French, pad of 10 lb. ...	5 0 —
Parsley, per doz. bunches ...	2 0 —
Parsnips, per bag	2 0 —
— per bushel ...	1 0 —
Radishes (English) per dozen ...	0 10- 1 0
Sage, per dozen ...	2 0 —
Savoys, per. tally	4 0 —
— per box ...	2 0 —
Seakale, punnets...	1 0- 1 6
Spinach, ½ bushel	2 6- 3 0
Sprouts, ½ bushel...	1 0- 1 3
— bags	1 6- 2 0
Scotch Kale, busl.	1 0 —
Tomatos, p. dz. lbs.:	
— (English) ...	3 6- 4 6
— (Canary) per bundle... ...	10 0-15 0
Thyme, dz. bnchs.	2 0 —
Turnips (English), per dz. bunches	1 3- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Turnip tops, bushel	1 0- 1 6
— per bag ...	2 6 —
Watercress, p. dz. bunches ...	0 4- 0 5

Remarks—English Apples are arriving in very large quantities. Many of the varieties are keeping badly, and great difficulty is experienced in disposing of them; the varieties Dumelow's Seedling (Wellington) and Bramley's Seedling are exceptions. There are large consignments of Apples from Washington State and British Columbia, the fruits being well graded and attractively packed in boxes. Apples in barrels from Nova Scotia consist of the varieties Fallawater, King of the Pippins and Blenheim Pippin. Varieties from the United States are principally York Imperial and Albemarle, two popular sorts. Supplies of English Pears are finished. Imported Pears consist of the following varieties:—Doyenné du Comice, Winter Nelis, Glou Morceau, Easter Beurré and Keiffer. Oranges from Spain promise well; these fruits are arriving from Jamaica, California (Seedless), and the Canary Islands, whilst there is the small but popular Tangerine variety. English Gros Colman and Black Alicante Grapes are very plentiful indeed; the supply is abnormal for the time of the year. Muscat of Alexandria and Canon Hall Muscat are limited supplies, but there are sufficient bunches to meet the demand. Belgian growers are sending very good samples of Gros Colman Grapes. Teneriffe Tomatos continue to arrive in an excellent condition. Cobnuts and Brazils are dearer, but supplies and prices of other nuts are about the same as last week. Dwarf Madeira Beans received this week are of better quality. Supplies of Beans from the Channel Islands have been fewer during the past week. French vegetables, principally salads, have met with a better demand. Supplies of ordinary vegetables, with the exception of Cauliflowers, are much in excess of the demand. Holly and Mistleto are arriving in the market in large quantities. Holly is exceptionally well berried this year. *E. H. R., Covent Garden, December 11, 1912.*

Potatos.

	per cwt. s.d. s.d.		per bag. s.d. s.d.
Bedfords	4 0- 4 6	Dutch	2 9- 3 6
Kents	4 0- 5 0	Belgian	3 0- 3 9
Blacklands ...	3 6- 3 9	German	3 9- 4 9
Lincolns	3 6- 5 0	Dunbars	6 0- 6 6
King Edward ...	4 0- 4 9	Scotch (grey soil)	4 0- 4 9

Remarks.—Prices are about the same as last week, and trade remains quiet. Large numbers of Potatos are arriving from Holland, Germany and Belgium. *Edward J. Newborn, Covent Garden and St. Pancras, December 11, 1912.*

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending December 7, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—The conditions were generally very dull and unsettled. Snow fell over all the north-western, northern, and eastern districts early in the week, and subsequently rain was experienced almost daily in Ireland and the west and north-west of Great Britain, and rather frequently in the south and south-east. In the east of Scotland, however, the major portion of the period was dry. Thunder and heavy hail occurred at Bath on the 6th.

The *temperature* was low at the commencement of the period, the thermometer falling to 8° in Scotland E. and England N.W. to 11° in Scotland W. and 15° in Scotland N., and to about 20° in many other districts. In the English Channel, however, the lowest reading was 35°. After the 1st the temperature fluctuated rapidly, but was generally above freezing point except for a time in Scotland. The highest of the maxima, which were recorded at most stations on the 4th, ranged from 57° in England N.W. and over Ireland to 51° in Scotland N. The temperature as a whole was below the average in Scotland and in England N.E., and above it elsewhere. The lowest grass readings were 4° at Worksop, 1° at West Linton and Newton Rigg, 10° at Burnley, Aspatria, and Blackpool, and 11° at Glasgow and Southport. The temperature of the soil at a depth of 1 foot was below the normal at all stations, and was also below it at many stations at a depth of 4 feet.

The *mean temperature of the sea.*—On nearly all parts of the coast the temperature of the water was below the normal, and in most places it was lower than during the corresponding week of last year. At Plymouth, Scilly, and Seafield the means for the week ranged from between 50° and 51°, but at Cromarty it was only 39°.

The *rainfall* was less than normal in Great Britain, above it in Ireland. On the 3rd as much as 0·9 inch fell at Fort William, followed by 1·7 inch on the 4th.

The *bright sunshine* was less than the average. In Scotland W. and at several stations in the Midlands and north of England there was none. In England N.E. the mean daily amount was only 0·1 hour, and in England N.E. 0·2 hour. The highest percentage of the possible duration, 17 and 15, occurred in Ireland S. and England S.E.

THE WEATHER IN WEST HERTS.

Week ending December 11.

Six days in succession of the same temperature.—The past week has been warm almost throughout, both during the day time and at night. For six consecutive days the highest reading in the thermometer screen only varied 1°, from 50° to 51°. On the warmest night the exposed thermometer only fell to 38°, which is 10° higher than the average minimum reading of that thermometer for the month. The ground is now 2° warmer at 2 feet deep, and 4° warmer at 1 foot deep, than is seasonable. Rain has fallen on each of the last six days, but to the total depth of only about half-an-inch. During the week 3½ gallons of rainwater has come through the bare soil percolation gauge, and 3 gallons through that on which short grass is growing. The sun shone on an average for only six minutes a day, which is more than an hour a day short of the mean duration for the same period in December. There were five sunless days, and on the brightest day the sun shone for only 25 minutes. Light airs as a rule prevailed, the direction of those light airs being principally some point between S. and W. The mean amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by 5 per cent. The last Rose bloom of the year growing in the open ground in my garden was destroyed by rain on the 9th inst., or five days earlier than the average date of its destruction in the previous 27 years, and seven weeks earlier than last year. *E. M., Berkhamsted, December 11, 1912.*

ANSWERS TO CORRESPONDENTS.

Anthurium: *J. C. N.* The specimen is a normal inflorescence of Anthurium magnificum, with its long, narrow bract. The plant is usually grown for its large, handsome foliage, and as the inflorescences are unattractive they are usually pinched out when young to give increased vigour to the leaves. From your question "as to when it can be induced to produce its red flowers," we suspect that you have confused the plant with either A. Scherzerianum or A. Andreanum. In any case your plant will not produce any other kind of inflorescence than the one you send us.

Book: *C. S. & Co.* The text in the 3rd edition of *Systema Horti-cultural* differs only here and there from the 1st edition, but it includes in addition a short chapter on seasons of sowing, and also the "Gardener's Monthly Directions." There is another edition which includes chapters on "A Catalogue of Seeds, &c.," another of "Housed Greens, &c." "Sold by Mr. George Rickets, Gardener at the Hand in Hogsden without Bishopsgate, London, the Great Collector and Improver of the Beauties of a Garden." Your copy being dilapidated may be worth from 8s. to 10s.

Chrysanthemums for South Africa: *J. B. K.* You will experience considerable trouble in exporting Chrysanthemums to South Africa, for it may be necessary to first obtain a permit from the Governor or Consul General of the district. Small, hardy, well-established plants will best survive the journey, which occupies three weeks. Practically all varieties do well in that country. Your best plan is to send them through some trade grower who has experience in dispatching plants to that country.

Diseased Cattleya Leaves: *E. B.* We have been successful in rearing the adult insects from the first specimens which you submitted for examination. The insect is one of the small flea-beetles belonging to the Halticidæ, and is in many ways related to the Turnip flea-beetle Phyllotreta nemorum. Like the latter, it possesses the power of jumping, flying and feigning death. It seems, moreover, to complete the whole of its life cycle within the leaf, so that it is difficult to advise any practical means for its destruction. Insecticides applied to the surface of the leaves would not destroy the insects in the interior without seriously or permanently injuring the plant. Fumigation with hydrocyanic acid gas might possibly destroy the beetles, but the best plan is to burn the infested foliage.

Grape Vines: *T.C.* Vines should receive an annual cleansing. Mealy bug, red spider, and thrips are the chief pests of the Grape, and these insects or their eggs may be concealed in the bark whilst the vines are dormant. The pests will increase rapidly when forcing is commenced. If the vines are quite clean you need not remove the outer bark, but as a precaution the rods should be scrubbed thoroughly with a stiff brush.

Grapes: *J. C.* The shrivelling is not due to the presence of either a fungus or an insect, and must be the outcome of something affecting growth.

Hedychium Hybrids: *Dr. R. F. S., Bombay.* The hybrid Hedychiums mentioned in the article on the tropical Water Lily house at Kew (p. 294) cannot be obtained from nurserymen, as they are not in commerce. The authorities at Kew often exchange plants; you should therefore write to the Director for small portions of these hybrids, offering something in exchange. You may be able to offer Indian plants in exchange.

Late Dessert Apple: *J. D. C.* Your difficulty in keeping dessert Apples without shrivelling may be due to gathering the fruits before they are perfectly ripe. If you wish to keep dessert Apples until late in the season the fruits should be thinned and the crop allowed to remain on the trees for as long a time as possible. The trees need to be mulched and well watered in summer. The fruit room should not be too dry; it is a good plan to place the fruits on damp bricks. Certain varieties are more liable to shrivel than others. Those you name are amongst the best keepers, but you might try the following sorts:—Sanspareil, Old Winter Nonpareil, March Pippin, Lord Hindlip, King of Tompkins County (this is rather a delicate variety, but it is worthy of a trial), D'Arcy Spice, Allen's Everlasting, and King's Acre Pippin.

Lily of the Valley Unhealthy: *G. M.* No disease is present: the trouble is due to some wrong cultural treatment.

Names of Plants: *Burton.* 1, Pseudotsuga Douglasii; 2, Cupressus Lawsoniana; 3, Thuya plicata; 4, Abies Nordmanniana; 5, Picea Alcockiana; 6 and 7, Cupressus Lawsoniana var.; 8, Cedrus atlantica glauca; 9, C. atlantica; 10, Cupressus nootkatensis var. pendula; 11, Juniperus sp., perhaps a form of virginiana; 12, Picea alba; 13, Tsuga Pattoniana; 14, a glaucous form of T. Pattoniana; 15, Cupressus Lawsoniana. [Thanks for donation of 2s. 6d. for R.G.O.F. box.—Eds.]—*W. B.* Ornithogalum lacteum. Sprays are often put on board the mail steamers at Cape Town and arrive in England in fresh condition.—*E. H. M. H.* Impatiens Sultani.—*F. T.* 1, Epidendrum nemorale; 2, Oncidium candidum.—*J. W. W.* Ornithogalum lacteum.

Palm Leaves with Brown Tips: *W. B.* The trouble has been caused by some check to the plant. The removal of 12 large leaves may have caused the damage, but brown tips on the leaves are generally the result of improper watering. Two much or two little moisture at the roots results in the leaves dying at the tips. An excess of manure, a dry atmosphere, and cold are contributory causes.

Pines: *J. W. Wilson.* We believe that the spherical objects attached to the leaves of the Pines are the eggs of some kind of spider, but they were crushed, so that we cannot be absolutely certain as to their identity. Place uninjured eggs in a glass vessel plugged with cotton wool, and allow them to hatch.

Pruning Thuyas: *A. S.* The Thuyas and Retinosporas may be hard pruned at any time during the winter when the weather is mild, but the earlier the work is done the better will be the results.

Raspberry Canes: *G. E. G.* The white patches are caused by a destructive fungus, Hendersonia rubi, which also attacks the Loganberry. Spray the plants with Bordeaux mixture twice before the flowers open. Old canes should be removed as soon as possible after the crop is gathered, to prevent the disease spreading to the younger canes.

Retail Fruit, Flower and Vegetable Business: *N. J. F.* The amount of the turnover mentioned in your note is fairly satisfactory for a small business of this kind, provided it is a correct weekly average. If the shop is situated in a good district of the large town you mention, and an examination of the books shows conclusively that a good profit may be made, you might safely embark in the business. Your capital is sufficient seeing that the business is a ready-money concern.

Richardia Dying: *Thanet*: The roots are injured by the fungus Rhizoctinia. Cut off the diseased roots, and repot the plant in soil containing a small quantity of flowers of sulphur.

Rose Sinica Anemone: *C. P.* It is not uncommon to find an occasional flower of this variety late in the autumn, but not such numbers as you describe. The general method of flowering of this Rose is not unlike that of the Multiflora and Wichuraiana varieties, that is the flowers are normally produced on the end of short laterals proceeding from the strong shoots of the previous year. Late in the season one or two buds on these sub-laterals behind the node that has flowered frequently put out fresh growths carrying a few leaves which are evidently potentially flowering shoots, although the majority of them are sterile, or come blind. Now and again one of these shoots from the sub-laterals will carry a bud which is capable of opening if the weather is favourable.

Communications Received.—H. R.—Learner—T. W.—C.—J. C. H.—T. A. D. P.—M. K. B.—R. J. W.—G. P.—W. A. C.—J. O.—E. R. J.—W. R. D.—C. P. R.—A. R. W.—A. O.—W. A. M.—T. E. W.—A. & N.—C. H. P.—J. R.—H. S. T.—M. C. A.—C. T. D.—W. T.—J. D., New York—S. P.—A. D.—Yorkshire Gardener.—D. R. W.—F. H.—J. W. McC.—W. C. H.

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(and Supplementary Illustration)

ROSES AND MAGNESIA.

IT is possible that it may be worth while for Rosarians to devote attention to the influence of magnesia on Rose culture. This substance has long been known to occur in plants, but it has generally been considered either of no value to the plant or positively harmful. For instance, experiments had indicated that magnesium carbonate was inimical to the germination of seeds (Watts), and Kearney and Cameron had shown in America that salts of magnesia possess, even in solutions of great dilution, a toxic action upon plant roots, which effect, however, was diminished in the presence of salts of calcium; Loew's experiments indicate that excess of magnesium over calcium results in a sterilising effect on the soil, and Hall, in commenting on this, draws attention to the fact that soils resting on serpentine, a mineral containing magnesia, are notoriously poor, and also points out that certain very impoverished clays on the Wealden formation contain a high proportion of magnesia.

Nevertheless, so long ago as 1889, Mr. E. Tonks's well-known paper in the *Rosarians' Year Book*, relying on a table from Wolff's "Aschen Analysen" (Berlin, 1871-1880), recommended a manure for Roses containing sulphate of magnesia in the proportion of two parts to 33, with, however, an excess of lime salt. There the matter seems to have rested for 20 years. In 1909, M. Georges Truffaut, in a paper which appeared in a contemporary, noted the large proportion of magnesia found in the analysis of Rose plants, and stated that while soils in which magnesia is deficient produced but a weak growth of Roses, the addition of magnesium salts as a manure brought about a marked increase of vigour and growth. About the same time a writer in the *Journal* of the French National Horticultural Society recommended the application of nitrate or sulphate of magnesia to weakly Roses which refused to respond to treatment with ordinary manure, stating that dressings of these salts in soils deficient in magnesia had been attended with satisfactory results.

The following year (1910), at the International Rose Conference held in Paris, the particular value of magnesia in the nourishment of Roses was one of the subjects for discussion; the importance of its influence was insisted on, and magnesium was declared to be indispensable for Roses. It was stated that it should be given always in the form of the sulphate, in doses of 200 grams to the metre (about 5 ounces to the square yard): kainit, an impure mixture of chloride and sulphate of potash, which contains about 12 per cent. magnesium, being recommended. One speaker, however, declared magnesium chloride to be poisonous to Roses. This directed the attention of foreign rosarians to the subject, and there seems to have been an idea that a particular effect of magnesia on the Rose was to cause the development of the receptacle, or seed envelope.

M. Leon Civet, in 1911, made some observations as to the effect of magnesium and manganese on 428 dwarf Roses in 23 varieties, mostly Hybrid Teas, planted in the rosary at Château de Saint-Maximin (Oise), and reported that, notwithstanding the very hot summer, 410 of these Roses had grown well, 10 rather feebly, and eight not at all, while the flower production was uninterrupted throughout the season. Having regard to the facts that the plants were all young, and that the temperature was excessive, he considered the result from the point of view of the growth of the Roses very satisfactory. For our present purpose the additional complication introduced by the manganese is perhaps to be regretted.

In the same year we have a record given in the *Journal des Roses* of some most interesting experiments by M. Cochet-Cochet. They are three in number, and most carefully recorded. The first of these was made with a batch of plants of Ulrich Brunner in pots. The plants were divided into three lots. Lot 1 was watered with pure water, lot 2 with a solution of ammonium nitrate 0.217 grams to the litre (or, roughly, ¼ ounce to the gallon of water), and lot 3 was watered with a solution of nitrate of magnesia, 1 gram to the litre (or, in round figures, an ounce to the gallon of water). The waterings were continued throughout the growth of the plants, varying in amount according to the dryness and temperature, but so proportioned that each pot received the same amount of liquid. In the autumn he obtained the following results: lot 1 was much the worst, lots 2 and 3 were of about the same vigour, but lot 3, which had received the magnesium, held the lead well, and on taking them from their pots, the root system was found better developed than in the case of the other two lots.

The second experiment was made with 1,800 plants of De la Grifferaie stocks intended for budding, planted in ground manured in the ordinary way, and divided into two plots. One of these plots, in addition to the manure, had received a dressing of finely-powdered carbonate of magnesia obtained from the dolomite formation, and therefore containing lime in considerable quantity. This was applied at the rate of 20 kilograms per acre (about 11 lbs. to the pole, or 8 cwts. to the acre).

Planting was done in April, and down to July no particular difference between the two plots was noticed. At the beginning of August, however, the plants on the plot treated with magnesia suffered arrest of growth for a time, and when they were budded on August 25, they were decidedly less tall than the plants on the control plot, the difference being, on the average, some 8 inch (20 cm.). The plants continued their relative rates of growth for a time after budding was finished, when suddenly about 60 per cent. of plants treated with magnesia commenced to make new growth from the stems where they were bent over, and this new growth continued late in the season, so that towards the middle of January they appeared from a distance still covered with leaves, though the Roses on the control plot had lost all their foliage. In the following year (1911) the Roses developed normally from the buds, but the extreme dryness of the year prevented accurate account being taken of the result of the experiment. At the same time, the Roses in the plot treated with magnesia were decidedly superior to those on the control plot, being both taller and more sturdy.

The third experiment was undertaken to ascertain whether the improvement in the magnesia-treated plot in the second experiment was due to the admixture of lime in the dolomitic magnesium carbonate. Two plots each of 1 are (109 square yards) were treated, the one with 12 kilos. of dolomitic magnesium carbonate and the other with such a quantity of carbonate of lime that the amount of carbonate in each plot should correspond. These were planted with De la Grifferaie stocks, and gave similar results to those of the second experiment, the plants in the magnesium plot again making late growth and retaining their leaves to the middle of January. M. Cochet-Cochet concludes: (1) that magnesia exercises a definite influence on the growth of Roses, and (2) that employed in the form of carbonate to the Grifferaie stock, it augments development and prolongs growth into the autumn, enabling the plant to retain its leaves in an abnormal manner.

Reverting for a moment to the analysis of the ashes of Roses, Wolff found magnesia distributed in the plant in the following proportions: Roots 7.15, wood 7.62, leaves 9.23, and flowers 5.94. That is to say, the leaves contain a far greater proportion of this substance than any other part of the plant. If, then, analysis is any guide, we should expect the effect of treatment with magnesium salts to produce its greatest effect in the foliage, and this appears consonant with M. Cochet-Cochet's results. It is, moreover, to some extent confirmed by recent experiments which have shown magnesia to be a constituent of chlorophyll.

It was formerly thought that any beneficial effect of magnesia was probably due to its action in liberating potash, but from the presence of the salts in the quantity in which it is found in the Rose, and from the above experiments, this view must be abandoned, and it must now be admitted that it produces a definite and independent effect, which may be better understood after further experiments. *White Rose.*

NEW OR NOTEWORTHY PLANTS.

GERBERA HEDERÆFOLIA* (DÜMMER).

AN acaulescent herbaceous plant. Leaves radical, tufted (five to a tuft), petiolate, ascending; petiole very stout, sheathing at the base, $1\frac{3}{4}$ inch to $3\frac{1}{2}$ inches long, thickly white-lanate all over; blade triangular, obtuse at the apex, deeply cordate and rounded at the base, $1\frac{1}{4}$ inch to $2\frac{1}{2}$ inches long, 1 1-12 inch to $2\frac{1}{6}$ inches broad, thickly coriaceous, light green and glabrous at maturity above, thickly white-lanate below, the midrib and obsolete lateral nerves sunken on the upper surface. Scape solitary and slender, bearing one flower-head, nude, 9 inches long, white-lanate. Flower-head when expanded $2\frac{1}{2}$ inches to 3 inches in diameter, the involucral bracts, one to two-seriate, lanceolate, acute, about 5-12th inch long, sparingly white-woolly externally, brown tipped. Ray florets yellowish, four nerved, 1 inch to $1\frac{1}{2}$ inch long, $\frac{1}{6}$ inch to $\frac{1}{4}$ inch broad. Achenes glabrous, surmounted by white pappus.

In the form of the leaves, G. hederæfolia, as is implied by the specific name, has a striking resemblance to those of the common Ivy, except that the under surfaces are covered with a dense snow-white woolly felt, which admirably harmonises with the pale-green tint of the opposing side. The species is an acceptable acquisition to the few Gerberas obtaining in China, and was discovered by Mr. Wilson in Western Hupeh, Central China, in April, 1901.

SCOTLAND.

EDINBURGH DISTRESS COMMITTEE'S ESTABLISHMENT AT MURIESTON.

FEW Labour Distress Committees in Scotland have achieved such good results as the Edinburgh Committee. The land was formerly valued at only £1 per acre per annum, whereas that which has been reclaimed is now valued at £25 per annum, and a considerable portion of the estate has been disposed of for market-gardening. By invitation of the committee, a party of about 200 recently visited Murieston. A new departure is to be begun by the establishment of a colony for lads, who are to be taught market gardening and farm work. An influential representative committee has been formed, and the sum of £200 has been already subscribed.

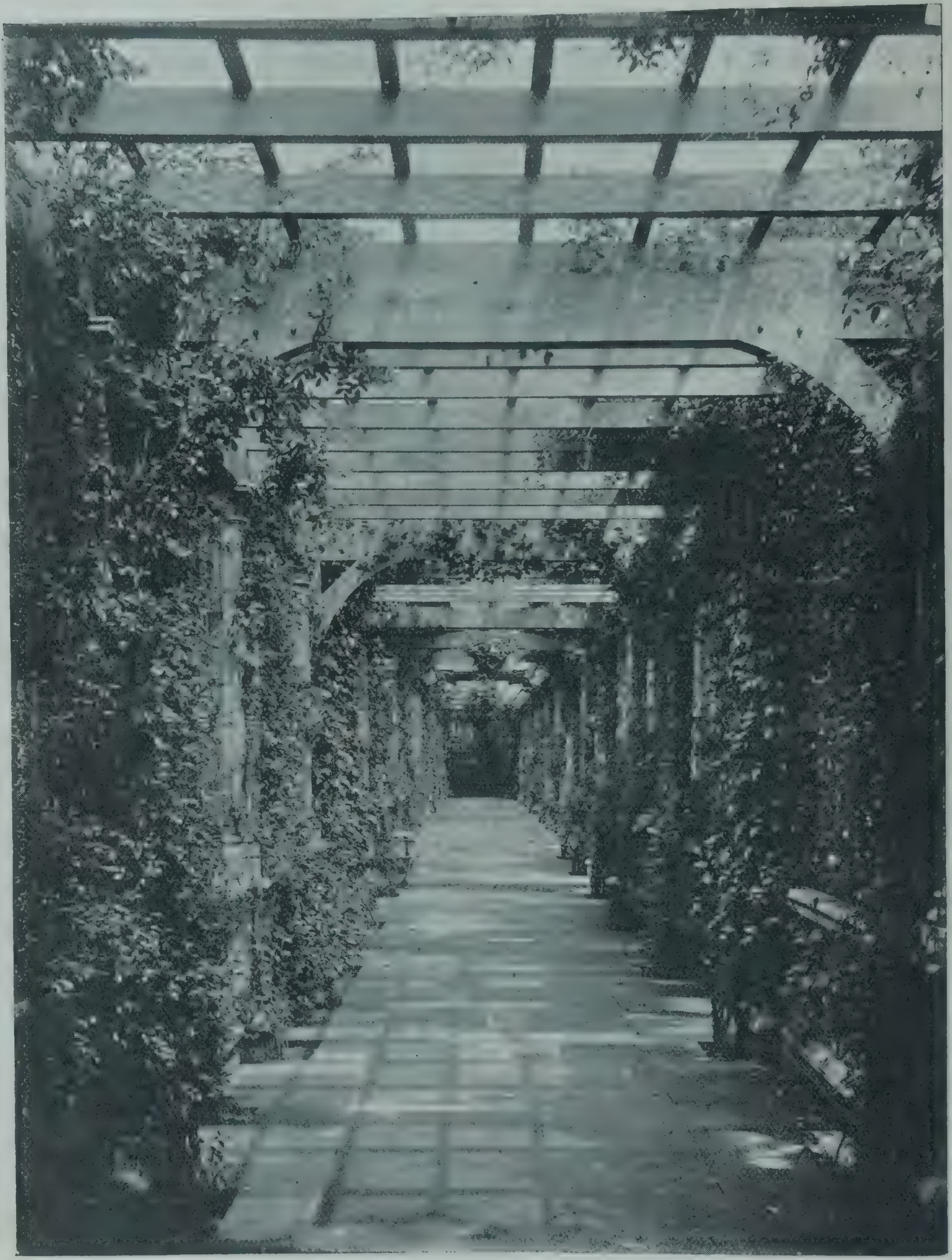
AFFORESTATION ON ARDGOIL.

THE question of the afforestation of a portion of Ardgoil belonging to the Glasgow Corporation has been under consideration for some time, and a report on the subject was laid before a meeting of the general finance committee recently by Mr. James Whitton, superintendent of the city parks, and Bailie Alston. Three areas in the vicinity of Lochgilphead were suggested as a beginning, and these comprised in all about 1,100 acres. The most suitable was one of about 200 acres, and the estimated cost £1,500. The committee agreed to recommend that this be undertaken, that Mr. Whitton be authorised to prepare a detailed scheme, and that plants for the other areas be drawn up for further consideration. *Correspondent.*

THE HILL, HAMPSTEAD.

(See figs. 209, 210 and Supplementary Illustration.)

THE London residence of Sir William Hesketh Lever is situated on the edge of Hampstead Heath, a couple of minutes walk from the famous "Jack Straw's Castle" hostelry. The front entrance to the house gives no indication of the fascinating beauty of the garden, and once inside the gates the visitor finds it difficult to realise that the garden is very limited in size, and so near to the city of London. The front of the house, which has a sharply-pitched roof with dormer windows, is strongly suggestive of the French château. Along the front is a broad verandah which looks out over the two lawns and away to the pergolas. Against the front of the verandah and the walls of the wing, which bears several very handsome, large, leaden water-heads, there are many climbing shrubs. Magnolias are especial favourites, and to obtain as long a season as possible the deciduous, spring-flowering Magnolia conspicua has been planted in close proximity to the later evergreen M. grandiflora, and the growths are being intermingled.



[*Photograph by H. N. King.*

FIG. 209.—PERGOLA AT THE HILL, HAMPSTEAD.

THE PERGOLAS.

When Sir William Lever acquired The Hill the garden was very steep and possessed no distinctive characters of importance. The cutting of the Hampstead Tube Railway gave an opportunity for obtaining many thousands of loads of soil, and the steep hillside was transformed into a plateau which made possible the delightful, cool, restful, level lawn and the stretch of handsome pergolas which form the subject of the lower half of the Supplementary Illustration. As will be seen these pergolas are in the Italian style; the columns are of Portland stone, and the beams are of English Oak. The lattice work, sides, and the cross-beams are furnished with such climbing plants as Wistaria sinensis, Jasmines, Pyrus japonica, various Clematis hybrids, Crimson Rambler, and Dorothy Perkins Roses, but these plants are not allowed to cover entirely the pergola and so hide its splendid proportions. The design of the woodwork at the ends (see fig. 209) is a triumph of the draughtsman's skill, the perspective was so cleverly drawn that even when standing within 2 feet of the work it is difficult to realise that one is looking at a plain surface and not into an alcove. Altogether, the broad, paved floor of the well-designed pergola, lightly covered with beautiful plants, permitting views on one side of the Heath and of the smooth, green lawn which surrounds the green-tiled Water-Lily pond, forms a most pleasant promenade as well as a gracious ornament to the garden. When complete, the Pergolas at The Hill will be unique, for the extension is being made on a large scale.

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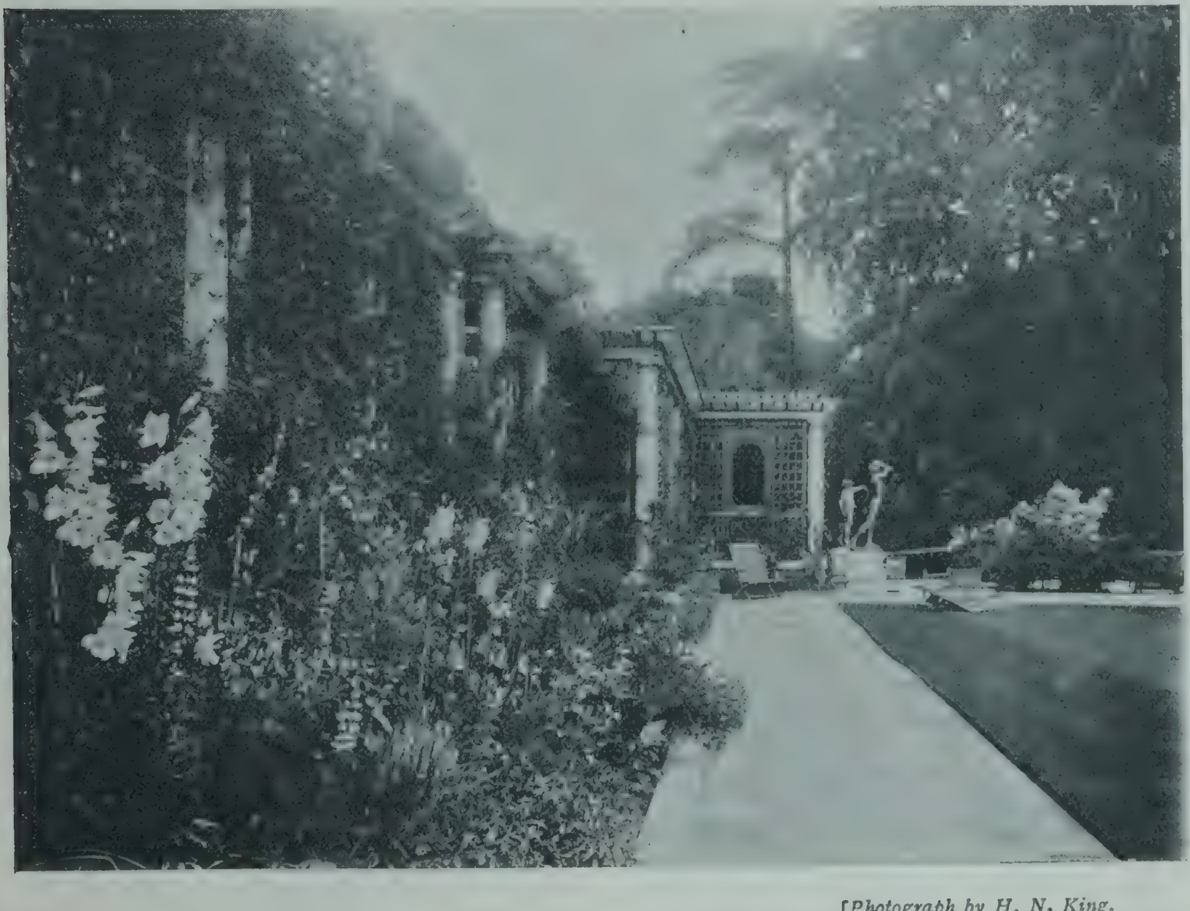
* Species nova. distincta, Hederæ foliis simillimis supra deinde glabris subtus dense albo lanatis, scapo gracili nudo albo-lanato, facillime distinguenda. (Wilson, 1834, Herb., Kew.)

Were it not for the fascinating pergolas the lawns would claim all one's attention and admiration. The lower lawn is quite level, and the herbaceous borders which divide it from the pergolas provide a handsome setting during the season. Here are grown the best plants for making a bright display throughout the summer months. On the right-hand extremity of the lawn there are large-spreading Oak and Beech trees, which cast a pleasant shade and tell of the many years which have come and gone, but which are the despair of the gardener who endeavours to induce plants to grow on the ground beneath them. The statuary in the garden is of exquisite workmanship, the bronzes, by Onslow Ford, are magnificent, and the dolphin fountain in the middle of the Water Lily pool arrests attention.



[Photograph by H. N. King.

Fig. 210.—VIEW IN THE GARDENS AT THE HILL, HAMPSTEAD.

The retaining wall of the lower terrace is clothed with Roses, Ceanothus, and Jasmines, and a broad flight of steps with low and easy tread leads up to the higher terrace and its bordering of flower-beds which in summer blazed with Paul Crampel Pelargoniums, and were filled with Wallflowers, Forget-me-Nots, and a variety of spring-flowering bulbs.

Below the pergolas, on much lower ground, there are the glasshouses and frame yard. The chief feature of The Hill is the outdoor garden, and the glass is not extensive; its principal use is to supply plants for the house and for filling the flower-beds in the early summer. Much of the frame-yard, and what should have been flower-borders, was in a state of chaos on the occasion of my visit, owing to the extensive building operations in connection with the pergola extension. This condition is viewed by Mr. J. Barton, who has been in charge of the gardens for the past three years, in a philosophical light, for it is unavoidable. Before taking charge at The Hill, Mr. Barton was for nine years engaged latterly as foreman, at Thornton Manor, Sir William Lever's Cheshire estate. Building operations are a hindrance to good gardening, but Mr. Barton was looking forward to their completion, when he would be able to bring this part of the garden into as good a condition as the remainder. *A. C. B.*

NOTICES OF BOOKS.

FRUIT FARMING.*

As a handbook on commercial fruit-growing we commend this work as the most comprehensive, practical, and useful of its class that we have seen. It is literally packed with detailed information upon all branches of its subject, and is profusely illustrated. The author has long been known for his writings upon the subject, and particularly in relation to the financial aspect of the fruit industry. In preparing the present handbook, moreover, he has had the valuable assistance not only of some of the most capable and experienced of fruit-growers, but also of such specialists on the scientific aspects of his subject as Mr. George Massee, Dr. Bernard Dyer, and Professor F. V. Theobald, who, in common with Mr. Geoffrey J. Hooper and other fruit-growers, contribute sections of the work. The arrangement of the sections is not so systematic as it might be, probably owing to the fact that most of them have been previously published separately. This defect gives the book a somewhat disjointed appearance; but the reader will find the information he needs readily enough by means of the index. Beginning with the training of the fruit farmer, the author proceeds to deal with the capital required, the selection of a farm, the previous cultivation and setting out of fruit plantations, the planting and treatment of the various fruits, pruning, spraying, picking and packing, pollination, book-keeping, cover crops, beasts and birds in relation to the fruit-grower, approximate cost of cultivation, regrafting, protection from frost, and many other subjects. Chapters are contributed by Dr. Bernard Dyer on the manuring of fruit trees and bushes; by Geoffrey F. Hooper on the commercial cultivation of the Loganberry, preserving factories, and the future of fruit-growing in Great Britain; by F. V. Theobald on some insect pests of fruit and insecticides; by George Massee on diseases of fruit crops; by Arthur Miskin on spraying with lime and sulphur; by Spencer N. Pickering and F. V. Theobald on a spraying calendar; by H. H. Mason on co-operation for fruit farmers; by O. B. Cowley on some legal points; by T. J. Poupart on packing and grading for market; by B. T. Barker, M.A., on cider orchards, and on Apple jelly by Miss A. Elrington. The only important branches of the subject which appear to have been overlooked are of shelter for fruit trees and bushes and fruit thinning. It must be added that, as the author admits, pruning is not sufficiently treated. A great many estimates of the expenses and returns of various crops and of cost of cultivating operation and picking fruit are given. One of the great merits of the book is its thoroughly up-to-date information, though exception must be taken to the cost of Apple trees at 1s. each, which is double the price of good two-year-old trees purchased in quantities, while maiden Apples, now being planted extensively, are cheaper still. On some of the points dealt with there are differences of opinion even amongst experts; but, generally, the advice appears to us to be thoroughly sound.

FRUIT GROWING FOR BEGINNERS.*

This is, as described on the title page, "a simplified and concise handbook on the cultivation of fruit," and it contains some illustrations. Advice, mostly sound, is given upon the treatment of all kinds of fruit commonly grown, and a good feature of the work is a summary at the end of each chapter, repeating in very brief and plain terms the principal points of the chapter. Grafting, budding, and pruning are explained with the help of illustrations, also a limited number of insect pests. Generally the advice as to pruning seems to us sound, though objection must be taken to the recommendation to leave only three or four buds when Apple trees are spurred in summer-pruning, and no more than two in the following winter pruning. Six and four would be preferable, until a fruit-bud has been formed, as excessive closeness in spurring leads to a profuse growth of spray. A sensible caution is given to persons thinking of engaging in fruit-growing as a business, misled by glowing, but untrustworthy, statements of great profits. The author points out the need of experience before a man launches out on his own account. There is much good advice in general terms; but in a shilling handbook dealing with all the most common fruits full details are hardly to be expected. *Southern Grower.*

ORCHID NOTES AND GLEANINGS.

LÆLIO-CATTLEYA CICELY.

A very interesting cross between Cattleya Forbesii and Lælia cinnabrosa (Lælia cinnabarina × L. tenebrosa) has flowered with Mr. Eustace F. Clark, Eveshot, Dorchester, who submitted an inflorescence to the Orchid Committee at the R.H.S. meeting on the 3rd inst The parentage is clearly discernible in the severa flowers borne on the tall scape, which, in habit displays the influence of L. cinnabarina. Th reddish-orange colour of this species (as is usua when this plant is used as a parent) is also present The flowers are about 4 inches across, the sepal and petals narrow and nearly equal; the colou is apricot-yellow tinged with a reddish hue. Th narrow and tubular lip has a small, rounde front lobe, and is formed similarly to that c C. Forbesii.

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[*] *Fruit Farming, Practical and Scientific, for Commercial Fruit Growers and Others*, by Cecil H. Hooper, M.R.A.C., F.S.I. (London: The Lockwood Press.)

[*] *Fruit Growing for Beginners*, by F. W. Harve (London: County Life Office.)

THE FERNERY.

INDUCED APOSPORY IN FERNS.

SINCE the first discovery of apospory by the present writer in 1884, it has been found that this phenomenon, namely, the production of prothalli direct from the frond, without the intervention of the spore, has presented itself in several forms, such as soral apospory, in conjunction with the aborted sori or spore heaps, or apical apospory, by simple extension and modification of the frond tissue itself. It had so far, until Professor Goebel's investigations,[*] been confined to otherwise abnormal varieties, and on some of these apospory only presented itself or could be induced to appear under special cultural conditions. Thus, in the case of Athyrium filix-fœmina var. unco-glomeratum, Dr. F. W. Stansfield has shown that, despite the quite deciduous nature of the species, the extremely comminuted crests retain vitality through the winter under close culture, and produce both bulbil and aposporous outgrowths in the following spring. Professor Goebel's investigations lead, however, far beyond this, since a considerable number of quite normal species are found to produce aposporic and apogamic prothalli, as also simple asexual plants, if the primary or first fronds produced from the prothallus are severed therefrom and layered on sterilised turf or loam. Among the plants so treated he mentions particularly Aneimia Dregeana, Alsophila van Geertii, Ceratopteris thalictroides, Gymnogramme chrysophylla, Polypodium aureum, and Pteris longifolia, of most of which he gives illustrations showing the diverse methods in which these regenerative outgrowths appear on the layered primary fronds. Since, however, these species were taken purely by chance from a large collection, the presumption is justifiable that the great majority of species possess the same regenerative faculty, though it appears to be confined to the first fronds, in which a hard-and-fast line between the gametophytic and sporophytic generations does not yet appear to be drawn. Hence, when the normal process of growth is interrupted by severance from the prothallus, and favourable conditions are afforded, the constituent cells produce outgrowths, sometimes presenting the prothallus character, sometimes the frond character, and sometimes an intermediate state in which stomata, a definite frond character, are in close juxtaposition with antheridia, an equally definite feature of the prothallus. At the time of Professor Goebel's report, none of the induced prothalli had produced plants, which he imputes rather to cultural conditions than to incapacity. None of the illustrations show archegonia, and only one antheridia, though in one of these the antherozoids are developed. He anticipates that when a second generation appeared it would probably be an apogamous one; but since apospory has been shown to be capable of producing perfect bisexual prothalli—A. f.-f. Clarissima to wit—in more than one instance, though in most cases the progeny are imperfect and weakly, it is reasonable to expect that like exceptions will crop up when the cultural-inducing experiments are extended.

The practical value of these discoveries to the Fern cultivator are not so far obvious, since once the prothallus has produced its primary frond the propagator has attained his object; but, to the biologist, they are of undoubted importance, as confirming the indication already afforded by apospory, that the line between the two generations represented by prothallus and frond-bearing Fern is more or less undefined, and there is doubtless much to be learnt by such cases as are here concerned, regarding the nuclear conditions of the cell, which determine the subsequent difference of growth. *Chas. T. Druery, V.M.H.*

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[*] *Experimentelle morphologische Mitteilungen*, by Karl Goebel. *Reporte* of the Royal Bavarian Akademie der Wissenschaften. Vol. xxxvii, 1907; Part II.

The Week's Work.

THE HARDY FRUIT GARDEN.

By F. JORDAN, Gardener to Lady NUNBURNHOLME,
Warter Priory, Yorkshire.

PEACHES.—If the trees are not already detached from the wall, they should be untied, pruned, and secured firmly against strong winds without delay. Provided superfluous shoots were removed as recommended in previous notes, the winter pruning will be a simple matter, for only faulty shoots, which may have escaped notice when the foliage was still on the trees, need to be removed. If scale, red spider, or any other insect pest is present on the bark, the main stems and branches should be washed thoroughly with a moderately strong insecticide; use the specific at a less strength in the case of the young shoots. Do not wash the trees during very cold weather, but choose a mild, fine day for the work. The walls should be syringed well, and again before the buds begin to swell. If the trees are infested with red spider, a few handfuls of flowers of sulphur will be advantageous. In connection with the tying of the trees, it is well to remember that one of the secrets of success is sparse training; the shoots should be trained at 5 or 6 inches apart. Many gardeners adopt the plan of tying the shoots in winter to light poles about 1 foot from the wall, with the object of retarding the growth. If this is done, the shoots should be separated, not tied in large bundles.

APRICOTS.—If convenient, the trees should be pruned before the end of the year. The Apricot is subject to a number of insect pests, and it will be necessary to wash the trees thoroughly with good insecticide; the walls must also be subjected to the same treatment. The roots may be left undisturbed, provided they are growing in a restricted body in rather poor soil. Root-pruning will check gross growth in young trees, but prevention is better than cure, and it is wise always to plant in poor soil, mixed with plenty of lime rubble. A rich rooting medium is a frequent cause of canker, and, when once a tree is attacked by this insidious disease, it is most difficult to restore it to health.

RASPBERRIES.—Provided the old canes and superfluous suckers were removed directly after the fruits were gathered, no pruning will be necessary. The annual mulching should be applied as soon as possible, since the winter rains will wash the manurial properties into the soil, enabling those canes which are left in position to avail themselves of the nourishment provided. The manure should be spread over the roots on the first frosty morning; it should be liberally applied, since food is essential to strong growth. The manure should be allowed to remain on the surface, since digging would injure the roots. If for any reason planting has been delayed, this work should be postponed, at any rate for the next two months.

NUTS.—Nut bushes are often grown in out-of-the-way corners and allowed to remain unpruned for too long a period. March is the best time for pruning, but at the present time neglected bushes should be cleared of suckers and the shoots thinned moderately, leaving plenty of growths with catkins to be cut out later. All loose and exhausted soil should be cleared away from beneath the bushes, and replaced with fresh compost and manure.

THE KITCHEN GARDEN.

By EDWIN BECKETT, Gardener to the Hon. VICARY GIBBS,
Aldenham House, Hertfordshire.

A RETROSPECT.—Being the close of the year, a review of the past 12 months in the kitchen garden may be interesting. The weather can hardly be said to have been ideal; nevertheless, in very many districts vegetables succeeded remarkably well. In some cases total or partial failures were recorded, owing to the continuous rains and lack of sunshine; but on the whole it is a question whether better vegetables have ever been exhibited than those shown at the principal exhibitions in 1912. At the spring and early summer meetings of the Royal Horticultural Society excellent collections were staged, whilst magnificent produce was seen at the International Horticultural Exhibition in May. At provincial shows the vegetable classes were well contested; at Shrewsbury it was generally admitted that the vegetables surpassed those of all previous shows. Another splendid display was made at the R.H.S. special vegetable show in September, whilst the produce exhibited at the National Vegetable Society's Exhibition at Watford was the finest ever seen in this country. In the vegetable classes at the autumn shows the same high order of merit prevailed, and competition was of the keenest. Not only the quality, but the staging and packing left little to be desired. Amateurs and cottagers alike presented their exhibits of kitchen garden produce in the most attractive manner. It was my privilege on the 16th inst. to act as one of the judges at the annual Christmas show held at St. Ives, Huntingdonshire, and I was greatly impressed with the quality of the exhibits, especially those of Onions and Potatos.

Owing to the low temperatures and continued wet weather, Potato disease spread rapidly during September and October. This was especially noticeable in the case of varieties which had hitherto been regarded as more or less immune. The variety King Edward VII has not only given the best crops during the year, but the tubers have been remarkably free from disease. In other years this Potato has been affected more than any other variety, though it usually crops well. Tomatos out-of-doors have been, in most districts, a complete failure; this is the more unfortunate since the splendid results of last year encouraged growers to plant largely. Vegetable Marrows also proved very unsatisfactory, owing to the low temperatures and absence of sunshine. Peas, Beans, Cauliflowers and other Brassicas gave exceptionally good results, whilst Turnips, Celery, Carrots and Beetroots have seldom given better crops. The condition of all the winter vegetables is perfect; and unless very severe weather prevails there should be an abundance of all kinds.

PLANS FOR THE FUTURE.—During the long evenings make notes on the successes and failures of the past season. By this means mistakes which have led to bad results may be avoided in the future, and fresh methods of culture which have been found successful adopted during the coming season. Much preparatory work should be undertaken out-of-doors; the ground should be prepared carefully, seedlings tended and nursed, and autumn-sown plants, which are being wintered in cold frames, carefully watched. Roots intended for forcing should be introduced into heat as desired.

THE FLOWER GARDEN.

By J. G. WESTON, Gardener to Lady NORTHCOTE,
Eastwell Park, Kent.

PRUNING WALL PLANTS AND CLIMBERS.—Although many of the hardier climbers and wall plants retain their foliage until late in the winter, it is necessary to overhaul them thoroughly at least once a year, and, provided the weather remains open, the present is the best time for such work. Climbers should not be restricted too much in the growing season, but need only looping up at intervals during the summer; hence the necessity for a thorough pruning or thinning of the shoots at this time of year. This refers chiefly to shrubs and climbers growing on walls, pergolas, and trellises, and not so much to those in the semi-wild garden, which require somewhat different treatment. Climbers are usually planted with a view to their producing the best effect over the longest period, and for this reason a mixed collection of plants is desirable. Discretion must be exercised in the matter of pruning. Care must be taken not to remove shoots that would flower the following season. Shrubs, such as Forsythia, Chimonanthus fragrans, Jasminum nudiflorum, and early-flowering Loniceras, flower best on shoots of the previous season. These should be left for the present, and removed immediately after the flowers are over. Other wall plants, such as varieties of Ceanothus, Buddleia, Clematis, Polygonum baldschuanicum, and Solanum crispum, should be pruned well back to firm wood, retaining sufficient of the better shoots to furnish the space. Cut away all weak and unripe growth and old flowering-shoots, training the remainder thinly over the wall. Many choice evergreen shrubs, including Choisya ternata, Azara microphylla, Myrtles, Camellias, Magnolia grandiflora, Grevilleas and Olearias, do well as wall plants. These plants do not make rampant growth, and only require sufficient pruning to keep them within bounds. Besides the choicer varieties of Ivy, other good evergreen climbers are: Lapagerias, Stauntonia latifolia, and Smilax aspera. If these species are planted among deciduous subjects, they will help to give the wall a furnished appearance in winter. They require little pruning. Ivies should not be clipped for the present; this work is best left until the spring, when the plants should be trimmed closely. Fresh growth will soon cover the wall with greenery. Climbing Roses (if not already pruned as advised in my previous notes) should be well thinned, cutting out as much of the old wood as desirable: a few, well-ripened shoots present a much better effect than a large number crowded together in a limited space.

THE SHRUBBERY.—The ground between the shrubs should be cleared of rubbish and forked lightly. The fallen tree leaves should not be removed, but dug into the ground. If, for the sake of appearance, the fallen leaves were removed during the autumn, they should be replaced with a top-dressing of leaf-mould or old potting soil. The work should be done without delay, especially if bulbs are planted among the shrubs, as these are growing rapidly owing to the mild weather.

GRAVEL PATHS.—When making up gravel walks, place sufficient coarse material under the the fine gravel to ensure proper drainage, and see that the drains are in perfect working order. Since repairs to drains necessarily upset the paths, this work should be done at once, so that the gravel may be in good order again by the spring. When the paths are dry, they should be well rolled.

FRUITS UNDER GLASS.

By E. HARRISS, Gardener to Lady WANTAGE, Lockinge House, Wantage, Berkshire.

THE SEASON.—The past season has been an unfavourable one for the culture of fruits under glass. In some districts it has been a difficult matter to obtain well-ripened Grapes; our latest Grapes were not perfectly ripe until the end of October. Owing to absence of sunshine the wood of newly-planted vines has not ripened well, and much fire-heat has been required in consequence. The summer of 1912 was in direct constrast to the preceding one, and the cost of producing fruits under glass this year will have greatly exceeded the amount spent in 1911. The chief lesson which has been learnt in this connection is that of not delaying for too long the planting of late fruit trees. Late Peaches are a case in point; the almost total absence of sunshine during the later stages of their development had a prejudicial effect on the flavour of the fruits, and the young wood is not well matured. The earlier months of the season were more favourable, especially May and the greater part of April. In consequence, early fruits were excellent, but it is difficult to forecast the weather with any degree of accuracy, and it is far better to plant too early than too late.

STRAWBERRIES.—As soon as the early forced Strawberries begin to form their flower-spikes the plants should be removed to a shelf near to the roof-glass in a house having a minimum temperature of 55° or 60°. The pots are now full of roots, and some form of stimulant should be applied. Soot water, or diluted farmyard drainings, may be used during the early stages of growth. Later on, when the fruits are swelling, these manures may be supplemented by some concentrated fertiliser. During sunny weather syringe the plants with lukewarm rainwater twice daily, and keep the atmosphere moist by damping the bare surfaces in the house frequently. Further batches of plants should be introduced to heat as occasion requires. It is a good plan to put a batch in each of the different fruit-houses; but before bringing them indoors examine them carefully, and if spider is present on the leaves place the pots on their sides and syringe the foliage with an insecticide.

MELONS.—A sowing of Melons may be made at once, provided a suitable house is available. The seedlings should be raised in 2½ inch pots, filled with loam mixed with finely-crushed mortar-rubble. The pots should be plunged in a hot-bed. The seedlings should be kept near to the roof-glass until they are ready for planting out. A house or pit with a southern aspect is suitable; the structure should be cleaned thoroughly, washing every part with strong soapy water, using a stiff brush. Wash the glass both inside and out, since the plants need plenty of light. In the meantime, the materials for forming a hot-bed should be collected and prepared, so that all may be in readiness when the time for planting arrives. Stable litter and leaves in equal proportions, and well mixed, will make a suitable hot-bed. It must be made very firm, and raised quite near to the glass. The young plants may be transferred to pots, or to a bed of soil; I prefer the latter method as the plants are not so likely to receive a check, and the fruits are of better quality. The soil should be chiefly strong, fibrous loam mixed with mortar rubble and wood ashes. The mounds should be 20 inches wide and 9 inches deep; make the soil firm.

PLANTS UNDER GLASS.

By THOMAS STEVENSON, Gardener to E. MOCATTA, Esq., Woburn Place, Addlestone, Surrey.

POT ROSES.—Roses intended for early forcing may be brought into the glasshouses at once, for there is no advantage in leaving them out-of-doors after this date (except in the case of the latest batches) if room can be found for them in a quite cool house, If they have been potted and plunged as advised in an earlier calendar, the roots should have made a considerable amount of growth. They will require a week or two of rest, and dry conditions under cover, before the pruning of even the early batches is begun. After this, the plants may be accustomed gradually to slightly warmer conditions. Care must be taken, however, not to hurry them into growth unduly during the early part of the season, or they will break unevenly and produce weak, thin shoots. Tea Roses are not so popular for forcing as they were 10 or 15 years ago. They have been supplanted by such varieties as Liberty, Captain Hayward, Mrs. J. Laing, Frau Karl Druschki, Mme. Abel Chatenay, and Caroline Testout, which produce their flowers on long, stout stems that are better for use in vases than the weak, somewhat drooping stalks of the Tea-scented varieties.

HYDRANGEA HORTENSIS.—Plants which were rooted during the summer and autumn, and are growing in 4½-inch pots, should be examined. Those which are prominently in bud should be placed in a warmer house, where they will bloom early in the season. Hydrangeas last for a long period in bloom, and the flowers are varied in colour, so that the plants are particularly useful for decorative purposes. The fine new variety Mme. Emile Moullière has inflorescences of the purest white, and the plants may be had in flower through almost all the year. Other good varieties are Mdlle. Renée Gaillard (white, with serrated edge); Souv. de Mme. Chautard (large, deep-pink blossoms); Dentelle (also a white variety, which turns pink after a time); Mdlle. A. Barillette (creamy white); Radiant (deep pink, with very strong growth); Ronsard (white, changing to pink); and Botaniste Pellereau (pink, with enormous trusses and individual pips).

BOUVARDIA.—As Bouvardias cease to flower, they should be removed to a cool house, and watered very sparingly. If they still seem to be growing vigorously they may be kept in heat, and will probably continue to give a few blooms. Plants which were rooted in spring, and are flowering now for the first time, may be expected to continue in bloom. Those which have already been cut back two or three times usually flower for a shorter period.

SWEET PEAS.—Plants which were raised in September or October for flowering in pots may be transferred from the cold frame into a cool, light, airy greenhouse, first placing a few twigs round the growths to prevent them drooping. They are less likely to suffer from frost in the house than in the cold frame, and the growth will become hardier. The time for transferring them into the flowering pots (usually January or early February) will depend upon the condition of the roots. If the small pots are full of roots, the plants will suffer by being left too long in a cramped space. Rich soil is quite unnecessary in the early stages; good turfy loam, mixed with manure from a spent Mushroom bed, and a little bonemeal and wood ashes, form a suitable rooting medium. The soil should be pressed firmly. When the plants are in their flowering pots they should be allowed plenty of room. The plants should not be hurried into growth until the days begin to lengthen, and steady growth should be encouraged until the roots take firm hold of the new soil, and then, as the spring advances, a warmer atmosphere and more moisture may be afforded

THE ORCHID HOUSES.

By J. COLLIER, Gardener to Sir JEREMIAH COLMAN, Bart., Gatton Park, Surrey.

LÆLIA.—Plants of Lælia autumnalis and L. albida which have ceased to flower should be rested for a period, affording only sufficient water at the roots to keep the pseudo-bulbs fresh and plump. Damping between the pots should be discontinued, and fresh air, regulated by external conditions, should be admitted. The night temperature of the house should be about 55°. Lælia anceps and its numerous varieties are opening their blossoms, and the plants should be kept moist at the roots. After the flowering is over the plants should be given treatment similar to that recommended for the other species. The proper time for potting these Lælias is when they begin to form new roots at the base of the present season's growth.

VANDA.—Vanda Amesiana and V. Watsonii are in bloom, and, if the roots are kept moderately dry, the flowers will last for a long time in good condition. When flowering is over only sufficient water should be given to prevent the roots from shrivelling, for the plants need a brief period of rest. V. Kimballiana is no longer in flower, and should also be rested until the roots are again active, when moisture may be afforded in increased quantities.

CATTLEYA.—Plants of Cattleya Warneri, which are growing actively, should be kept in the warmest part of the Cattleya house. They should be placed in a light position, and be sufficiently watered at the roots to keep the compost moist until the flowers have opened. The work of repotting should be done immediately after the withering of the blossoms, so as to allow room for the production of fresh roots from the bases of the new pseudo-bulbs.

ODONTOGLOSSUM URO-SKINNERI.—Plants of this species will soon be pushing forth new roots from the bases of the young growths, and repotting should be attended to if necessary. The pots should be filled to half their depth with clean crocks, placing a layer of firm rhizomes over the drainage materials. The compost may consist of equal parts A1 fibre, Osmunda fibre, and Sphagnum-moss, the whole cut up rather roughly, and incorporated with crushed crocks and silver sand. The materials should be mixed well together, and the potting done lightly, so that the thick, fleshy roots may grow freely in the compost. When the repotting is complete, the pot should be filled to the level of the rim with a layer of chopped Sphagnum-moss. Very little water will be required—only just enough to keep the surface moss moist until the new pseudo-bulbs show signs of swelling, after which the supply of moisture may be increased gradually. The warmer part of the Odontoglossum house is the best position for the plants.

ONCIDIUM ORNITHORHYNCHUM. — This species has recently passed the flowering period, and as soon as the new roots are perceived to be pushing up from the base of the young growths, attention should be given them. If the plants are in pots of a suitable size, and the compost is in good condition, they need only be resurfaced. Some will require repotting, and for these a similar compost should be used to that recommended for Odontoglossum Uro-Skinneri. The plants should be grown in the cool intermediate house.

EDITORIAL NOTICE.

ADVERTISEMENTS should be sent to the **PUBLISHER, 41, Wellington Street, Covent Garden, W.C.**

Letters for Publication, *as well as specimens of plants for naming, should be addressed to the* **EDITORS, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.*

Special Notice to Correspondents.—*The Editors do not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editors do not hold themselves responsible for any opinions expressed by their correspondents.*

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Local News.—*Correspondents will greatly oblige by sending to the Editors early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editors to see.*

SALES FOR THE ENSUING WEEK.

MONDAY AND WEDNESDAY—
Rose Trees, Liliums, Perennials, Shrubs. &c., at Stevens's Auction Rooms, King Street, Covent Garden, at 12.30.

WEDNESDAY—
Hardy Border Plants and Perennials, Dutch Bulbs, Lilies and other Hardy Roots and Bulbs, at 12; Special Sale of Roses, at 1; Palms and Plants at 5; at 67 and 68, Cheapside, E.C., by Protheroe & Morris.

FRIDAY—
Hardy Bulbs, Roots and Tubers, Herbaceous and other Plants, at 12; Roses, at 1.30; by Protheroe & Morris.

AVERAGE MEAN TEMPERATURE for the ensuing week deduced from observations during the last Fifty Years at Greenwich—38·5.

ACTUAL TEMPERATURES:—
LONDON.—*Sunday, December 22* (6 P.M.) Max. 50°; Min. 45°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Monday, December 23* (10 A.M.): Bar. 29·6°; Temp. 51°; *Weather*—Overcast.
PROVINCES.—*Sunday, December 22:* Max. 49° Cornwall; Min. 41° Aberdeen.

1912. Many events have conspired to make the year which is well-nigh past an annus mirabilis in the annals of horticulture. It was the year of the International Exhibition; it witnessed the formation of a horticultural branch of the Board of Agriculture; it was the first occasion on which the State gave adequate proof of its desire to aid in the development of the art and industry of agriculture and horticulture. Each of these circumstances would lend distinction to the year in which it occurred, and together they mark an epoch in horticulture. The International Exhibition gave the world a wonderful demonstration of the pre-eminence of British horticulture; and it did more than this. It proved that the artistic taste of our exhibitors has progressed with unexpected rapidity, and it showed that practical and scientific horticulturists may not be regarded as incompatibles, but are determined to work together for the further advance of horticulture. That the exhibition was successful also from the financial aspect is but a final proof of the energy and ability of Mr. Gurney Fowler and his fellow-directors, and, in bidding farewell to 1912, we may express the hope that he and they may all be spared to organize our next International Exhibition. It may be that a memorial volume of the exhibition will be published, and, if so, we hope that portraits of the "organisers of victory" will adorn its pages. We have already, it is true, a happy souvenir of the exhibition in the knighthood which was conferred on Mr. Harry Veitch, for, although the honour is his, all good horticulturists enjoy his distinction almost as though it were their own.

The exhibition has come and gone. Its fruits in gold and silver have been garnered in; but the other events to which we have referred are of too recent occurrence for us to judge what their fruits will be. Nevertheless, none may doubt that the organisation of horticulture is destined to render great service to the community. The warmth of the welcome with which Mr. Runciman's announcement was received is proof that the formation of a special branch of the Board of Agriculture has raised high hopes among horticulturists. The speed with which the President has given effect to his promise encourages this general feeling of hopefulness. Mr. Rogers has been appointed head of the new branch, and is engaged in the selection of a staff to carry out the inspection and other work of his sub-department. We understand that an expert in entomology has been appointed, and, as our readers are aware, the selection of a horticulturist to the post of general inspector will be made in the near future. Among the difficult problems which will present themselves to the Board is that of instituting an effective service for the inspection and certification of the freedom from disease of nursery stock and other horticultural produce. Markets are closing to our exporters, and nothing but a State service of inspection will satisfy foreign customers and keep foreign markets open to our traders. The present, however, is not the occasion on which to deal in detail with the work which, as we hope, lies before the horticultural branch; rather is it one in which we may all unite in congratulations that the State has at last recognised in an official manner the national importance of horticulture.

The third event which makes the past year memorable is the allocation of considerable sums from the Development Grant for the purposes of agricultural (and horticultural) education and research. In the grants which have been announced already, horticulture has not been forgotten altogether. Funds have been placed at the disposal of the College at Wye, and of the University of Bristol, for experimental work in fruit-growing. That there is ample scope for work of this nature goes without saying, and readers of our articles by *Southern Grower* are familiar with many of the questions which, in the opinion of commercial fruit-growers, are in urgent need of solution. We shall not be regarded as ungrateful if we look upon the grants which have been made for horticultural purposes rather in the light of welcome instalments than as representing a satisfaction of the just claims of horticulture. It is to be remembered that the unsolved physiological problems of horticulture are at least as numerous and important as the pathological problems. The investigation of soil sterility is making good progress at Rothamsted, but research is required into the economic importance of the new methods of forcing, the possibilities of the utilisation of electricity in plant growing, methods of ripening and storing fruit, and many other subjects. Again, beyond these problems of physiological nature lie others of economic import: problems of distribution, both of goods and of men; for instance, that concerning the keeping on the land of our own country many of the men who, if they follow custom, will emigrate to practise horticulture abroad instead of continuing its pursuit at home.

In addition to progress in the directions just described, the year of 1912 has seen an attempt to deal with the problem of horticultural education, and although the attempt has not yet led to definite results, progress has been made. The committee appointed by the Royal Horticultural Society has drafted its report, and has expressed emphatically its conclusions that a National Diploma of Horticulture should be established, and that this diploma should above all be a guarantee of its holder's skill and efficiency in practical horticulture. Should such a diploma be established, it is bound to lead to a further systematisation of horticultural education. What would appear to be urgent is the establishment—pressed for more than once in these columns—of a National Institute of Horticulture. The rôle of such an institute would be to play a part in controlling and extending horticultural education, harmonising horticultural interests, and, by differentiating between them, advancing the status of horticulturists. We can imagine no more valuable innovation than the establishment of such an institute, and we are of opinion that a national diploma issued under the joint auspices of the horticultural section of the Board of Agriculture, the Royal Horticultural Society, and the Institute, would become in a short time not only national in name but also in fact.

We pass from the review of these aspects of horticulture—upon which there is bound to be diversity of opinion side by side with community of aim—to a subject upon which there can be no two opinions. That subject is one dear to the heart and near to the lips of Englishmen—the weather. The past year will long remain notorious on account of its sunless summer. Summer came—and went before her time; in August we had to deplore the havoc of the rain, and autumn alone made some tardy amends for the meteorological misbehaviour of the earlier part of the year.

The shows of the year were remarkable for their excellence, and suffered not at all from their great competitor—the International Exhibition. Of the leading events the Holland House, Shrewsbury, Daffodil, National Rose, Sweet Pea, Carnation, and R.H.S. Fruit Exhibitions were all remarkable, and fanciers and amateurs will be pleased to know that the Daffodil Show is to be repeated, and that a Tulip Show will be held during 1913 under the auspices of the premier horticultural society.

In many ways the most interesting of the 1912 exhibitions was the first autumn show of Orchids. The fact that such an exhibition was possible at that season is a tribute to the skill and success of the hybridist, who has learned not only to combine colours, but to confound the seasons. The conference held in connection with the exhibition, though thinly attended, proved of considerable interest and value.

The exhibitions of 1913 are casting their chromatic shadows before them. Mention has been made of the Daffodil and the Tulip exhibitions, but we ought to point to the fact that there will be no "Temple" show next year. The usual May show will be held instead in the grounds of the Royal Hospital, Chelsea, which proved so fine a show site only a few months ago.

Other shadows, but grey and sad ones, have been thrown across the world of horticulture. Death has taken lavish toll, and we mourn the loss of many men of eminence in this domain of the world's work: William Baylor Hartland, the Irish nurseryman, who rescued the cottage Tulips from their rural obscurity; Alexander Dean, a great horticulturist in every sense of the word; Robert Fenn, the Potato raiser; Hayward Matthias, of Carnation fame; Pedro M. Binot, the Orchid collector; Théophile Durand, Director of the Belgian State Botanic Garden; and Eduard Strasburger, the most distinguished botanist of his generation. These men and others of no less worth have passed away.

Others have risked their lives in the service of horticulture:—G. Forrest and W. Purdon, collecting in China, suffered hairbreadth escapes, but happily have survived to supply us with new plants from the great unknown provinces on the western borders of that country.

Finally, no chronicle of the year would be complete that did not contain a reference to the wonderful popularity of the Alpine garden. There be men—and wise ones, too—who predict that "these violent delights have violent ends and of their issue die," but we incline to predict an even yet greater vogue for this style of gardening. As we admired the Alpine gardens at Chelsea, we felt or fancied something symbolic in them. They represented with consummate art a perfect blend of freedom and constraint, and symbolised the perfect state of man.

Our Almanac.—With our issue for next week we propose to publish the *Gardeners' Chronicle* Almanac for the year 1913. *In order to make it as useful as possible for reference, we shall be obliged if Secretaries of Horticultural, Botanical and Allied Societies, or any of our correspondents will send us* **IMMEDIATE INTIMATION** *of all fixtures for the coming year.*

Royal Horticultural Society.—The first meeting for the New Year will be held on January 7 in the Society's Hall, Vincent Square, Westminster. There will be no lecture on this occasion.

Bitter Pit in Apples.—Dr. Alfred J. Ewart, in a paper on "Bitter Pit and the Sensitivity of Apples to Poisons," read before the Royal Society of Victoria, gives results which show conclusively that the complaint is not due to disease, but is a symptom of local poisoning. Not only arsenate of lead, but also the other common spray poisons are effective causes of the complaint, and, so far as the evidence goes at present, bitter pit seems to be much more prevalent in sprayed orchards than in those which have never been sprayed or had any poison applied to the soil. It is shown that moderately dilute solutions of metallic poisons penetrate through the breathing pores of Apples in sufficient quantities to produce bitter pit, and yet these quantities are so minute as to be incapable of detection even by very delicate chemical analysis. Copper is not quite so poisonous as mercury, and lead much less so, while its action is also slower. Seeing that bitter pit is much more abundant in well-tended orchards than in neglected ones, it has been suggested that cultivation may be responsible by causing the roots to grow deeper than usual, and thus interfere with nutrition. This, however, is improbable, although it might be true if the subsoil contains minute traces of poison. The injurious action of copper sulphate and other soluble metallic poisons to Apples may be lessened by the addition of substances which decrease the percentage of free ions, and on these lines it may be possible to modify even such relatively insoluble spray poisons as Bordeaux mixture and arsenate of lead without appreciably affecting their value as insecticides and fungicides. It is shown that ozone, ammonia, and nitric acid present in the atmosphere are able to produce surface pitting in Apples. In conclusion, Dr. Ewart points out that bitter pit is, strictly speaking, not a disease, but a symptom of local poisoning produced in the sensitive pulp cells of Apples; that more than one poison may produce it, and that such poisons may be derived from more than one source.

Nursery Employés Social Evening.—On the evening of Friday, the 20th inst., an entertainment was given by Messrs. Dobbie & Co., Edinburgh, to the members of their staff, at the Oak Hall, Princes Street. The company numbered more than 200. The chair was taken by Mr. W. Cuthbertson, who referred in appreciative terms to the work of the staff, both at Edinburgh and at Mark's Tey. The employés at Mark's Tey were also entertained on the same evening, under the chairmanship of the manager, Mr. Andrew Ireland.

Mr. Thomas Humphreys.—The many friends of Mr. Thomas Humphreys, Curator of the Botanical Gardens, Birmingham, will learn with deep regret of the sad bereavement he has sustained in the death of his wife, which occurred on the 20th inst. from pneumonia, contracted shortly after an operation. Mrs. Humphreys was well known to exhibitors and others in the habit of visiting the Daffodil, Auricula and other shows held in the Edgbaston Conservatory, and those from a distance have frequently received from her evidences of the extraordinary kindness that was her principal characteristic. Her unexpected demise will be lamented.

Wheat Experiments.—In order to test the yielding capacities and quality of several French and certain other varieties of Wheat, the Irish Department of Agriculture carried out a series of field tests at the Albert Agricultural College Farm, Glasnevin, in 1911. The results of these tests were published in the Department's *Annual Report on Wheat Experiments* for that season. The tests have been repeated this year, and the list has been supplemented by four other varieties. Three of these were Danish Wheats imported from Copenhagen, and one a variety grown to some extent as a spring Wheat in Counties Carlow and Kildare. The yields for 1912 are, with one exception, considerably below those for 1911. The average yield of Wheat on the farm for a number of years past has been about 12 barrels per statute acre. All the French Wheats show a large decrease, and the only increased yield for the whole series is that of Red Fife, the seed of which was obtained from the produce of some hand-selected ears grown in 1910. The three Danish varieties, Queen Wilhelmina, Tystofte Small Wheat, and Danish Square Head, gave very good yields. In point of quality, Red Fife was undoubtedly the best Wheat of the series, next in order coming Burgoyne's Fife. Queen Wilhelmina, a white Wheat, may be placed next, and then, a long way behind, White Marvel. Tystofte Small Wheat and Danish Square Head are varieties of the Square Head Master type, but not so coarse. The French varieties, with the exception of White Marvel, are very poor quality, Dreadnought and Perfection being wholly unsuited for milling requirements. The partial failure of Perfection this year was, in a large measure, due to bad germination of the seed. April Red, a variety resembling Red Fife in shape of ear, excepting that it has a distinct awn, is a late spring Wheat. In yield it does not equal Red Fife, to which variety it is also inferior in quality. Regarding the two new hybrid Wheats, Little Joss and Burgoyne's Fife, while the former is undoubtedly the heavier yielder, in quality it is greatly inferior to Burgoyne's Fife. Other things, such as quality of straw, being equal, there is nothing to recommend Little Joss in preference to Tystofte Small Wheat, a variety which, by reason of its productivity and generally acceptable quality, is grown extensively in Denmark. Of all the varieties tested, Queen Wilhelmina, on account of its yielding capacity and quality, appears at present to be the most desirable Wheat, and certainly merits the attention of Irish Wheat growers.

HOME CORRESPONDENCE.

(The Editors do not hold themselves responsible for the opinions expressed by correspondents.)

Rhododendron ponticum var. aucubæfolium.—I enclose a small shoot of this fine winter shrub with foliage coloured bright yellow and green. The variety is sometimes known as variegatum. The plant is perfectly hardy and is free flowering. A clump of this Rhododendron is attractive all through the year, especially in winter. The leaves are not at all like those of Daphniphyllum, which is sometimes said to be one of the parents. The flowers are mauve coloured, like those of ordinary R. ponticum. *W. A. Cook, Leonardslee Gardens, Sussex.*

Flowers at Holywell, Wales.—During the past season I have noticed the following species in bloom in the neighbourhood of this old country town:—Jasminum nudiflorum, Arabis albida on walls as well as in gardens, Cerastium tomentosum, Pyrus japonica, Ribes, Viburnum Tinus (Laurustinus), Tulips, Polyanthus, Narcissus, Chionodoxa, Snowdrops, Crocus, Daffodils, Hyacinths, a bed more than a yard across of Muscari botryoides, Wallflowers in abundance on walls as well as in gardens, Violas, Auriculas, Polyanthus, Lily of the Valley, Clematis Vitalba (Traveller's Joy), Double Daisies, Deutzia gracilis, Iris hispanica, I. germanica, Pæonies, Wistaria sinensis, masses of Thrift, mossy Saxifrages, Centaurea montana, C. alba, Centranthus rubra (Valerian) on old walls and in gardens, Oriental and other Poppies, Lupins, Iberis corifolia, Lathyrus latifolius (Everlasting Pea), and Lilium candidum (at Wilton, near Ross, Herefordshire, this Lily is planted in quantity in old cottage gardens); Veronica Blue Gem, V. decussata and V. salicifolia, Delphiniums, Campanulas, Pyrethrums, Montbretias, and Campanulas Medium (Canterbury Bells). Against the end of a very old cottage I noticed a large bush of Coronilla Emerus in full flower, and Erinus alpinus on an old wall, whilst in a narrow border in a backyard the common purple and white Balsams were growing breast high. Rhus typhina, Epilobium, angustifolium, Michaelmas Daisies, and Chrysanthemums are common, and in a neglected garden were several plants of Yucca gloriosa in flower; last year I saw many plants of Yucca with inflorescences in an amateur's garden on the border of the town. Adjoining the Junction

Station platform were a dozen good plants of Kochia scoparia. Roses are not very common, but there are two or three extra good collections; the end of one house was covered with the variety William A. Richardson. Laburnums cover arches and porticoes. A strip 1 foot wide and 6 feet long in front of a cottage, apparently part of a forecourt before the pathway was paved, had mixed bulbs in spring and, later, dwarf Nasturtium and a few other annuals. All the above plants, it will be noted, were in the streets except in three or four cases. There are numbers of large Apple and Pear trees in gardens at the back of dwellings, most of them, with flat tops 15 feet to 20 feet across, and severely pruned. The larger Pear trees are of the varieties King Pear, Marie Louise, and Jargonelle. *W. P. R., Fron Haul, Holywell, November 14.*

Ripening of Wood in Fruit Trees.—Many growers contend that it is essential that the wood of fruit trees should be well ripened in order to ensure success. What difference can it make to a tree in the production of fruit whether the wood be well ripened or not? I have had 30 years' experience in fruit growing, and I cannot refrain from stating that there is absolutely nothing in this ripening of the wood theory. During the hot summer of 1911 the wood was thoroughly ripened, but the fruit crops this year were not exceptional. In the majority of gardens, I fear that they were practically a failure, especially Apples and Pears, whilst Plums were, in some, only an average crop. The reason was an insufficiency of moisture at the roots, whilst the trees were making their growth, and should have been forming fruit-buds. Experience teaches me that to be successful with fruit growing, ripe wood is not so essential as moisture both at the roots and overhead. In 19 cases out of 20 the fruit crops are better after a wet season than a dry one. Can anyone then explain why such is the case if ripening of the wood plays such an important part? If growers would pay more attention to the roots, in the way of root pruning and feeding, we should hear less of failures. Everyone is aware that large crops of fruit are obtained from trees on north walls where practically no sun can reach the wood. *L. S. Small, Malshanger Park Gardens, Basingstoke.*

Late Peas.—We gathered pods of Gradus Pea so late as the second week in December. The seeds were sown in the first week of June in heavy soil, and the crop was an excellent one. Is this a record? *Wm. G. Pallenden, Westwood Gardens, West Meon, near Petersfield.*

HAMAMELIS MOLLIS.

This handsome shrub was first figured and described by Professor D. Oliver in Hooker's *Icones Plantarum* t. 1742 (1888), from dried specimens collected in Hupeh by Dr. A. Henry; but Messrs. James Veitch & Sons had it already growing in their nurseries, raised from seed sent home from the more eastern province of Kiukiang by Mr. Maries, in 1879. Some account of this will be found in the *Gardeners' Chronicle*, xxiv (1898), p. 364, and further particulars in xxxiii (1903), p. 185. The same year a coloured figure of it appeared in the *Botanical Magazine*, t. 7,884. Hamamelis mollis is undoubtedly the most ornamental of the genus, and it may be distinguished, when in leaf, from its congeners by the dense white tomentum on the under surface of the leaves. The flowers are perhaps of a brighter yellow than those of the other species, and the seeds are white, whereas those of H. japonica are black and highly polished—at least, all that have come under my observation. If my memory serve me rightly, there are black-seeded and white-seeded species of the allied genus Corylopsis. A bush of H. mollis may be seen at Kew immediately to the right on entering by the main gates from the green. *W. B. H.*

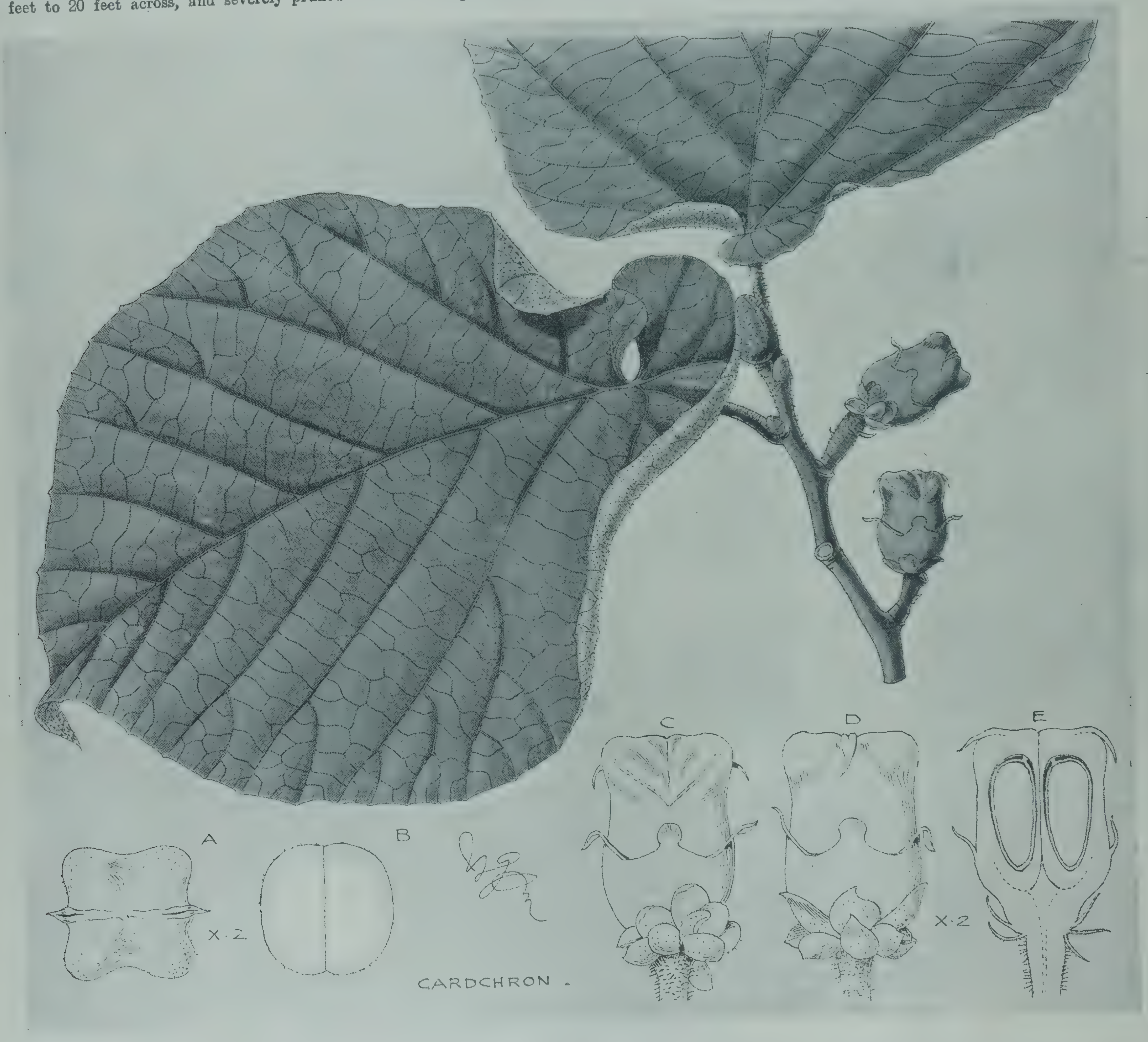


Fig. 211.—Hamamelis mollis in fruit.

A, capsule seen from above; B, cross-section of capsule; C and D, different aspects of the same; E, longitudinal section showing the attachment of the seeds of which there is one in each cell.

THE CABBAGE FLY.

A STUDY IN ECONOMIC ENTOMOLOGY.

June was near its end, and I was preparing for a little rest and change, so I went into the garden to see what there might be of interest for me to observe. As my eye passed down a row of newly-planted Cabbages, it was evident that something was amiss with at least one of the young plants. It showed signs of sickness and decline. I remembered that last year there had been a similar appearance, and that it was due to some kind of maggot at the root. On lifting the plant, I found again that there was a maggot at the root, and there could be little doubt that one of the Cabbage flies (Anthomyia radicum) was the offender. Instead of instantly consigning the creatures to the flames, I made a note of the date and of the origin and number of the maggots and placed them, with about an ounce of mould, in a cocoa tin, intending, in due course, to study their movements.

Six weeks elapsed before I took up the tin and read the note. On opening the lid to see if, after the lapse of so long a period, anything was to be learned, I found a fly fluttering away to the window, then another, and a third. The window being closed, it was possible at once to capture them and place them in a tube. Here, then, was the first observation—at the end of six weeks there were living flies. These had come from the larvæ, and, therefore, the larvæ must have pupated. But what of the other dozen or more maggots which had been placed in the box? On turning out the mould it was found that about half-a-dozen flies had emerged and died in captivity. Here was another fact, the value and interest of which will shortly appear. Empty brown chrysalis cases were found, then some which were not vacated, showing that a part of the flies had not yet emerged. No maggots remained, but the number of pupa cases, full or empty, agreed so well with my record—"about 20 grubs"—that there was no doubt all had passed into the chrysalid state.

A little further examination revealed the presence of about four different species of plant mites, three species of white worm, and a beetle larva. Some, at least, of these were evidently parasites, or, at least, retainers and followers. They could only live where the fly lived, or where the fly had prepared the way.

Now observation by itself is of but limited value. Everyone with eyes can see, and all who have ears may hear. But the question is—what do we see or hear? Only that which we bring the powers to understand. We must have, in the first place, accuracy, detail, true and full particulars; but that only supplies the groundwork. The next thing is the power to draw reliable conclusions from what has been observed. Two men observe a cloud. To one it is just a cloud and nothing more: to the other it is the precursor of a storm. The first passes on and suffers: the second makes ready for the downpour, and escapes the wetting. So two men work in the garden. Each sees his fruits and vegetables suffer. One is content with the observation: the other discovers the cause, and reasons out for himself the plan to be adopted for their future safety.

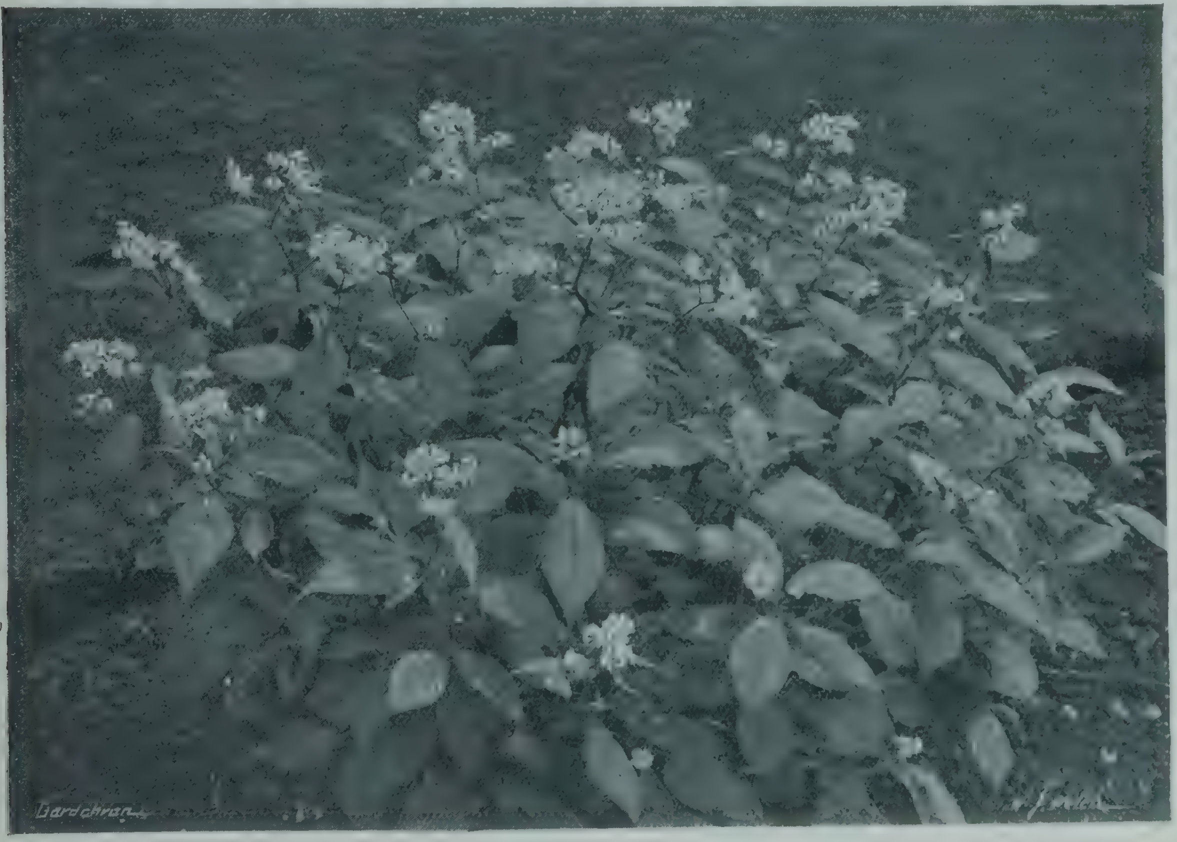
What, then, do the facts recorded respecting the Cabbage fly teach us? The lessons are many and important. Thus we find that, while some flies attack the leaf, at least one species works its mischief at the root. Where the seat of the evil is, there must the remedy be applied. If one fears that the seed-bed has been attacked, he will place the roots of his plants in some preparation which will have the effect of destroying the eggs or newly-hatched grubs. Next we have the life-history. Maggots in June, pupæ in July, flies in August. This observation is a limited and imperfect one, yet it is full of instruction. We learn that the flies do not all develop and emerge exactly in the same period or at the same time. On August 15, some flies were newly hatched, while some had died already in confinement, and others were waiting to emerge. See the meaning of this. If all took to the wing the same day, they might find the conditions adverse, and the whole brood perish. But, by emerging successively, a few at a time, they secure for their destructive race the largest possibilities, and make their offspring a perpetual source of anxiety. For it would be a poor garden and a very bad season which did not afford some of the flies an opportunity to lay their eggs. Thus we learn that constant watchfulness is necessary if the Cabbage fly is to be kept in check, and are forewarned that the moment a sickly Cabbage is observed, every grub at its root should instantly be secured and destroyed.

But even here our study does not end. When the larvæ change into pupæ, new forms of life appear. And as the flies leave their breeding-place they are attended by a number of parasitic mites, which they distribute right and left as they flit among the plants, and so carry other deadly forms of infection. While further, white worms, which need some form of decaying vegetable matter for their pabulum, haunt the place where decay has set in, and soon become so numerous as to prove a further terror to the gardener.

Apply all this to practical horticulture, and see what it means. We make a simple observation in our plot of Cabbages. Perhaps we do no more; then we leave the pest to multiply and become a constantly-increasing curse to ourselves and others. Or we go a little further and pull up the sickly specimens, and consign them to the rubbish heap. Here we have even wrought a greater evil than that of mere neglect, for we have placed the maggots in the way, perchance, of a freer and readier transformation. But if we are wise, we shall not play the priest and pass by, or the Levite and observe: we shall take the matter seriously in hand, and do our best to remedy the evil. When we can learn first to observe, then to examine, and finally draw from our observations right conclusions, we shall begin to be of service to mankind and the world. But all this means that we must have brains, and, further, that we must exercise them with patience, persistence and devotion, for thus and only thus is success to be ensured.

The lines which I have followed in this particular study are, *mutatis mutandis*, those which are to be followed generally in the study of economic entomology, and every working gardener may find at any season of the year some subject to which he may devote his attention with pleasure and profit.

For the guidance of the practical gardener and the economic entomologist, it may be well to give a few details respecting the species of Cabbage fly which we have been discussing. The imago or perfect insect is figured in Miss Ormerod's *Manual of Injurious Insects*, 2nd Ed., 1890, p. 25. The maggots are "whitish, cylindrical, and legless, tapering to the head, and blunt at the tail, and when full grown they are about the third of an inch long." In due time they change into pupæ, with brown cases, from one-fourth to one-third of an inch (or 5 to 6 mm.) in length, and 2 mm. broad. Within these cases the flies undergo their final change, and in a state of nature may emerge in about two or three weeks from the time when their cocoons are formed. The flies measure about half-an-inch in length, as well as in the spread of the wings (i.e., from tip to tip), and there is a marked difference between the male and female. The eyes are large and brown, the body dark grey, with stripes on the sides, back, and abdomen of the male. The fly is strong on the wing, and may be met with from early summer on to November. It appears that the autumn broods pupate and remain in the soil as chrysalids during the winter, ready to emerge and lay their eggs as soon as the young Cabbages are ready for them. *Hilderic Friend, Swadlincote.*



[*Photograph by W. Irving.*

FIG. 212.—POLYGONUM CAMPANULATUM; FLOWERS PINK AND WHITE.

POLYGONUM CAMPANULATUM.

About 70 different Polygonums are found in the Himalayas, including several important garden species. One of the most valuable is the handsome P. polystachyum, which forms a bushy plant about 5 feet high, covered in the late autumn with panicles of pink and white flowers. The pretty little P. sphærostachyum grows only a foot or so high, and produces heads of rich, red flowers. It is a suitable plant for growing in moist, shady places, but P. campanulatum (see fig. 212) flourishes in the open border. The latter belongs to the same section as P. polystachyum and P. molle, two well-known garden plants, and forms a bushy plant from 2 feet to 3 feet high, with much-branched stems, terminating in cymes of pink flowers in September and October. The petioled leaves are elliptic-oval in shape, with acuminate points, the upper surface of the leaf being green, while the underside is covered with a fibrous brown tomentum. Three varieties, differing chiefly in the amount of tomentum on the underside of the leaf, are found in the temperate and sub-Alpine Himalayas of Eastern Nepal and Sikkim, at an elevation of from 9,000 to 12,000 feet. The plant illustrated in fig. 212 was received from Miss Shaen, of Binfield, who obtained seeds from Calcutta, and first flowered it in September, 1910. The species is quite hardy, and, the growth being dwarf and compact. Direct sunshine causes scorching, especially if the soil is light and dry, therefore it is best to plant it in a rather shady position. Like many other Polygonums, this species produces underground creeping stems, but not to the same extent as the Japanese P. cuspidatum; the stock may be easily increased by division of the clumps. *W. I.*

PRIMULA FORSTERI.

THE illustration in fig. 213 shows Primula Forsteri growing in a moraine in a position facing the east, where the sun's rays do not reach it. Mr. John MacWatt, of Morelands, Duns, Perthshire, who sends us the photograph, states that the situation seems to suit the plants well, as they keep in good health, grow splendidly, and flower with remarkable freedom. Mr. Farrer describes* Primula Forsteri, of the Brenner Alps, as a natural hybrid from Primula hirsuta, crossed with P. minima, and as having a closer resemblance to this latter parent. The flowers are rose-coloured.

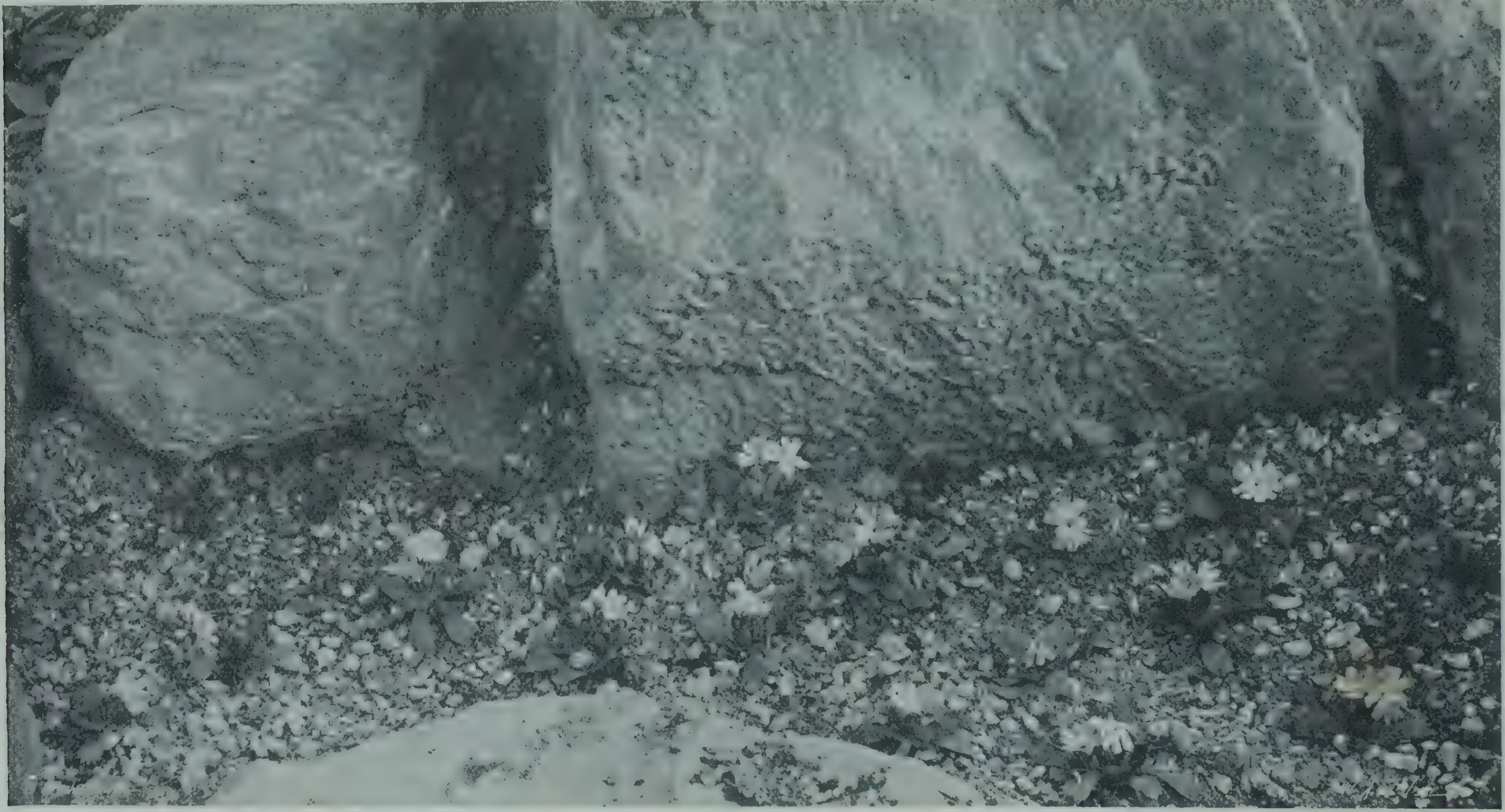


FIG. 213.—PRIMULA FORSTERI GROWING IN A MORAINE.

PROGRESS OF HUSBANDRY.

THE Presidential Address on "Early Associations for Promoting Agriculture and Improving the Improver," delivered by Mr. T. H. Middleton before the members of the Agricultural Section of the British Association last September, is full of interesting historical details, as will be seen from the following extracts. It appears that Dundee itself had much to do with the first associations for improving agriculture, for, in 1796, James Donaldson, a Forfarshire agriculturist, made a vigorous appeal for the establishment of such societies amongst farmers. Mr. Middleton states that interest in the practice of improved husbandry was first aroused in England by the books of Fitzherbert, and that it "was between 1523, when Fitzherbert's *Boke of Husbandry* was first printed, and 1557, when Tusser published his *Points of Good Husbandry*, that the classical writers began to exert a direct influence on English farming. In 1532 there appeared Xenophon's *Treatise of Householde*, 'ryht counnyngly translated out of the Greke tonge into Englyshe by Gentian Hervet,' which at once became popular and ran through a number of editions. At least as early as 1542 editions of the works on agriculture and gardening by Cato, Varro, Columella, and Palladius were published in England, and they must certainly have been known to Tusser, for in his *Five Hundred Points of Good Husbandry*, composed some years later, there is clear evidence of the influence of the writings of Xenophon and Columella.

Mr. Middleton shows that "the awakening of interest in husbandry was largely due to the rapid changes in the economic conditions of England which set in about Fitzherbert's time. These changes we cannot now discuss, but their magnitude may be indicated by the rise in price of the single staple—Wheat. According to Thorold Rogers, the average price between 1400 and 1540 was 5s. 11¾d., the decennial averages for the last four decades being 5s. 5½d., 6s. 8¾d., 7s. 6d. and 7s. 8½d. Between 1541 and 1582 the average price was 13s. 10½d., and 16s. 8d. for the last 12 years of this period. Between 1583 and 1642 the average price rose to 36s. 9d. In particular years high prices were reached, and in 1596 and 1597 Fleetwood chronicles prices of from 80s. to 104s. per quarter.

"The change in the cost of living directed men's attention to the husbandry and housewifery recommended by Fitzherbert and Tusser. The smaller landowners, who could no longer afford to live on their rents, and who saw that yeomen and tenant farmers were prospering, turned their attention to farming, and agriculture became an important occupation of the educated classes.

"The yeoman and tenant farmer did not ask for text-books on agriculture, but the new agriculturists required information, and thus there arose at the end of the 16th century a great demand for books. The booksellers were not slow to make provision for the demand, writers were secured, books were published, and of the more popular many editions were sold.

"At the end of the 16th century the practice of Continental farming began to attract attention in England, and a further proof of the demand for information which then existed was the translation in 1600 of *Maison Rustique*, a French work by two doctors of medicine, Charles Stevens and John Liebault. This volume, which in its English form is known as the *Countrie Farme*, contains seven books and 900 quarto pages. It is intended to be a complete guide for residents in the country, and deals with everything that the landowner wants to know, from the care of his health to forecasting the weather.

"The English agriculturists of the 16th century went abroad for more than books. Gerarde, who like others of his profession deserted medicine to the great advantage of botany, had obtained a number of foreign plants for his collections. From the gardener, too, England learned of the skill of the Flemings, and would gladly have copied their practice; but the Flemings were too busy to write books; so Englishmen went to see for themselves how and why they prospered.

"Sir Richard Weston, a Surrey landowner, who succeeded to his estates in 1613, and who had travelled in Brabant and Flanders, was the first English agriculturist to introduce practices approved on the Continent. He grew Turnips for feedings cows, a century before the time of Turnip Townshend; nearly 300 years ago he was experimenting, as we are still doing, with Clover seed grown in different countries; he had 30 to 40 acres of Clover sown with Barley, and he was inveighing against the sophistication of 'outlandish' grass seeds and contriving plans for raising pure stocks at home in the approved fashion of to-day.

"The importance of such crops as Clover, Lucerne, Sainfoin, and Turnips was quickly recognised, and agriculturists wished to hear and read more about the husbandry of the places from which they had come. Information was supplied in the works of the alien writers Plattes and Hartlib; the latter especially, by his *Legacie* and his *Reformed Husbandman*, did much to popularise a knowledge of Continental farming and to suggest 'the errors, defects, and inconveniences of our English husbandry.' Hartlib was a widely-travelled man, and gave our improvers many fresh ideas, among them a suggestion for a 'Colledge of Husbandry,' but we cannot claim him as an English agriculturist.

"It was not only from Brabant and Flanders that travellers brought to England information about foreign agriculture. As one result of the development of commerce voyagers were introducing from distant countries such important plants as the Potato and Tobacco, and were exciting interest by their stories of foreign products.

"In spite of the political troubles of the second quarter of the 17th century, agriculture continued to secure increased attention, for England had learned that in war or peace the food supply must be cared for, and the importance of corn growing increased with the rise in prices. Thus, when the Commonwealth was established, everything favoured a forward movement. The first practical farmer to plead the cause of the improvement of agriculture was Walter Blith, one of Cromwell's soldiers, who is supposed to have been a Yorkshire landowner, but who, for some years at least, was stationed in Ireland. Blith was himself an ardent agriculturist, and prefaced his practical book, *The English Improver Improved*, by seven epistles designed to direct the attention of all classes of his fellow-countrymen to agriculture.

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* *The Rock Garden* (Present-day Gardening Series).

"In 1658 there was issued the first series of abstracts of agricultural experiments with which I am acquainted, under the title *Adam out of Eden*. The experiments recorded by the author, Ad. Speed, are of considerable interest; but I mention him for another reason. He appears to have made a living by propounding improvements of an imaginary character. He wrote tracts for noblemen and others, containing estimates of the profits to be gained by adopting new methods. Blith scathingly refers to him as 'Mr. Speed that superlative Improver,' and remarks that so long as his books were private 'I could bear it, and suffer wiser than myself to bee fooled because I was not wise enough as to beware of him, but now that they come to be sold in the Stationers' Shops, and spread abroad the country, to deceive, and beguile the Nation, I cannot forbear.' This was written in 1652; as my edition of *Adam out of Eden* is dated 1659, it is clear that the nation continued to be 'beguiled' for a considerable period by this particular Adam, the forerunner of a numerous family. Whenever there is a revival of interest in agriculture he flourishes; the new manure, the ravaging insect, the blighting fungus, all serve to bring 'Adam out of Eden,' and so long as an interested and gullible public exists 'that superlative Improver Mr. Speed' will be found among us. The pamphlet and the stationer's shop have become antiquated; the Adam of to-day has other methods, which I will not venture to particularise. After all, it is a healthy sign. It is only when the public thirst is deep that Adam gets his chance, and, like Blith, we must resign ourselves now and again to 'bee fooled,' for is it not one of the methods by which the Improver is improved?

"Walter Blith's appeal for the assistance of the learned did not long remain unanswered. At the time his *English Improver Improved* was published a society of scientific men had already been formed in London, and ten years later this society first received the name Royal Society, at the suggestion of John Evelyn. On October 15, 1662, Evelyn's *Discourse on Forest Trees* was presented to the Society. Five years later, when the *Sylva* was published, the author, in the preface, tells us that the Royal Society was then doing much for husbandry. Evelyn records his own experience in studying agriculture and forestry, how he had read all the old authors and got but little good from his studies, and he congratulates his countrymen that 'the *World* is now advis'd and (blessed be *God*) redeemed from that base and servile submission of our noblest *Faculties* to their blind *Traditions*.' Again, referring to the absence of a 'compleat *System of Agriculture*, which as yet seems a *desideratum*,' he says: 'It is (I assure you) what is one of the Principal *Designs* of the Royal Society; not in this Particular only, but through all the Liberal and more useful *Arts*; and for which (in the estimation of all equal *Judges*) it will merit the greatest of *Encouragements*; that so, at last, what the learned *Columella* has wittily reproach'd and complained of, as a defect in that *Age* of *his*, concerning *Agriculture* in general, and is applicable *here*, may attain its desired *Remedy* and *Consummation* in *This* of *Ours*.' He then quotes Columella's remarks about the Schools of Rhetoric, Geometry, and Music, and the absence of agricultural professors and scholars.

"John Evelyn was one of the prominent members of the Royal Society, and he seems to have taken a leading part in defending it against the attacks to which, in the first years of its existence, it was subjected. With much satisfaction he points out, in dedicating the second edition of the *Sylva* to King Charles II, that his essay and the work of the Royal Society have in the past eight years resulted in the planting of over two million timber trees.

"With the exception of the 'Societies of Learning and Gallantry' of the 'Houses of Court and Universities' addressed by Blith, the Royal Society is the earliest to which any influence on agriculture may be traced, and it is certainly the first society which definitely included the improvement of agriculture as coming within its scope. It appears to have depended public interest aroused by the writings of Evelyn and Houghton, and there is evidence that the Society gave much attention to agriculture during the second half of the 17th century, and that its patronage was much valued. The immediate influence of the Royal Society may be traced in Worlidge's *Systema Agriculturæ*.

"Evelyn's *Pomona*, in which he discourses of fruit trees and cider, gives an interesting glimpse of some of the early activities of the Royal Society, for the work itself is based chiefly on contributions by members of the Society to its '*well-furnish'd Registers, and* Cimelia.' Evelyn himself was not practically acquainted with cider-making, and his own interest in the subject, like that of the majority of his fellow-members, was Baconian—i.e., it consisted in a search for 'grounded conclusions and profitable inventions and discoveries.' Possibly, too, the badness of the French wines of the period had some share in directing the attention of the Fellows of the Royal Society to cider, for as early as January 28, 1662, they listened to a discourse on the Adulteration of Wine, by Dr. Charleton.

"In other ways the members of the Royal Society encouraged one another in making improvements; thus when in 1666 Evelyn's 'worthy friend' Mr. Hake went on a journey, he returned carrying with him—for 800 miles—some grafts for Evelyn, together with a 'taste of the most superlative perry the world certainly produces.'

"The proposal made by Worlidge was unheeded at the time, for not until nearly a century after his suggestion was made did English Agricultural Societies begin to appear. A retrograde movement set in soon after the Restoration, and although the Government sought to foster improvements and passed several Acts with the object of stimulating farming, Harte tells us that a 'total change of things, as well as the very cast and manner of thinking, joined with immoral dissipation, and a false aversion to what had been the object and care of mean despised persons, soon brought the culture of the earth into disrepute with the nobility and gentry.'

"An insight into the conditions of the last quarter of the 17th century and the first quarter of the 18th is given us by Lisle, who wrote the Introduction to his *Observations on Husbandry* in 1713. He begins by remarking that it is one of the misfortunes of the age that it lacks honourable conceptions of a country life, he draws attention to the fact that in the decadent days of Rome luxury increased and husbandry was neglected. He calls on the landowner to look around him and see how many fine estates are daily mortgaged or sold, 'and how many antient and noble families destroyed by the pernicious and almost epidemic turn to idleness and extravagance.' He discusses at length the advantages of an agricultural career and recommends it as a profession for the eldest sons of gentlemen, who might regard it as 'a school of profit and education; whereas,' he continues, 'it is rather looked on as a purgatory for the disobedient, a scene of punishment, to which a son, who answers not his father's expectations, is to be abandoned; or a condition of life of which none would make choice, but such whom fortune has not in other respects favoured. If the country gentlemen therefore frequently consist of persons who are either rusticated by their parents in anger, or who, making a virtue of necessity, settle on their estates with aversion or indifference, it is no wonder the comedians exhibit them on our stage in so despicable and ridiculous a figure; but this is the fault of the persons and not of the art. Were they properly initiated in the study of Agriculture, and pursued it as they ought, it would be so far from excluding them from useful knowledge, and bringing them into contempt, that I may venture to assert, they would find it the best school of education, and the fittest to prepare them for the service of their country in the two houses of parliament of Great Britain.'

"Such were the dispiriting social conditions with which the successors of Evelyn in the Royal Society had to contend. The agricultural experiments of the Society, therefore, attracted but little attention outside the ranks of the curious. Houghton, a contemporary of Evelyn's, started a periodical publication, *Houghton's Letters*, but it soon ceased. A generation later, and about

quotation, a work on husbandry was
a Fellow, John Mortimer. It is dea
the Society, 'to whose encouragement,
and direction it owes its birth.' Specia
are given to another Fellow, Dr. Sloa
assisted the author, and has greatly con
to the advancement of useful knowledge

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culture and Gardening, a translatio
French of the Abbot de Vallemont
William Fleetwood, published anonymou
1707; this work contains the passage:
Royal Society of *England* who are so zealous for the Perfection of Agriculture and Gardening, have apply'd themselves with great Care to find out the true way to make Salt-petre, which they likewise allow to be the chief Promoter of the Vegetation of Plants.'

"About this time botanical questions of much interest to agriculturists were occupying the attention of the Royal Society. Robert Ball and Samuel Moreland were investigating reproduction in plants, and a few years later Richard Bradley, another Fellow, Professor of Botany at Cambridge, but more of an agriculturist than a botanist, was explaining how, by cross-breeding, 'such rare kinds of plants as have not yet been heard of' may be produced. He refers specifically to a cross between a Carnation and a Sweet William, but by inference to Burgoyne's Fife and the other things 'not yet heard of,' that are associated with agriculture and botany in the Cambridge of to-day.

"William and Mary were patrons of horticulture. They greatly improved the Royal Gardens, and the nobility, in imitation, laid out parks and *parterres*. This demand gave opportunity to the professional gardener, and the garden designer and nurseryman started business. It likewise gave authors their opportunity, and that it was well taken advantage of is proved by the popularity of Miller's *Gardeners' Dictionary*, written by the Gardener of the Botanic Gardens at Chelsea, and dedicated to Sir Hans Sloane, President, and to the Fellows of the Royal Society.

"A second writer on gardening of this period, the Rev. John Laurence, of Bishop Weremouth, Durham, may be mentioned, for he was also one of the chief agricultural writers of the first half of the 18th century. In 1726 he published a large folio work entitled *A New System of Agriculture*. This book marks the time when what the author calls the 'Spirit of Gardening' appeared, and it proves that gardening was very popular with the landed and educated classes for some years before the revival in agriculture began. Incidentally he refers to the condition of the North of England, and says that the county of Durham may properly be termed the Garden of the North, such are the possibilities of improvement afforded by its soil and situation and the 'hasty Diligence of a wise and polite People.'

"Although for 70 years after its formation, and throughout a period during which agriculture was neglected by the landed classes, the Royal Society did much to keep alive the Spirit of the Improver, the unfortunate apathy of the agriculturist prevented that progress which appeared to be imminent when John Evelyn wrote his *Pomona*. It was not possible for a learned society in London to investigate agricultural questions in the absence of the scientific agriculturist himself; subjects of agricultural interest were therefore discussed chiefly from a theoretical standpoint, and, neglecting the teachings of Bacon and the example of Evelyn, there arose that use of the deductive method which in the past two centuries has done so much to hinder the progress of agricultural science.

"The first to show the fallacy of the deductive method in studying this subject was Jethro Tull, who, though he himself fell into the errors which he condemned, was, in his understanding of the true relationships of science and practice, far ahead of any of his contemporaries. A lawyer by training, he probably took to agriculture because of his poor health. He worked at it for 20 years before he was induced to set out his views in writing, and it was years after he began farming before he read anything on the subject. Dissatisfied with the practice of his times, he set himself to reason out new methods and to make experiments. He got suggestions from foreign travel; he tells us, for example, that the first hint of the value of horse-hoeing

loughed vine-
eful to submit
ment before he
He lived a lonely
is farming spread
Horse-hoeing Hus-
ars to have devoted
ents in farming. The
occasioned much cor-
er he made himself ac-
e ancient and modern
and used his knowledge to
rgument with the writers
tively *Equivocus.* His tem-
ay judge from his references
as far from serene, was much
roversies with *Equivocus,* and
the writers and scientific men of
half-century are severe. He re-
ample, on the superficial knowledge
of agriculture shown by 'Mr. Laurence, a divine; Mr. Bradley, an academic; Dr. Woodward, a Physician; Mr. Houghton, an Apothecary; these for want of practice could not have the true theory; and the writers who are acquainted with the common practice, as Mr. Mortimer (whether for want of leisure, or not being qualified, I do not know), have said very little of any theory.'

"Tull himself, a thoroughly experienced, practical farmer, whose successful methods had drawn widespread attention to his Berkshire farm, showed no hesitation in setting out his own views on roots, leaves, the pasture of plants, and other scientific subjects then engaging attention. His remarks were based on original observations, and it is clear that he did not merely copy opinions from scientific treatises. He freely criticised the writings of others; even 'Mr. Boyle' and that 'miracle of a man Sir Isaac Newton' are severely handled by this critical farmer, and in a characteristic sentence he remarks: 'From Sir Isaac's transmutation arguments we may learn that a man never ought to depend entirely upon his own for support of his

meagre were Tull's opportunities for study, that he lived a retired life in the country, that he had long abandoned letters for practical farming and only began to read the works of others late in life; if, further, we remember that his health was bad, and that his appliances for scientific study were indifferent—'my microscope, indeed, is but a very ordinary one,' he writes—we must give him a foremost place among the scientific agriculturists, not only of the 18th century, but of all time. His wide knowledge and keen reasoning place his *Horse-hoeing Husbandry* in a class by itself among the works of the early improvers.

"Jethro Tull's great work was published two generations after Walter Blith first endeavoured to awaken the Spirit of the Improver in English farmers. Throughout this period not much progress had been made, but a change was at hand. When in 1730 Turnip Townshend left politics and went down to Norfolk to farm his estates, the tide had turned, and henceforward throughout the 18th century there was a rapid improvement in the practice of English agriculture."

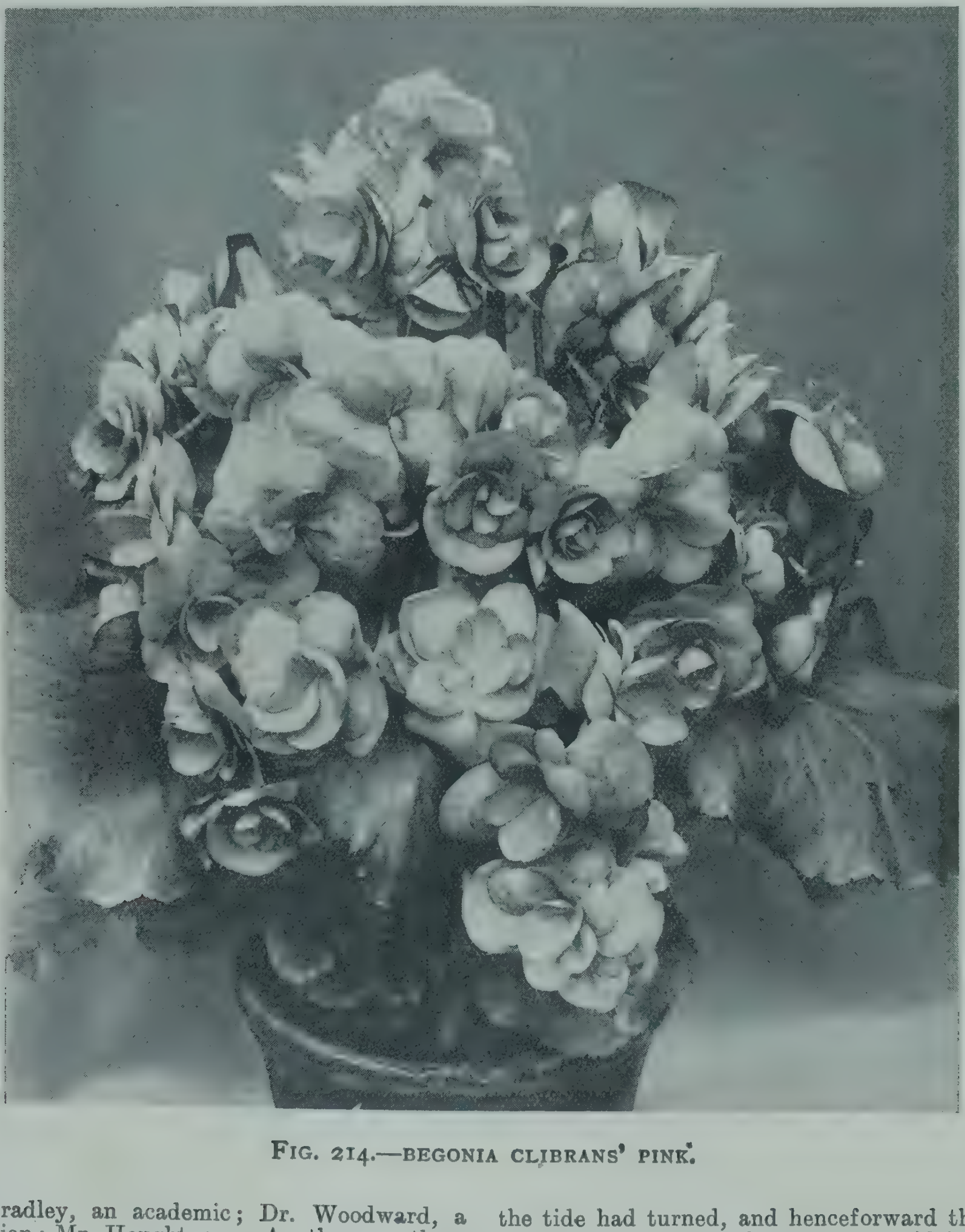

FIG. 214.—BEGONIA CLIBRANS' PINK.

BEGONIA CLIBRANS' PINK.

THE flowers of this fine winter-blooming Begonia measure 3 inches across, and are coloured bright pink; they are developed in large trusses, and there are sometimes as many as 13 blooms in a cluster. As will be seen in fig. 214 a well-grown plant resembles a posy of flowers, set off by the leaves, which are dark green in colour. Plants of this beautiful variety were exhibited by Messrs. Clibrans in a collection of these flowers at the meeting of the Royal Horticultural Society on November 19, when its superlative qualities showed to advantage amongst numerous other varieties. This variety gained an Award of Merit from the

PRUNING COMPETITION AT MADRESFIELD.

THE Agricultural Club at Madresfield Court has held a pruning competition for several years past, and there is no lessening of the enthusiasm shown both by competitors and spectators. The competition of this year was held on November 30, at the Braunford Court Farm, on the Madresfield estate. The subjects selected for pruning were Apples, Plums, Gooseberries, and Black Currants. The Apple and Plum trees ranged in age from 7 to 14 years; some were growing in Grass and some in arable land; and standards and half standard trees were included. Most of the Gooseberry and Currant bushes were full grown, so that all the plants were well established. Stewards were appointed to carry out the arrangements for the competition. They had the power to stop any pruning which they judged to be ignorant and unskilful: and this power is occasionally exercised.

The competition is usually divided into three classes—(1) for juniors, who have had no previous experience; (2) for more advanced and experienced pupils; and (3) for fully qualified pruners—the "Champion" Class. This year there were four entries in class (1), nine in (2), and six in (3). The time for each kind of tree is limited to one hour.

Black Currants were operated on first, a row of bushes being assigned to each pruner. As it is impossible to obtain several rows in which the trees are all alike in character and size, the judges take these circumstances into account when assigning the points. When the Currant bushes were finished, the Gooseberries were pruned. The competitors were watched closely during the whole time they were at work, not only by the judges and stewards, but also by visitors who take a keen interest in the contest. The Plum trees were taken next; the pruning of these trees requires care and deliberation, and the steps and saw were occasionally brought into requisition. The Apples were pruned last.

In awarding the points ten each may be given as the maximum for (1) good workmanship, (2) balance of work after the tree is finished, (3) general excellence, (4) expedition combined with good work. The marking was done by the judges during the progress of the work. Money prizes were given in each class, and a pruning knife was presented to every unsuccessful candidate.

Instruction in pruning is given to any applicant nominated by the members, by an instructor appointed by the club. The pupils are required to attend for instruction on five consecutive days, and are then permitted to qualify for competition. If they satisfy the instructor that they have profited by his instruction, they receive the sum of 12s. each.

The Madresfield Agricultural Club is probably the first to institute an annual pruning competition, though other clubs have since taken it up.

The pruning was on the whole uniformly good. This year the competitors did exceptionally well, and the mistakes were surprisingly few.

ANSWERS TO CORRESPONDENTS.

ORCHID JOURNALS: *R. P., Russia.* *The Orchid Review,* a monthly journal, price 7s. per annum post free. Published by R. Allen Rolfe, Lawn Crescent, Kew, London. *The Orchid World,* published monthly by Gurney Wilson, Haywards Heath, Sussex, price 12s. per annum post free.

NAME OF PLANT: *W. P. F.* Mazus rugosus.

Communications Received.—G. R.—J. W.—G. K.—G. M. T.—E. P. P.—S. A.—A. & B.—A. R. G.—L. G.—

R.H.S. SHOW AT KENSINGTON.

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☞ For CONTENTS see page 1.

In consequence of the increase in the circulation, and also of the earlier despatch of the morning trains from London, the hour of going to press has been again advanced, and in future Advertisements received after 5 p.m. on WEDNESDAY will be held over till the following week. On no consideration whatever will any exception be made to this rule.

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on arrival, on application. Send information as to measur
ments, position and soil to KELWAY & SON, The Roy
Horticulturists, Langport, Somerset. ——, Esq
Excelsior, Minn., U.S.A. "I enclose a photograph of or
corner of my 'Kelway' Garden showing some Onaperdo
Bracteatums in the foreground and Delphiniums ar
Pæonies in background."

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LAURENCE GOMME,
Clerk of the London County Council.

County Hall,
Spring Gardens, S.W.,
27th June, 1912.

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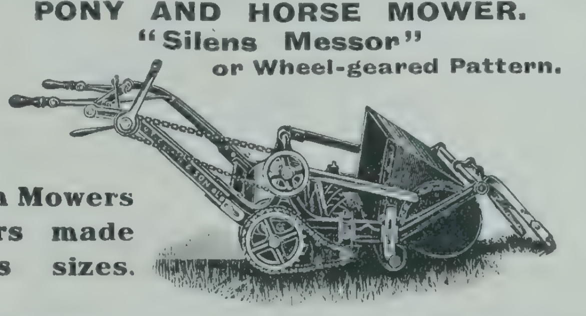

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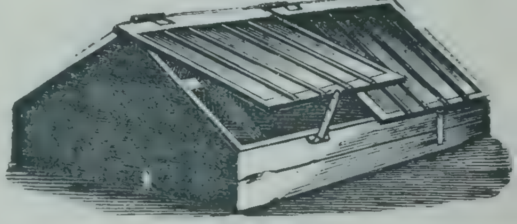

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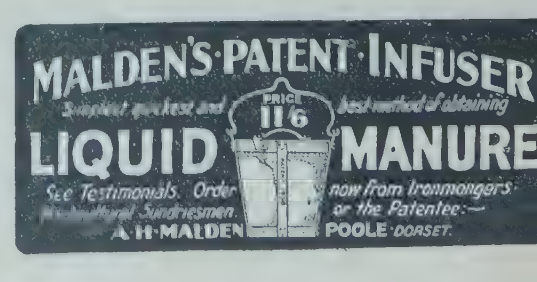

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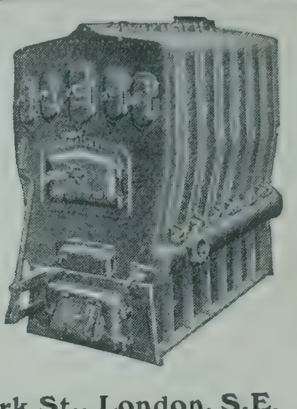

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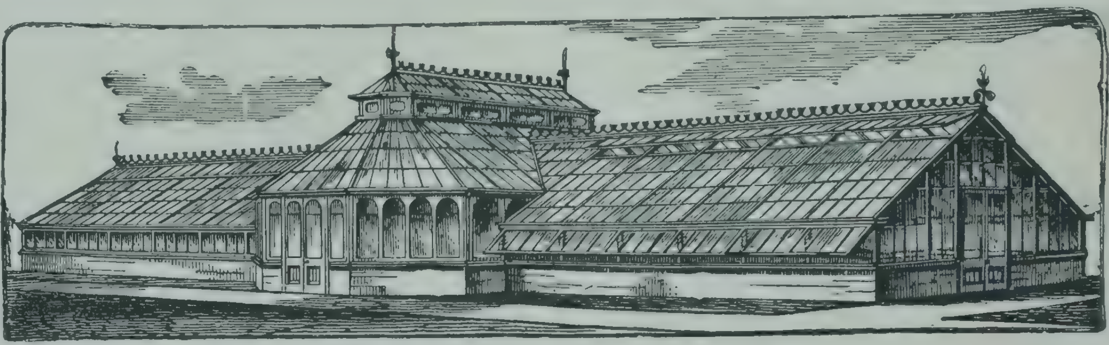

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Beetlecute is superior to every other preparation as an exterminator of the above insects in Private Houses, Gardens, Hothouses, Propagating Frames, etc.

A powder eagerly devoured by these pests causing them to shrivel up and disappear.

Non-Injurious to Foliage, Fruit and Flowers. Harmless to Human Beings & Domestic Animals.

In Tins, 6d., 1s. and 2s. 6d.

Sold by Florists, Grocers, and Chemists, or direct from
VALLS & CO., 20, Little Britain, London, E.C.

MARKETS.

COVENT GARDEN, July 3.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d
Alstroemeria ...	6 0- 7 0
Arums (Richardias)	2 0 —
Asters, white ...	3 0- 4 0
Bouvardia, per dz. bunches ...	6 0- 7 0
Carnations, p. doz. blooms, best American var.	1 0- 1 6
— smaller, per doz. bunches	10 0-15 0
— Carola, crimson, extra large	2 6- 3 0
— Malmaisons, p. doz. blooms:	
— — pink ...	4 0- 8 0
— — blush ...	3 0- 4 0
— — red	3 0- 4 0
Centaurea, Sultan (sweet) mauve and white, per doz. bunches...	4 6- 5 0
— yellow	3 3- 4 0
Chrysanthemuum, Maximum, per doz. bunches...	2 0- 3 0
Coreopsis, per doz. bunches ...	0 9- 1 0
Cornflower, p. doz. bunches, pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	6 0- 8 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches ...	0 9- 1 0
Gardenias, per box of 15 and 18 blooms... ...	2 6- 3 0
Gladiolus, per doz. bunches:	
— Blushing Bride	4 0- 6 0
— Bride, white ...	2 6- 5 0
— Fire King ...	5 0- 6 0
— Hybrids, p. dz. spikes	3 0- 4 0
— Ne Plus Ultra	6 0- 8 0
— Peach Blossom	8 0- 9 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
— pink	3 0 —
Iceland Poppies, p. dz. bunches	1 0- 1 6
Iris (English), per doz. bunches:	
— various colours	4 0- 5 0
Lapagerias, white, per dozen ...	1 6- 2 0
Lilium auratum per bunch ...	4 0- 5 0
— longiflorum, per doz., long	1 0- 1 6
— — short ...	1 0 —
— lancifolium alba, long ...	2 0- 2 6
— — short ...	1 6- 2 0

	s.d. s.d.
Lilium speciosum rubrum, p. dz., long	2 0- 2 6
— — short ...	0 9- 1 0
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0-18 0
— special... ...	10 0-12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 6- 2 0
Mignonette, per doz. bunches...	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	9 0-10 0
— Odontoglossum crispum ...	1 6- 2 0
Pancratiums, p. dz. blooms ...	2 6- 3 0
Pelargoniums, p. doz. bunches	3 0- 4 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms,	
— Bridesmaid,	0 9- 1 0
— C. Mermet ...	0 9- 1 0
— Frau Karl Druschki ...	1 6- 2 6
— General Jacqueminot ...	0 9- 1 0
— Liberty ...	1 0- 1 6
— Madame A. Chateney ...	0 9- 2 0
— Niphetos ...	1 0- 1 6
— Richmond ...	1 0- 2 6
— Sunburst ...	1 6- 2 0
— Sunrise ...	1 0- 1 6
— President Carnot	1 6- 2 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegan	1 0- 1 6
— Kaiserine ...	1 0- 2 0
Scabious caucasica, per doz. bnchs.	2 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, mauve, per doz. bunches...	3 0- 4 0
Stephanotis (72 pips)	1 0- 1 8
Stock, per dozen bunches:	
— white	3 0- 4 0
Sweet Peas, pr. dz. bunches:	
— coloured ...	1 6- 3 0
Tuberoses, p. doz. blooms:	
— long	0 4- 0 6
— short	0 3- 0 4
Violas, small blue, p. doz. bunches	0 9- 1 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0 18 0
— Sprengeri ...	10 0 12 0
Carnation foliage, doz. bunches...	4 0 —

	s.d. s.d
Croton foliage, various, per dozen bunches ...	12 0-15 0
Cycas leaves, artificial, per doz.	8 0-12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, per gross ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, p. dozen	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, p.dz.	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated ...	30 0-60 0
Chrysanthemum, coronarium, 48's, per dozen	3 0- 5 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ...	2 6-10 6
Coleus, per doz. ...	4 0- 5 0

	s.d. s.d.
Crassula, various (in 48 pots) per dozen	9 0-12 0
Croton, per dozen	18 0-30 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0-12 0
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, doz. ...	6 0 —
— choicer sorts per doz. ...	8 0-12 0
— in 32's, per dozen	10 0-18 0

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ficus elastica, per dozen	9 0-12 0
Fuchsias, per dozen	8 0- 9 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Heliotropes ...	6 0- 8 0
Hydrangeas white, 48's, per dozen	18 0 21 0
— pink	8 0-12 0
— blue, each ...	2 0- 5 0
— paniculata, per dozen	18 0-24 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen ...	15 0-18 0
— lancifolium alba	15 0-18 0

	s.d. s.d.
Lilium longiflorum, per dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
— yellow ...	10 0-12 0
Mignonette, 48's, per dozen ...	6 0- 8 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargoniums, per dozen	9 0-12 0
— Ivy-leaved ...	7 0 9 0
Phœnix rupicola, each	2 6-21 0
Rhodanthi, per dz. pots	5 0- 6 0
Saxifraga (pyramidalis) 48's, per dozen	15 0-18 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0
Verbenas, pink ...	6 0- 8 0
— scarlet... ...	8 0- 9 0
— white	8 0- 9 0
— blue	8 0- 9 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Tasmanian per case ...	7 0-10 0
— Australian per case	8 0-10 0
Apricots, French per box ...	0 10- 4 6
— half sieves ...	8 6- 9 0
Bananas, bunch:	
— Doubles ...	10 0-12 0
— No. 1	7 6- 8 0
— Extra	9 0- 9 6
— Giant	10 0 —
— Loose, p. doz.	0 6- 1 0
— Red coloured...	5 6- 6 6
— Jamaica Giants, per ton ...	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Cherries, French, ½ sieve... ...	5 0- 6 0
— English, ½ bshl.	5 0-14 0
— pecks	6 0- 8 0
Currants (French), Red, p. handle	1 9- 2 0
— (English), Black, pecks	4 0- 5 0
— Black, ½ bushl.	8 0- 9 0
— Red, pr. ½ bshl.	4 6 —
Figs (Guernsey), per dozen ...	2 0- 5 0
— English ...	2 0- 5 0
Gooseberries, per ½ bushel ...	2 0- 3 0
— Dessert, ½ bshl.	4 0- 6 0
— Large dessert, per peck ...	6 0- 8 0
Grape Fruit, case:	
— 96's	18 0-20 0
— 80's	
— 64's	
— 54's	
— English (new) per lb.	1 0- 5 0
— Canon Hall ..	1 6- 5 0
— Muscats ...	1 0- 5 0
Greengages, p. bx.	0 10- 1 3
— ½ sieve... ...	9 0-10 0
Lemons:	
— Messina, p. case	7 6-12 0

	s.d. s.d.
Lemons:	
— ordinary, per case	4 6- 8 0
Limes, per case ...	4 0 —
Melons (Guernsey)	1 0- 2 6
— (English) ...	1 0- 3 0
— Canteloupe ...	2 0-10 6
Nectarines, per dozen:	
— selected ...	8 0-15 0
— best	4 0- 6 0
— seconds ...	2 0- 3 0
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Chestnuts, per bag	3 6-19 0
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 3 —
— Walnuts (Naples), kiln dried, cwt. cases	54 0 —
Oranges:	
— Navels... ...	16 0-18 0
— Denia, case ...	14 0-18 6
— Mercia... ...	7 6- 8 0
Peaches:	
— French, ½ sieve	6 0- 8 0
— boxes	1 0- 2 0
— English, dozen:	
— selected ...	10 0-18 0
— best	6 0- 8 0
— seconds ...	1 0- 2 0
Pineapples, St. Michael ...	3 6- 5 6
Plums, French, ½ sieve	8 6-10 6
Raspberries:	
— punnets, per dozen	4 0- 8 0
— chips	1 6- 2 6
— peck	4 6- 6 0
Strawberries:	
punnets (outdoor), per doz.	8 0-12 0
— Kent, per peck	3 6- 4 6

Vegetables : Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen ...	2 6- 5 0
Asparagus —	
— (English) bndl.	
— Cambridge ...	0 6- 2 0
— Worcester ...	2 0- 5 6
— Giant	6 0-12 0
Aubergines, per dozen	2 6- 3 0
Beans, Guernsey Dwarf, per lb.	0 4-0 10
— (English) p. lb.	0 6- 1 0
— French, per packet, lb. ...	0 4- 0 6
Beetroot, p. bshl.:	2 6 —
Cabbages, Evesham, pots ...	1 6- 2 0
Carrots (English), pr. doz. bun....	2 0- 3 0
— (French) per dozen bunches	4 0- 6 0
Cauliflowers, per dozen	1 6- 2 6
Chicory, per lb. ...	0 4 —
Cucumbers, per dozen	1 6- 2 0
Endive, per dozen	2 6- 3 0
Greens, per bag ...	1 0- 1 6
Herbs (sweet), pkts., p. gross	7 0 —
Horseradish, 12 bundles ...	12 0-15 0
Leeks, per doz. ...	2 6- 3 0
Lettuce (English), Cos, per tally...	2 0- 3 0

	s.d. s.d.
Lettuce (English),	
— Cabbage, p. dz.	0 9 —
Marrows, per doz.	1 6- 2 0
Mint, per dozen bunches ...	1 6- 2 6
Mushrooms, cultivated, per lb.	1 3- 2 0
— outdoor, per peck	3 6- 4 0
Mustard and Cress, p. dz. punnets	1 0 —
Onions (Egyptian)	7 0- 8 0
— (Spanish) ...	6 0- 6 6
— (Spring), per doz. bunches	0 6 —
Parsley, ½ sieve ...	2 6- 3 0
— per doz. bun.	2 0 —
Peas (English), per bushel	3 6- 5 0
— shelled, pr. qt.	1 0- 1 6
Radishes (English), per dozen ...	0 9- 1 0
— (Jersey) long...	0 9- 1 0
Rhubarb, outdoor, per dozen ...	2 6- 3 0
Spinach, pr. bshl.	2 0- 2 6
Tomatos, per doz. lbs.:	
— (Guernsey), ...	3 0- 3 3
— (English), ...	3 0- 3 6
— seconds ...	1 0- 1 6
Turnips (English), per dz. bunches	2 0- 3 0
Watercress, p. dz. bunches ...	0 6 —

REMARKS.—The final shipments of Tasmanian Apples are now being sold, the principal variety being the well-known and popular Sturmer Pippin. Loganberries are plentiful, but are meeting with a slow demand; for some reason or another they do not seem to be much appreciated by the public. Black, Red and White Currants are arriving in fairly large quantities from all sources, including the Continent. Black Currants are extra fine this season. Choice dessert Gooseberries are making their appearance in the market. Tomatos have been very plentiful, but a shortening of the supplies is expected this week-end. Cherries are a good supply, consisting of the varieties Napoleon, Waterloo, Black Eagle and Elton; all the fruits are of excellent quality. Consignments of vegetables of all kinds are sufficient for the demand. Black and Muscat Grapes are very plentiful, but the demand is limited, and their prices remain low. Peaches are a shorter supply and their prices are firmer, but Nectarines are plentiful. Consignments of both Peaches and Nectarines are arriving daily from the Continent. Figs from Worthing and the Channel Islands are plentiful, many of the samples being of excellent quality. Cantaloupe Melons are abundant; many of the fruits present a very attractive appearance. Other varieties of Melons are scarcer. Strawberries from the Southampton district are practically over, the chief sources of supplies now are Scotland (Blairgowrie) and the Home Counties. The remarks on Strawberries apply also to Raspberries. *E. H. R., Covent Garden, July 3, 1912.*

Old Potatos.

Maincrop ... ... 3 0- 3 6 per cwt.

New Potatos.

	per cwt. s.d. s.d.
Bedfords	6 0- 7 0
Kents	7 0- 8 0

	per cwt. s.d. s.d.
Blacklands ...	5 6- 6 0
Lincolns	6 0- 7 0

St. Malos ... ... 6 0- 6 3 per cwt.

REMARKS.—Supplies of old Potatos are, with the exception of a few Maincrop tubers, almost finished. New Potatos are rather scarcer on account of the wet weather, and they are selling readily at the prices quoted. *Edward J. Newborn, Covent Garden and St. Pancras, July 3, 1912.*

GARDENING APPOINTMENTS.

[Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. G. E. BULLEN, late Foreman for 4 years and 8 months in the gardens of Mrs. BURNS, North Mymms Park, Hatfield, Hertfordshire, as Superintendent (garden and farm) to HENRY FRASER HARRIS, Esq., Harston, Chestnut Hill, Pennsylvania, U.S.A.

Mr. W. RENNIE, for the past 12 months Gardener to Mrs. OPPENHEIMER, at Hawthorn Hill, and previously for 4 years Foreman in the Pleasure Grounds at Cliveden, as Gardener to Mrs. OPPENHEIMER, Waltham Place, Maidenhead, Berkshire.

Mr. T. CRADDUCK, Gardener to the Right Hon. LAURENCE HARDY, M.P., Sandling Park, Hythe, Kent, and previously at Hopedene Gardens, Surrey, and Eastwell Park, Kent, as Gardener to the Earl of JERSEY, Middleton Park, Oxfordshire.

Mr. A. HITCHCOX, for the past 9 months Gardener to Col. LAURIN, Orielton House, Pembroke, as Gardener to R. H. MACKWORTH-PARED, Esq., at the same place.

DEBATING SOCIETY.

BRISTOL AND DISTRICT GARDENERS'.—The monthly meeting of the above association was held at St. John's Parish Room, Clifton, on June 27. Mr. Thoday presided over a large attendance. A paper was read by Mr. Woodward on "Salads." Mr. Woodward stated that Lettuces may be had early out-of-doors by sowing in March on a warm border, pricking out the plants at a distance of 9 inches or 1 foot apart. Further sowings should be made at intervals to maintain a constant supply during summer. Chicory he advised sowing in June in rows at 1 foot apart, treating the plants as for Seakale. Endive, he said, should be grown in a sandy border, and, when large enough for bleaching, pots or boards should be placed over the rows. Radish for early use should be sown in frames or on hot beds. It is necessary to grow this crop quickly. Beetroot, Onions, Chives, Chervil, Tomatos and Cucumbers were also dealt with in the paper.

SCHEDULES RECEIVED.

Maidenhead Chrysanthemum, Fruit and Vegetable Society.—The fifteenth exhibition of Chrysanthemums, fruit and vegetables will be held in the Drill Hall, Maidenhead, on Thursday, November 7. Secretary, Mr. J. Gibson, 24, York Road, Maidenhead.

County Clare Horticultural Society.—The exhibition of flowers, fruit and vegetables of this society will be held at Ennis on July 17. The fruit and farm produce show (confined to County Clare) will be held in the Courthouse, Ennis, on October 2. The spring show in 1913 will be held at Ennis on Tuesday, April 16. Secretary, Mr. H. Bill, Lifford, Ennis, Ireland.

CATALOGUES RECEIVED.

EDDY & SON, Eddystone Works, Porthleven, Cornwall—Netting, Shading and other Horticultural Sundries.

SOCIETIES.

ROYAL HORTICULTURAL.

HOLLAND HOUSE SHOW.

(Continued from page 17.)

AWARDS MADE BY THE COUNCIL.

Coronation Challenge Cup.

James Veitch & Sons, Chelsea, for fruit trees in pots and stove plants.

Wigan Challenge Cup.

John Mattock, Oxford, for Roses.

Gold Medals.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, for Orchids; Charlesworth & Co., Haywards Heath, for Orchids; Wm. Cutbush & Son, Highgate, for Carnations and group of flowering plants, &c.; Paul & Son, Cheshunt, for Roses; James Veitch & Sons, Chelsea, for fruit trees in pots, stove, foliage plants, and Orchids; R. Wallace & Co., Colchester, for an old English flower garden; James Carter & Co., Raynes Park, for Japanese garden and Sweet Peas; Dobbie & Co., Edinburgh, for Sweet Peas; J. Hill & Son, Lower Edmonton, for Ferns; Wm. Paul & Son, Waltham Cross, for Roses; Amos Perry, Enfield, for herbaceous plants, Ferns, &c.; H. B. May & Sons, Upper Edmonton, for Ferns; J. Gurney Fowler, South Woodford (gr. J. Davis), for Selaginellas and Orchids; and Maurice Prichard, Christchurch, for herbaceous and water garden.

Silver-gilt Hogg Medal.

Laxton Bros., Bedford, for Strawberries.

Silver-gilt Knightian Medals.

King's Acre Nurseries, Hereford, for fruit trees in pots; and The Duke of Rutland (gr. W. H. Divers), for fruit.

Silver-gilt Flora Medals.

S. Low & Co., Enfield, for Orchids; F. A. Haage, Jun., Erfurt, for Cacti; W. Wells & Co., Merstham, for herbaceous plants; W. E. Alsen, Denmead, for Sweet Peas; B. E. Bell, Guernsey, for Carnations; C. Engelmann, Saffron Walden, for Carnations; Gunn & Sons, Olton, for herbaceous plants; Barr & Sons, Covent Garden, for herbaceous plants and pigmy trees; J. Box, Lindfield, for hardy flowers and Sweet Peas; C. Elliott, Stevenage, for Alpines; G. Prince, Oxford, for Roses; H. Cannell & Sons, Swanley, for miscellaneous group; J. Cheal & Sons, Crawley, for garden and herbaceous plants; F. Lilley, Guernsey, for Gladioli; R. C. Notcutt, Woodbridge, for herbaceous; Carter, Page & Co., London Wall, for flowering plants; and Messrs. Stuart Low & Co., Enfield, for Roses.

Silver-gilt Banksian Medals.

C. W. Breadmore, Winchester, for Sweet Peas; S. Bide & Sons, Farnham, for Sweet Peas; Robert Sydenham Limited, Birmingham, for Sweet Peas; J. Douglas, Great Bookham, for Carnations; W. W. Gott, Cornwall, for Carnations; G. Lange, Hampton, for Carnations; James Carter & Co., Raynes Park, for Begonias; W. Fromow & Sons, Chiswick, for Maples; Hon. Vicary Gibbs, Aldenham, for Pelargoniums; the Countess of Ilchester, Holland House, for Cacti, &c.

Silver Cups.

Sir Randolph Baker, Bart., for Sweet Peas; E. H. L. Davidson, Borlases, Twyford, for Orchids; Mansell & Hatcher, Rawdon, for Orchids; Blackmore & Langdon, Bath, for Begonias and Delphiniums; G. & A. Clark, Dover, for herbaceous flowers; L. R. Russell, Richmond, for stove and ornamental plants, &c.; Sutton & Sons, Reading, for Sweet Peas; E. W. King & Co., Coggeshall, for Sweet Peas; C. Turner, Slough, for Roses; B. R. Cant & Sons, Colchester, for Roses; F. Cant & Co., Colchester, for Roses; A. Dickson & Sons, Newtownards, for Roses; Hugh Dickson, Belfast, for Roses; H. Burnett, Guernsey, for Carnations; T. S. Ware, Ltd., Feltham, for Begonias and hardy plants; S. Heilbut (gr. G. Camp), for fruit trees in pots; G. Bunyard & Co., Maidstone, for Alpines, Roses, fruit trees, and herbaceous plants; H. J. Jones, Lewisham, for Phlox and Pelargoniums; G. Reuthe, Keston, for herbaceous, shrubs, and Alpines; J. Piper & Son, Bayswater, for Dutch and water garden; J. Veitch & Sons, Chelsea, for flowering plants and Bay trees; Hobbies, Ltd., Dereham, for Roses; Jackman & Son, Woking, for Clematis and herbaceous; J. MacDonald, Harpenden, for grasses, showing methods of cultivation; and J. Peed & Sons, West Norwood, for Caladiums and flowering plants.

Silver Knightian Medals.

S. Low & Co., Enfield, for Figs; Rev. C. Chalmers-Hunt, Hitchin, for Sweet Peas, vegetables, and Roses; Halliford French Garden, for vegetables.

Silver Flora Medals.

S. W. Flory, Tracy's Nursery, Twickenham, for Orchids; H. Dixon, Wandsworth, for Orchids; J. K. King & Sons, Coggeshall, for Sweet Peas; G. Stark & Son, Gt. Ryburgh, for Sweet Peas; H. Lakeman, Thornton Heath, for Carnations; C. Blick, Hayes, for Carnations; R. H. Bath, Ltd., Wisbech, for herbaceous plants; Godfrey & Son, Exmouth, for herbaceous plants; H. Hemsley, Crawley, for Alpines; E. Ladhams, Ltd., Shirley, for hardy herbaceous; S. Low & Co., Enfield, for Carnations; Phillips & Taylor, Bracknell, for herbaceous plants; R. Prichard, West Moors, for Alpines; C. Rassell, 80, Earl's Court Road, London, for rock garden, &c.; Whitelegg & Page, Chislehurst, for herbaceous plants, &c.; J. D. Webster, Chichester, for Sweet Peas, Roses, and Carnations; J. Forbes, Ltd., Hawick, for Phloxes and herbaceous; G. Gibson & Co., Bedale, for Delphiniums; M. G. Green (gr. W. White), for Sweet Peas; A. Ll. Gwillim, Sidcup, for Begonias; Kelway & Son, Langport, for Delphiniums; W. A. Manda, St. Albans, for foliage plants; T. Rochford & Sons, Broxbourne, for Araucarias; F. Smith & Co., Woodbridge, for Phlox and herbaceous; J. Waterer & Sons, Bagshot, for Yews; Castles Shipbreaking Co., Millbank, for garden seats; T. Crowther, Fulham, for garden ornaments; Liberty & Co., Regent Street, for garden pottery; Sir George Holford, Westonbirt, for Orchids.

Silver Banksian Medals.

Mons. Vacherot, France, for new Carnations; J. Bruckhaus, Twickenham, for Aspidistras, Palms, &c.; H. H. Crane, Highgate, for Violas and Violettas; G. Mallett & Co., Cheddar, for Lilies, Spiræas, &c.; H. C. Pulham, Elsenham, for herbaceous and Alpines; H. Freeman, Ltd., Sutton, for rustic work; Leyton Timber Co., Leyton, for rustic work; Mary Countess of Ilchester, Abbotsbury (gr. Mr. Kempshall), for cut shrubs; Messrs. Jarman & Co., Chard, for Sweet Peas, Centaureas, and Pelargoniums; and Guildford Hardy Plant Nursery, for Alpines and hardy herbaceous plants.

Bronze Flora Medals.

Bees, Ltd., Liverpool, for hardy flowers; Carlton White, New Bond Street, for Box trees; W. Fells & Sons, Hitchin, for rock plants; Misses Hopkins, Shepperton, for miscellaneous plants; Rich & Co., Bath, for hardy flowers; V. Slade, Taunton, for cut blooms and plants; Thompson & Charman, Bushey, for perennials.

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending June 29, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather* was generally cool and extremely unsettled, with frequent falls of rain in all districts. Thunderstorms were experienced in nearly all parts of the United Kingdom; at many places in the north and east they occurred almost every day.

The *temperature* was equal to the average in Scotland E., and slightly above it in England N.E. and E. In all other districts it was below the normal, the deficit being greatest in Ireland S. The highest readings were observed very generally on the 23rd, when the thermometer rose to between 70° and 75° in many parts of Great Britain and to 78° in England S.E. (at Margate). In Ireland, Scotland W., England N.W. and the English Channel it did not reach 70°. The lowest readings occurred either on the 25th or 26th, or on the 29th, the values ranging from 40° in Scotland E. and 42° in Ireland N. to 48° in England E. and S.W., and to 50° in the Channel district. At a depth of 1 foot the temperature of the soil was appreciably above the average, but at a depth of 4 feet the excess was small, and at some places in the northern parts both of England and Ireland the mean value was a trifle below the normal.

The *mean temperature of the sea* was above the average in most places, and was higher than in the corresponding week of last year. On some parts of the Scottish coasts it was, however, a trifle below the normal, and was lower than in 1911.

The *rainfall* was in excess of the average in all districts excepting Scotland N. In the western half of the United Kingdom and in England N.E. and the Midland Counties the excess was large. At Arlington, in North Devon, rain fell daily, and the total amount, 3·5 inches, was nearly four and a-half times as much as the normal for the week.

The *bright sunshine.*—In England S.E. and the English Channel the duration agreed very closely with the average, the mean daily amount in the latter district, 8·8 hours, being equal to 55 per cent. of the possible. In all other districts it was again deficient, the mean daily duration in Scotland N. and Ireland N. amounting to less than 4 hours.

THE WEATHER IN WEST HERTS.

Week ending July 3.

A cold and wet week.—The last 10 days have been more or less unseasonably cold, while the nights, on the other hand, with one exception, proved rather warm for the time of year. On the coldest day (the 2nd) the temperature in the thermometer screen did not rise above 59°, which is 10° colder than the average maximum reading at the beginning of July. The ground has been gradually getting colder, and is at the present time 1° colder at 2 feet deep, and 3° colder at 1 foot deep, than is seasonable. Rain fell on five days, and to the total depth of three-quarters of an inch. More than half of this quantity was deposited on the 2nd inst. On that day the rain began falling soon after midday, and continued, with scarcely any intermission, until 6 a.m. on the 3rd—or for 17 consecutive hours. There was no percolation at all during the week through the soil gauge on which short grass is growing, and only this morning any measurable quantity through the bare soil gauge. The sun shone on an average for 4¼ hours a day, which is 2 hours a day short of the average duration of bright sunshine at the end of June and beginning of July. Light airs and calms alone prevailed during the week. The mean amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by as much as 12 per cent.

June.

Rather wet, with an average record of temperature and sunshine.—Taken as a whole this was a month of about average temperature. There were but few warm days, and but few cold nights. On the warmest day the temperature in the thermometer screen rose to 78°, and on the coldest night the exposed thermometer fell to within one degree of the freezing point. Neither of these extremes is in any way unusual. Rain fell on as many as 17 days, and to the total depth of nearly 3 inches, which is half an inch in excess of the June average. The sun shone on an average for 6¼ hours a day, which is about the mean duration for the month. The winds were as a rule light, and in no hour did the mean velocity exceed 13 miles—direction west. The average amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by two per cent. *E. M., Berkhamsted, July 3, 1912.*

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OF
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PRIVATE.

GARDENER required for Government House, Nairobi, East Africa Protectorate, for a tour of 30 months residential service with possible extension; age between 22 and 35; preferably unmarried; strict medical examination and vaccination if necessary; salary £150 a year; quarters free of rent, but not of rates and similar outgoings, or at the discretion of the Government, and allowance in lieu of quarters; free second-class passage out and home again on satisfactory termination of engagement; half salary on voyage out; full salary from date of disembarkation on the African coast; leave on full pay after 30 months' continuous service for 2½ days in respect of each completed month of continuous service, increased to five days per month if returning to the Protectorate, with full pay during voyage or voyages and free passages. The person selected will in addition to his duties as Gardener be required to act as chauffeur; if he does not possess the necessary qualifications to enable him to do this, he will be required to undergo a course of instruction in motor car driving and repairing before he sails for the Protectorate; the cost of this will be borne by the Government. Application by letter (no special form required), stating age, whether married or single, giving full particulars of experience, accompanied by copies of testimonials (not originals), with names and addresses of referees of whom inquiries can be made as to capabilities and character, should be sent as soon as possible to the Crown Agents for the Colonies, Whitehall Gardens, London, S.W. Quote M. 5453 on left-hand top corner of application.

Borough of Margate.

THE CORPORATION require the services of a GROUNDSMAN, with experience of the care of Rubble and Grass Tennis Courts, Bowling Greens, and Cricket Pitches; applicants must be between the ages of 30 and 35 years; wages 35s. per week; particulars as to duties can be obtained on application to the Head Gardener, Dane Park, Margate; applications, stating age and experience, with copies of not more than three recent testimonials, endorsed "GROUNDSMAN," must be sent in to me not later than 1 p.m., on Wednesday, the 31st July, 1912.

EDWARD BROOKE,
Town Clerk.
Town Clerk's Office,
Margate.
1st July, 1912.

TO HEAD GARDENERS. — The Beckenham Urban District Council require the services of an experienced and thoroughly efficient GARDENER, to take charge of and assist in the laying out of their recently-acquired Kelsey Park (20 acres), to generally superintend the management of three other Recreation Grounds belonging to the Council, and to take control of Trees and Shrubs on the public highways; salary £2 per week with house and light; only applications from skilled Gardeners used to the management and laying out of large Parks or Recreation Grounds and to the control of workmen will be considered. Forms of application, &c., may be obtained from Mr. John A. Angell, Surveyor to the Council. Applications on the prescribed form, accompanied by copies of three testimonials of recent date, to be addressed to the undersigned at the Council Offices, Beckenham, and delivered before 4 p.m. on Monday, July 15th. Canvassing any member of the Council, directly or indirectly, will be a disqualification.

By Order,
F. STEVENS,
Clerk of the Council.

WANTED, GARDENER (HEAD) at once; a capable and experienced man to grow Florists' Flowers and Vegetables for Exhibition at the leading Horticultural Shows; none but those possessing special qualifications and used to this kind of work need apply.—State age, experience, wages required, and when disengaged by letter only, to "EXHIBITION GARDENER," Box 20, 41, Wellington Street, Covent Garden, W.C.

WANTED, thoroughly capable GARDENER (HEAD WORKING); accustomed to gardens very neatly kept; experienced especially with Roses, Herbaceous Plants, and Vines.—Apply, with full particulars, to Mr. IVOR VACHELL, Highmead, near Cardiff.

WANTED, GARDENER; all-round man; married, no family (or out in life); churchman; abstainer preferred; moderate wages.—M. R., Box 9, 41, Wellington Street, Covent Garden, W.C.

WANTED, GARDENER (SINGLE-HANDED, and to make himself useful); thoroughly capable with Vines, Fruit and Kitchen Gardening; must understand oil engine and electric plant; married man, not more than one in family; wife to undertake small amount of laundry; wage £1 per week; cottage, light, coal and vegetables.—Apply by letter to A. LEE, Burnside, Hatfield, Herts.

WANTED, GARDENER (UNDER); 18 to 20; single; also a Youth, about 15.—Apply to Sir JOHN PRICHARD-JONES, Elstree, Herts.

WANTED, Married Man as LEAD; Pleasure Grounds; experienced with Herbaceous and Rock Plants; age and wages, with cottage.—STEPHENS, Culham Court Gardens, Henley-on-Thames.

WANTED, Married MAN, without children, for Kitchen Garden, Pleasure Grounds, and willing to make himself generally useful; wages 18s. per week, with rooms and coal free; wife willing to assist with house-work when required; extra wages for same.—Apply to J. E. COULSON, Head Gardener, Drayton Manor, Tamworth.

WANTED, FOREMAN (INSIDE), age 25; must be hardworking and energetic; wages £1; Bothy; replies only to selected applicants.—W. MILES, Caversham Park Gardens, Reading.

WANTED, immediately, JOURNEYMAN; knowledge of Herbaceous Borders, Rockery, &c.; duty every third week; wages 21s., no Bothy.—State age and experience to E. ROSE, Castleford Gardens, Chepstow.

WANTED, JOURNEYMAN for charge of Glass, Vines, Peaches, Orchids, Carnations (special); duty alternate weeks; wages 18s. and Bothy; Sunday duty paid.—Apply, stating age, &c., R. W. NORMAN, The Gardens, Heligan, St. Austell.

WANTED at once, JOURNEYMAN; (Fruit); 17s.; Bothy; Sunday duty extra.—LEARMONTH, Sherfield, Basingstoke.

WANTED, good experienced JOURNEYMAN for Rock Garden and Pleasure Grounds; duty every third week; wages 18s. and rooms. —E. F. THORNE, Putteridge Park Gardens, Luton.

WANTED, JOURNEYMAN (INSIDE); wages 18s.; no Bothy.—J. WILLIAMSON, The Gardens, Walton Hall, Eccleshall, Staffs.

WANTED, smart, active YOUNG MAN (Inside); must be good Plantsman; wages £1; no Bothy.—R. HUBBARD, Roffey Park Gardens, Horsham.

WANTED, a smart MAN for Outside; able to use horse machine, &c.; not under 22; 16s. per week and Bothy.—STRONG, High Grove, Pinner.

WANTED, MAN for the Flower Garden.—References, &c., to HOLLAND, Sherdley, St. Helens, Lancs.

WANTED at once, a strong, active YOUNG MAN as third (Inside); used to the work; not under 21; wages 18s. per week; good character.—J. HARRIS, The Gardens, Avisford, Arundel.

WANTED, YOUNG MAN for Yorks.; experienced Kitchen Garden; capable of taking duty.—State wages (no Bothy) to J. A., Box 5, 41, Wellington Street, Covent Garden, W.C.

WANTED, YOUNG MAN for Lawns, &c., and to look after small conservatory; able to take duty; wages 15s. per week and Bothy.—JUSTICE, Alvaston Hall, Nantwich.

TRADE.

WANTED, for end of September, a MANAGER and SECRETARY for Orchid Nursery; must be a good Grower and experienced Salesman and not afraid of work.—Write in first instance, enclosing copies of testimonials and state salary expected, to O. C., Box 1, 41, Wellington Street, Covent Garden, W.C.

WANTED, NURSERY FOREMAN for large general Nursery; applicant must be active, reliable, able to control a large staff, practical, and good Salesman; permanent situation to the right man.—A. B. C., Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED, GROWER, Tomato, Strawberry, &c., with some experience; must be abstainer and married; suitable work found for wife if desired; for Nursery near London; good reference essential; age about 25 to 30.—State wages, &c., to J. B., Box 3, 41, Wellington Street, Covent Garden, W.C.

WANTED, ROSE GROWER to take charge; good Budder and able to pack orders; state age, experience, and wages; permanent situation.—D. INGAMELLS, Rose Nursery, Maidenhead.

WANTED, for Nursery on North-East Coast, young married Man; take charge range of Glass, Bulb Forcing, and usual Market subjects; wages 22s. and house; state age and experience. —R. H. P., Box 8, 41, Wellington Street, Covent Garden, W.C.

WANTED, a good BUDDER for Fruit and Roses; good reference essential; good wages to suitable man.—HOMEWOOD, Hampton-on-Thames.

WANTED, at once, experienced ROSE BUDDER; state wages required; every encouragement to good man.—Apply,
KILLERMONT NURSERY, Bearsden, Glasgow.

WANTED, one or two good ROSE BUDDERS; Fruit-training experience desirable; permanency to suitable men.—State wages and experience, LEE & ROBINSON, Porchester Nursery, Nottingham.

WANTED, experienced JOBBING GARDENER; Scythesman preferred.—BOATWRIGHT, Shakespeare Road Nurseries, Herne Hill, S.E.

WANTED, experienced MEN for Palm Houses and Bunching for Market; references required.—W. ICETON, Putney, S.W.

WANTED, single YOUNG MAN (British) for Outdoor Cut Fowers; used to Budding; permanent; wages to commence 24s.—FROOME & SON, High Road, East Finchley.

WANTED, several YOUNG MEN, chiefly for Potting; Journeymen and Foreman Gardeners seeking temporary employment may apply; state wages.—H. FULFORD, Hanworth House Nursery, Hanworth, Middlesex.

WANTED at once, YOUNG MAN for Rose work; successful Budder.—Wages and particulars to KENDALL & BUTCHARD, Rose Growers, Downs Road, Gravesend.

WANTED, YOUNG MAN, single (INSIDE and OUTSIDE); able to Pot and Layer Carnations and do General Garden work.—State wages and references, WOOTTEN, Fair Oak, Eastleigh.

WANTED, a MAN to bud 2,000 Briars for Roses; must be first-class Budder.—SISSONS, Nursery, Parkstone, Dorset.

WANTED, a YOUNG MAN; quick at Potting and Watering; state age and wage.—W. PRITCHARD, Calderbank Nursery, Flixton, near Manchester.

WANTED, YOUNG MAN for General Nursery work, principally Inside; state experience, age, and wages expected.—Apply, W. H. SIMPSON & SONS, 209, Monument Road, Birmingham.

WANTED, for Landscape Department, competent man; well experienced in advising clients, surveying, designing and executing plans, making estimates, and carrying out all kinds of Landscape work.—Full particulars of experience and salary required to CLIBRANS, Altrincham.

WANTED, near Manchester, IMPROVER (Inside); must be experienced in bunching Valley; state age, experience, and wages required, with references.—G. N. C., Box 2, 41, Wellington Street, Covent Garden, W.C.

WANTED, CARMAN for Market work; must be good timekeeper; references required.—W. ICETON, Putney, S.W.

SEED TRADE.—TRAVELLER required by leading North of England firm to represent them in Yorkshire and South Durham; applicants must have good knowledge of Agricultural and Horticultural Trade, and not be under 35 years of age.—State age, salary required, and full particulars to F. S., Box 4, 41, Wellington Street, Covent Garden, W.C.

WANTED, CLERK, to take entire charge of all office work under Manager's orders; used to invoice and ledger work, typing and shorthand; a good deal of circularising done; state wage, age, and if single.—W. H. PAINE, Tully Nursery, Kildare, Ireland.

WANTED, CLERK, to take charge of books and general office work.—A. LUFF & SONS, Nurseries, Malden.

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GENTLEMAN highly recommends his late HEAD GARDENER to any Lady or Gentleman requiring a trustworthy, practical man in all branches.—Address, HAYLER, 15, Basuto Road, Parsons Green, S.W.

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GARDENER (Head of two or three); age 32; married, one child; life experience Inside and Out; good references; disengaged.—A. E. F., The Hollies, Dunstable Street, Ampthill, Beds.

GARDENER (Head); good experience with Grapes, Peaches, Melons, Tomatos, &c.; Stove and Greenhouses, Kitchen Garden, Choice and other Flowers; age 38; married, no family; good reference.—DEBNAM, The Lodge, Chesfield Park, Stevenage, Herts.

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GARDENER (Head); with life experience, respectfully begs to offer his services to lady or gentleman requiring a thorough practical man in all branches for good establishment; five years in last situation as Head; excellent credentials from all employers; age 35; married, no family; abstainer.—F. WESTRON, Woodside Seer Green, Beaconsfield.

GARDENER (Head, where more are kept); 16 years' experience, all branches; age 31; can be well recommended to any Lady or Gentleman.—H. SMITH, Moor Hall Gardens, Cookham, Berks.

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GARDENER (Head Working of two or more); life experience; leaving through death; four years present situation; age 32; married; highest references.—CLARK, Kearsney Court Gardens, Dover.

GARDENER (Head Working); life experience; age 38; well recommended as good all-round man; 12½ years Head in present place; leaving through death; well experienced Orchids, Herbaceous, and Alpines.—WARREN, Highfield Gardens, Gainsborough.

GARDENER (Head Working, where several are kept); 17 years' practical experience all branches, last five years Head; age 34; married, one child age four; excellent references.—ARTHUR SPRINGHAM, Lawrence Weston, Henbury, Bristol.

GARDENER (Head Working, where four or more are kept); life experience Inside and Out; seven years in present situation as Head, four years previous in Colesbourne Park Gardens; three years Foreman; age 34; married, two children.—W. GOODCHILD, Lasborough Park, Tetbury, Glos.

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GARDENER (Head Working, where two or three are kept); age 30; single; thorough knowledge cultivation Flowers, Fruit, Vegetables; good references.—P. FLYNN, 15, Gloucester Street, London, S.W.

GARDENER (Head Working); life experience; age 30; single; can be well recommended by Mr. Squibbs; present situation two years; disengaged July 13th.—Apply, A. REEVES, Bidsbon Court Gardens, near Birkenhead.

GENTLEMAN recommends his GARDENER (Head Working); experienced in all branches; long reference; abstainer; age 38; married, two children.—KINGSLEY, 15, Redstone Road, Redhill.

GARDENER (Head Working, where two or three are kept); life experience Inside and Out; age 28; married when suited; can be well recommended.—W. RIDGES, Gaddesden Place, Hemel Hempstead, Herts.

GARDENER (Head Working, with one or two under); age 38; life experience Inside and Out; good references.—Address, GARDENER, Hareby House, Spilsby, Lincs.

GARDENER (Head Working); smart practical man; life experience; four years present place as Foreman; excellent references; age 32.—A. E. SALES, Western Road, Haywards Heath.

GARDENER (Head Working, where two or three are kept); life experience Orchids, Stove, Vines, Cucumbers, Flower and Kitchen Garden; leaving through place being let; age 40; married, no family.—DOWNHAM, Southfield Cottage, Queensmere Road, Wimbledon Park.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park, highly recommends H. Stedman where three or more are kept; life experience Inside and Out; Vines, Fruit, Flower, Kitchen Garden; age 35; married, two children; life abstainer; good references.—STEDMAN, Bicester Lodge, Kirtlington Park, Oxon.

GARDENER (Head Working, where two or three are kept); 15 years' experience in all branches; last three years as Head; age 30; married, one child; wife experienced laundress.—P. GOLDSON, Ingwell, Moor Row, R.S.O., Cumberland.

GARDENER (Head Working, where more are kept); thorough practical first-class man; experienced in all branches; excellent testimonials.—G. BARTLE, 43, Wigston Lane, Aylestone, Leicester.

GARDENER (Head Working, with one or two under) seeks Engagement where good all-round man is required; life experience Inside and Out; employer highly recommends; age 33; one child, eight.—T. E., Box 10, 41, Wellington Street, Covent Garden, W.C.

GENTLEMAN wishes to recommend his GARDENER to any Lady or Gentleman requiring a thoroughly hard-working, good all-round man; married; no encumbrance; wife domesticated; 6½ years' good character.—WOOD, Wildecroft, Betchworth.

GARDENER, age 30, desires Situation; life experience Inside and Out; seven years in present situation.—E. COX, Bilton Hill, Rugby.

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GARDENER (Single-handed or Second); experienced Inside and Out; age 26; married.—Apply, L. HUBBARD, Coombe Lodge Gardens, Coombe Road, near Croydon.

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GARDENER (Single-handed or Under); Kitchen Gardens or Pleasure Grounds; 14 years' experience; good references; age 29; married when suited.—R. YOUNG, Mickleham Downs Gardens, Dorking.

GARDENER (Single-handed or Under); 10 years' experience Inside and Out; age 26; good references; well recommended; Bothy preferred.—A. KNIGHT, 6, Kingsgate Road, Kilburn, London, N.W.

GARDENER (Single-handed or with help); experienced in all branches; age 39; married, no family; good references; disengaged.—GARDENER, 2, Wharf Road, Brentwood, Essex.

GARDENER (28) seeks Situation (Single-handed or otherwise); experienced Inside and Out; odd jobs; good references; married, one child.—HAMBLETON, Southbrook Gardens, Norwich Avenue, Bournemouth.

GARDENER (Single-handed or with help); good references; good experience in large gardens; age 25; single.—W. COWARD, The Gardens, Lexham Hall, Swaffham, Norfolk.

GARDENER (Single-handed or otherwise); good experience all round; good references; age 29; married; five years last situation.—F. BLISS, Holme Park Lodge, Rotherfield, Sussex.

GARDENER (Single-handed or with help).—Mr. GOULD, Shernfold Park, Frant, can with confidence highly recommend good man as above; life experience in all branches; age 27.

GARDENER (Second or Single-handed) in good establishment; good grower of Cucumbers, Tomatos, Chrysanthemums, Grapes, &c.; life experience Inside and Out; can work electric plant; age 34; married, one in family; good references.—Apply, B. G., Box 18, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Second or Single-handed) seeks Situation; nine years' experience; good reference; age 23.—J. SAMPSON, 6, Coulsdon Cottages, Buxton Lane, Caterham, Surrey.

GARDENER (Second, Inside and Out); 13 years' practical experience; good references; age 28; single.—E. SLOSS, Kingsbury, The Hyde, N.W.

GARDENER (Second, Inside, or Inside and Out); 14 years' experience; age 27; married when suited.—A. ROBINSON, Queen's Road, Royston, Herts.

GARDENER (Second, where three or four are kept); good experience Inside and Out; age 26; good references.—E. MILES, Beech Hurst Lodge, Lingfield, Surrey.

GARDENER (Second, Inside and Out); 11 years' good practical experience; good references; two years Reigate Priory; age 25; married when suited.—A. CHENNELL, Dorincourt Gardens, Upper Warlingham, Surrey.

GARDENER (Second, where three or four are kept, or Single-handed); good experience Inside and Out; age 28; good references.—W. FENNELL, Northerwood Park, Lyndhurst, Hants.

MR. KEMP, Hazel Hall Gardens, Peaslake, Guildford, wishes to highly recommend R. Beesley as SECOND (Inside and Out); age 26; two years here as Second.

GARDENER (Under) seeks Situation in Kitchen Garden or Pleasure Grounds; age 29; life experience; excellent references.—SMITH, Gardener's Cottage, Goldsmiths, Langdon Hills, Essex.

GARDENER (Under, Inside or Inside and Out); age 20; five years' experience; good reference.—J. BRAVERY, Church House, Ockley, Surrey.

FOREMAN or GARDENER (Second, Inside or Inside and Out); age 24; 10 years' experience in all branches; good references.—Apply, C. EARLE, 16, Winthorpe Road, Putney, S.W. (No circulars.)

FOREMAN (Inside) or good GARDENER (Second); 12 years' good experience; all Fruit, Plants, Carnations, Chrysanthemums, and Decorating; well recommended; married when suited.—M., Box 1, 41, Wellington Street, Covent Garden, W.C.

MR. CARTER, Sunnyfield Gardens, West Heath, Hampstead, also Mr. JOHNS, Milton House Gardens, Alsager, Stoke-on-Trent, highly recommend L. Moon as FOREMAN or SECOND; age 27; married. (No circulars.)

MR. CHAPMAN, Westonbirt, Tetbury, can with confidence recommend J. Cormon as FOREMAN (Inside or good Second); 12 years' experience, including Orchids; age 26; married when suited.

MR. EVANS, The Gardens, Templemere, Weybridge, can highly recommend W Lyde as FOREMAN (Inside); thoroughly experienced and trustworthy; two years here; age 27; married when suited.

JOURNEYMAN (Inside).—Mr. ANDREWS, Tregothnan, Truro, Cornwall, will be pleased to recommend E. Legg as above; age 23; seven years' experience; good references; Bothy preferred.

JOURNEYMAN (Inside) under Foreman seeks Situation; six years' experience; age 21; good references; near London preferred.—G. BURTON, 50, Peel Road, Wealdstone, Middlesex.

JOURNEYMAN (Inside or Inside and Out); age 25; good reference; Bothy preferred. —W. BRENNAN, 81, Whiteman Street, Gorse Hill, Swindon, Wilts.

JOURNEYMAN (Inside or Inside and Out); experienced in Fruit and Plant Houses and Pleasure Grounds; 4½ years' experience; age 21; still engaged.—Apply, W. ELSEY, 6, Eastnor Road, South Park, Reigate.

JOURNEYMAN (Outside), age 21, in Pleasure Grounds; seven years' experience; well recommended; Bothy preferred; disengaged.—F. SIMMONS, 6, Halleighs Cottage, Cuckfield, Sussex.

W. DOIDGE, Barley Thorpe Gardens, Oakham, highly recommends A. Studd, age 25, strong and willing, for Inside and Out; eight years' experience; two years here.

YOUNG MAN, age 19, requires Situation in Gentleman's garden as UNDER; Kitchen and Pleasure Ground; good references.—E. GREEN, Turnours Cottage, Gravel Lane, Chigwell, Essex.

YOUNG MAN, age 22, seeks Situation as GARDENER (Under); near London preferred; experienced Inside and Out; with good references.—Apply, E. SLOCOMBE, 57, Winchester Road, St. Margaret, Middlesex.

YOUNG MAN (23) seeks Situation; Kitchen Garden or Pleasure Grounds; willing and obliging; can be well recommended; abstainer; Bothy preferred.—H. GUNNELL, Great Missenden, Bucks.

YOUNG MAN seeks Situation, age 21, in Kitchen Garden and Pleasure Grounds; six years' experience; good references.—A. GILES, 2, Sylvan Cottage, South Ascot, Berks.

YOUNG MAN (30) in Kitchen Garden or Nursery, in or close to Reading.—W. NORTON, 14, Freshwater Road, Reading, Berks.

YOUNG MAN, age 26, seeks Situation as LEADING HAND in Kitchen Garden; nine years' experience; good references.—H. C. W., Box 19, 41, Wellington Street, Covent Garden, W.C.

YOUNG MAN (21) seeks Re-engagement in Private Garden or Nursery; six years' experience in Private and Market Nurseries.—H. GAMBLE, 3, Orchard Terrace, Nursery Road, Southgate.

YOUNG MAN, age 25; seven years' general experience Inside and Out; good references.—C. NICHOLLS, 32, Orme Road, Worthing, Sussex.

YOUNG MAN (22) seeks Situation to assist in Garden; three years' good character from last place; wishes to improve himself.—
J. BEESLEY, 9, Chance Street, Tewkesbury.

IMPROVER (Inside or Inside and Out); age 18 years; 4½ years' experience; good reference.—W. HARRIS, Tubney House Gardens, Abingdon, Berks.

YOUTH (17) seeks Situation in Gentleman's Garden.—HEAD GARDENER, Cockayne Hatley, Sandy, Beds., recommends A. Ballard; 14 months' experience here, Inside and Out.

HEAD GARDENER strongly recommends smart, obliging YOUTH, 17½ years, with some experience under Glass and Outside; industrious and painstaking.—HEATON, South Lodge, Cressingham Park, Reading.

THOMAS SMART, age 17, of Milton Hall Gardens, Bedford, seeks Situation on Pleasure Grounds and Kitchen Gardens; two years' experience; can take duty.—Address as above.

W. MARSH, The Gardens, Little Onn Hall, Stafford, would be pleased to recommend George Selman; Inside or Inside and Out; age 15½; 18 months' experience.

LAD, aged 18, seeks Situation in Garden; Bothy preferred; good character; has had no experience in garden; would pay small premium if necessary.—FRIPP, Northerwood, Lyndhurst, Hants.

HEAD GARDENER recommends HANDY MAN for Painting, Glazing, and general Repairs; age 26; good references.—Apply, P. F., Box 7, 41, Wellington Street, Covent Garden, W.C.

PAINTER and PAPERHANGER and all-round Hand on estate; knowledge of rough carpentring; good references.—J. SPACKMAN, Queen's Road, Lyndhurst, Hants.

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MANAGER or FOREMAN; 12 years' Foreman in large Market Nursery; Carnations, Liliums, Roses, Cucumbers, Tomatos, &c.; first-class references.—W. AGER, 34, Connaught Road, Newbury, Berks.

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GARDENER seeks Situation in Nursery; well up in Carnations, Ferns, Chrysanthemums, Tomatos, Pot Stuffs; abstainer; age 26.—G. CLARKE, Crockham Heath, Enborne, near Newbury, Berks.

GROWER (40); single; life experience; Bedding and General Stuff; Carnations, Chrysanthemums, Cucumbers, Tomatos, &c.; also Floral work; 4½ years' reference.—Address B., Box 3, 41, Wellington Street, Covent Garden, W.C.

GROWER; several years experience with Grapes, Peaches, Tomatos, Palms, Bedding Stuff, &c.—BOULTON, 92, Sumatra Road, West Hampstead, N.W.

PROPAGATOR-GROWER; practical; long experience; Market Gardening, Cucumbers, Tomatos, Vines, Peaches, general Cut Bloom, Forcing, also outdoor Fruits, Vegetables; abstainer; highest references.—GARDENER, 8, Trinity Road, Ventnor.

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ADVERTISER (26) requires Situation as GROWER; Cucumbers, Tomatos, Chrysanthemums, Bedding Stuff, and general Nursery work; good references.—A. BARNARD, 5, Wests Place, Norwood Green, Southall, Middlesex.

YOUNG MAN, age 24, seeks Situation in Nursery or Private Garden in Palms, Carnations, Chrysanthemums, Tomatos, and general Nursery work; 10 years reference; disengaged.—C. N., Brown Farm, Stubbington, near Fareham.

YOUNG MAN (21); well up in Cucumbers, Mushrooms, Tomatos, Chrysanthemums; could take charge of a small place; good reference.—F. RUSSELL, 49, St. Dunstan Road, Worthing, Sussex.

YOUNG MAN seeks Situation; age 25; nine years' experience in Ferns, Carnations, Tomatos, Bedding Stuff and General Nursery work.—E. COLMAR, Ambleside, Alfriston Road, Seaford, Sussex.

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YOUNG MAN (23) seeks Situation as IMPROVER in Market Gardening or Mushroom Growing; 21 months' experience; good reference.—J. THORP, 115, Upland Road, East Dulwich.

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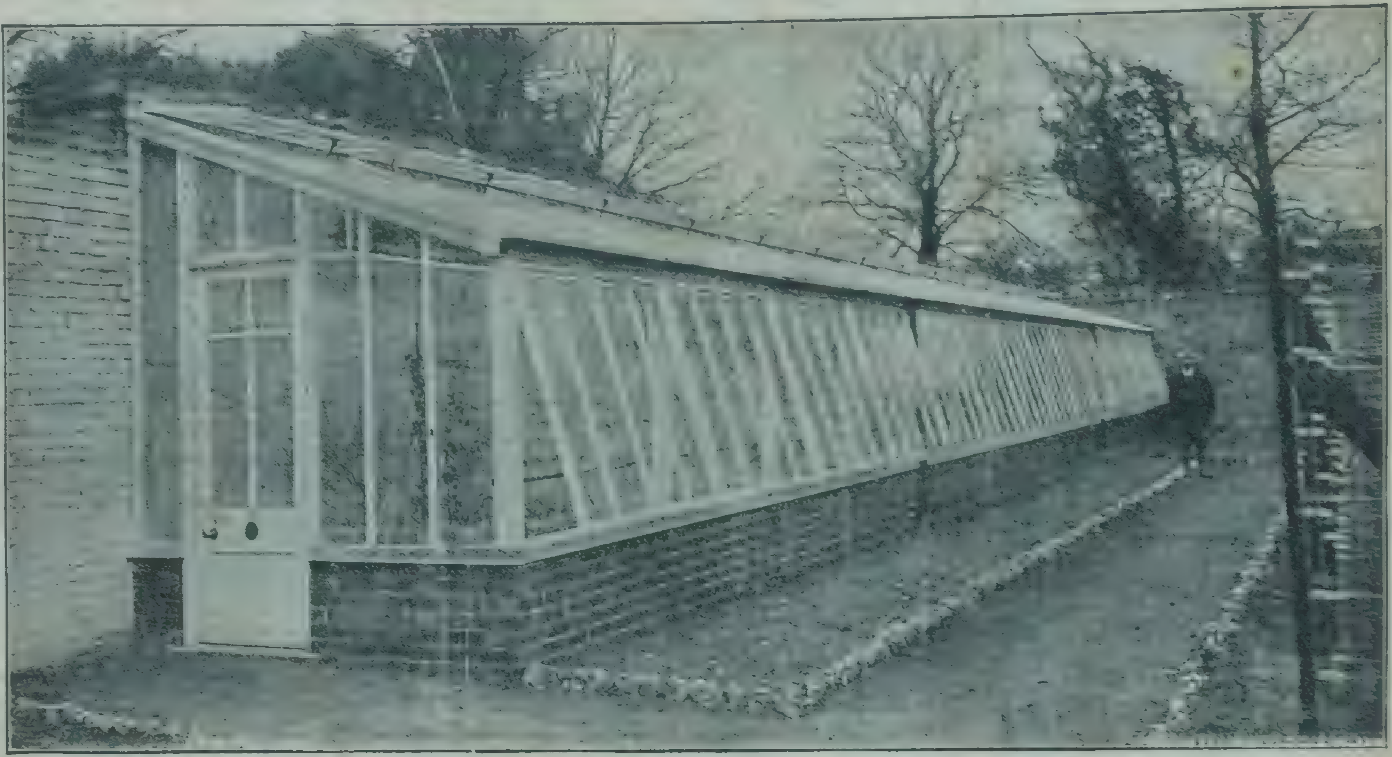

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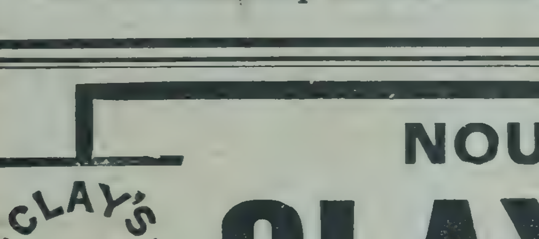

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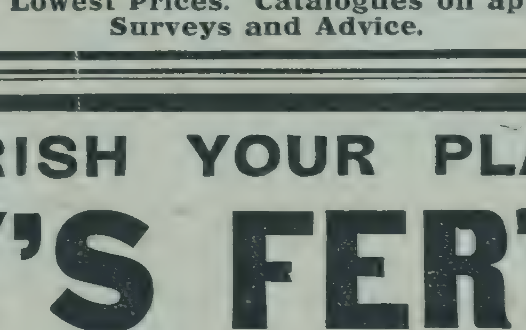

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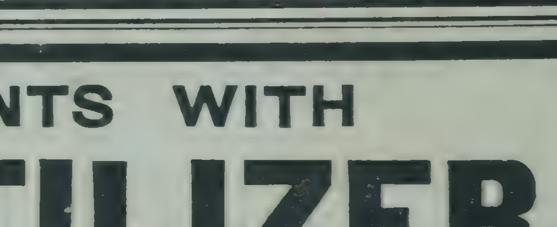

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THE GARDENERS' CHRONICLE

ESTABLISHED 1841

Nº 3733

No. 1,333.—Vol. LII. {THIRD SERIES.} SATURDAY, JULY 13, 1912. {Registered as a Newspaper. WITH SUPPLEMENT. {PRICE 3
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In consequence of the increase in the circulation, and also of the earlier despatch of the morning trains from London, the hour of going to press has been again advanced, and in future Advertisements received after 5 p.m. on WEDNESDAY will be held over till the following week. On no consideration whatever will any exception be made to this rule.

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The earliest and best. Award of Merit, R.H.S., May 9th, 1911, after trial at Wisley.

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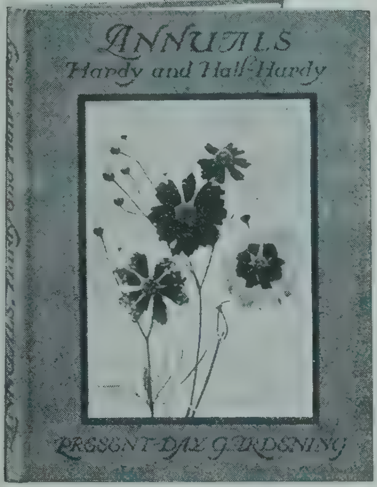

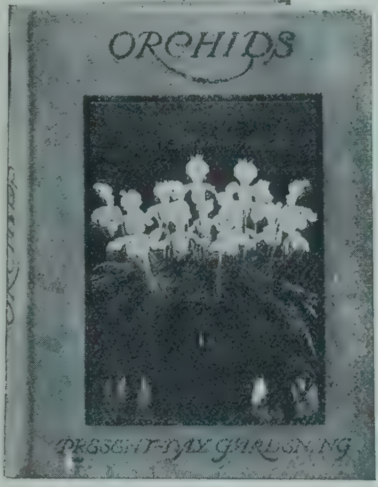

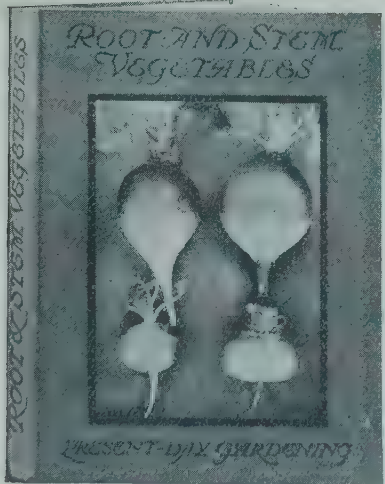

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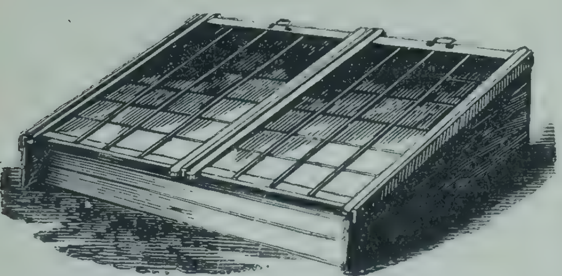

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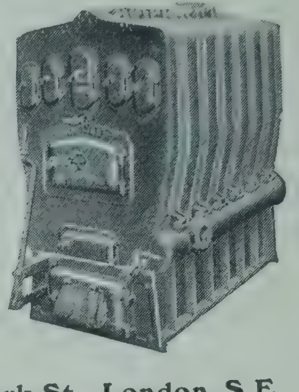

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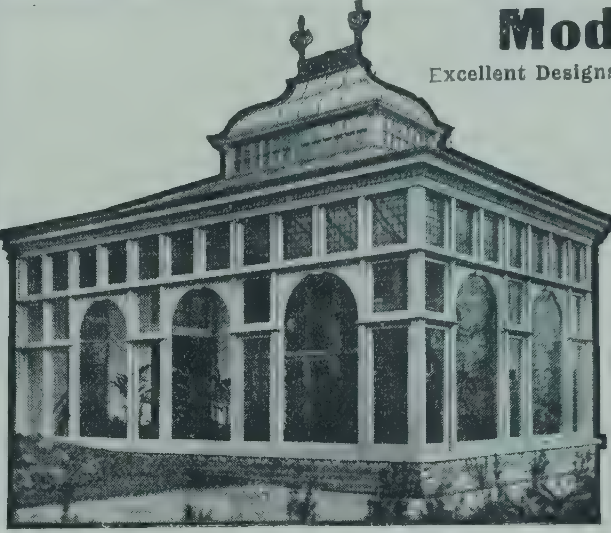

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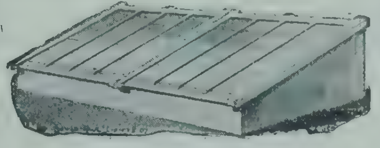

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Tins, **2/-** and **6d.** each.

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1 ton, **£15 5 0**; 10 cwts. **£7 15 0**; 5 cwts., **£4**; 1 cwt., **17/-**; ½ cwt., **9/6**; 28 lbs., **5/6.**
Tins, 2/- and **6d.** each.

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MARKETS.

COVENT GARDEN, *July 10.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Achillia, per doz. bunches ...	2 0-3 0
Alstroemeria ...	4 0-5 0
Arums (Richardias)	2 0 —
Asters, white ...	3 0-4 0
Bouvardia, per dz. bunches ...	6 0-7 0
Carnations, p. doz. blooms, best American var.	1 0-1 6
— smaller, per doz. bunches	10 0-15 0
— Carola, crimson, extra large	2 6-3 0
— Malmaisons, p. doz. blooms:	
— — pink ...	4 0-8 0
— — blush ...	3 0-4 0
— — red	3 0-4 0
Centaurea, (sweet Sultan) mauve and white, per doz. bunches...	4 6-5 0
— yellow	3 0-4 0
Chrysanthemum maximum, per doz. bunches...	2 0-3 0
Coreopsis, per doz. bunches ...	0 9-1 0
Cornflower, p. doz. bunches:	
— pink	0 9-1 0
— white	0 9-1 0
— blue	0 9-1 0
Delphinium, p. dz. bunches:	
— light and dark blue	6 0-8 0
Eucharis, per doz.	2 0-2 6
Gaillardia, per doz. bunches ...	0 9-1 0
Gardenias, per box of 15 and 18 blooms... ...	2 6-3 0
Gladiolus, per doz. bunches:	
— Blushing Bride	4 0-6 0
— Bride, white ...	2 6-5 0
— Fire King ...	5 0-6 0
— Hybrids, p. dz. spikes	3 0-4 0
— Ne Plus Ultra	6 0-8 0
— Peach Blossom	8 0-9 0
Gypsophila, p. dz. bunches:	
— white	2 0-3 0
— pink	3 0 —
Iceland Poppies, p. dz. bunches	1 0-1 6
Lapagerias, white, per dozen ...	1 6-2 0
Lilium auratum, per bunch ...	4 0-5 0
— longiflorum, per doz., long	1 0-1 6
— — short ...	1 0 —
— lancifolium alba, long ...	2 0-2 6
— — short ...	1 6-2 0
Lilium speciosum rubrum, p. dz., long	2 0-2 6
— — short ...	0 9-1 0
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0-18 0
— special... ...	10 0-12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white	3 0-4 0
— yellow	1 6-2 0
Mignonette, per doz. bunches...	4 0-5 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0-4 0
Orchids, Cattleya, per doz. ...	9 0-10 0
— Odontoglossum crispum ...	1 6-2 0
Pancratiums, p. dz. blooms ...	2 6-3 0
Pelargoniums, p. doz. bunches	3 0-4 0
— Double Scarlet	4 0-6 0
Roses, 12 blooms,	
— Bridesmaid,	0 9-1 0
— C. Mermet ...	0 9-1 0
— Frau Karl Druschki ...	1 6-2 6
— General Jacqueminot ...	0 9-1 0
— Liberty ...	1 0-1 6
— Madame A. Chateney ...	0 9-2 0
— Niphetos ...	1 0-1 6
— Richmond ...	1 0-2 6
— Sunburst ...	1 6-2 0
— Sunrise ...	1 0-1 6
— President Carnot	1 6-2 6
— Lady Roberts	1 0-1 6
— Lady Hillingdon	1 0-1 6
— Franz Deegan	1 0-1 6
— Kaiserine ...	1 0-2 0
Scabious caucasica, per doz. bnchs.	2 6-3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0-6 0
Statice, per dozen bunches:	
— mauve, ...	3 0-4 0
— white & yellow	3 6-4 6
Stephanotis (72 pips)	1 0-1 3
Stock, per dozen bunches:	
— white	3 0-4 0
Sweet Peas, pr. dz. bunches:	
— coloured ...	1 6-3 0
Tuberoses, p. doz. blooms, long...	0 4-0 6
— — short ...	0 3-0 4
Violas, small blue, p. doz. bunches	0 9-1 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0-5 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0-4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6-2 0
— medium, doz. bunches ...	12 0-18 0
— Sprengeri ...	10 0-12 0
Carnation foliage, doz. bunches...	4 0 —
Croton foliage, various, per dozen bunches ...	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch ...	1 0-1 6
Moss, per gross ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	0 9-1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, p. dozen	6 0-7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, p.dz.	10 0-12 0
— Sprengeri ...	8 0-9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated ...	30 0-60 0
Chrysanthemum coronarium, 48's, per dozen	3 0-5 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ...	2 6-10 6
Coleus, per doz. ...	4 0-5 0
Crassula, various (in 48 pots) per dozen	9 0-12 0
Croton, per dozen	18 0-30 0
Cyperus alternifolius, per doz.	5 0-6 0
— laxus, per doz.	4 0-5 0
Dracæna, green, per dozen ...	10 0-12 0
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, doz. ...	6 0 —
— choicer sorts per doz. ...	8 0-12 0
— in 32's, per dozen	10 0-18 0

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Ficus elastica, per dozen	9 0-12 0
Fuchsias, per dozen	8 0-9 0
Geonoma gracilis, 60's, per dozen	6 0-8 0
— larger, each ...	2 6-7 6
Heliotropes ...	6 0-8 0
Hydrangeas white, 48's, per dozen	18 0-21 0
— pink	8 0-12 0
— blue, each ...	2 0-5 0
— paniculata, per dozen	18 0-24 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0-6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen ...	15 0-18 0
— lancifolium alba	15 0-18 0
Lilium longiflorum, per dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
— yellow ...	10 0-12 0
Mignonette, 48's, per dozen ...	6 0-8 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargoniums, per dozen	9 0-12 0
— Ivy-leaved ...	7 0-9 0
Phœnix rupicola, each	2 6-21 0
Rhodanthi, per dz. pots	5 0-6 0
Saxifraga pyramidalis 48's, per dozen	15 0-18 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0
Verbenas, pink ...	6 0-8 0
— scarlet... ...	8 0-9 0
— white	8 0-9 0
— blue	8 0-9 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Tasmanian per case ...	9 6-15 0
— Australian per case	9 6-15 0
Apricots, French per box ...	0 10-4 6
— half sieves ...	8 6-9 0
Bananas, bunch:	
— Doubles ...	10 0-12 0
— No. 1	7 6-8 0
— Extra	9 0-9 6
— Giant	10 0 —
— Loose, p. doz.	0 6-1 0
— Red coloured...	5 6-6 6
— Jamaica Giants, per ton ...	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0-5 0
— English, ½ bshl.	5 0-14 0
— pecks	5 0-8 0
Currants:	
— (English), Black, pecks	4 0-5 0
— Black, ½ bushl.	9 0-10 0
— Red, pr. ½ bshl.	5 0-8 0
— White, dozen punnets ...	6 0 —
Figs (Guernsey), per dozen ...	2 0-5 0
— English ...	3 0-6 0
Gooseberries, per ½ bushel ...	2 6-4 0
— Dessert, ½ bshl.	5 0-8 0
— Large dessert, per peck ...	6 0-8 0
Grape Fruit, case:	
— 96's ... ... — 80's ... ... — 64's ... ... — 54's	18 0-20 0
— English (new) per lb.	1 0-4 6
— Canon Hall ...	1 6-5 0
— Muscats ...	1 0-5 0
Greengages, p. bx.	0 10-1 3
— ½ sieve	9 0-10 0
Lemons:	
— Messina, p. case	7 6-12 0
Lemons:	
— ordinary, per case	4 6-8 0
Limes, per case ...	4 0 —
Loganberries, per chip	0 10-1 0
Melons (Guernsey)	1 0-2 6
— (English) ...	1 0-3 0
— Canteloupe ...	2 0-10 6
Nectarines, per dozen:	
— selected ...	8 0-15 0
— best	4 0-6 0
— seconds ...	2 0-3 0
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Chestnuts, per bag	3 6-19 0
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 3 —
— Walnuts (Naples), kiln dried, cwt. cases	54 0 —
Oranges:	
— Navels... ...	16 0-18 0
— Denia, case ...	14 0-18 6
— Mercia... ...	7 6-8 0
Peaches:	
— French, ½ sieve	6 0-8 0
— boxes	1 0-2 0
— English, dozen:	
— selected ...	10 0-18 0
— best	6 0-8 0
— seconds ...	1 0-2 0
Pineapples, St. Michael ..	3 6-5 6
Plums, French, ½ sieve	5 6-7 6
— Cherry, per peck	2 0-3 0
Raspberries:	
— punnets, per dozen	4 0-8 0
— chips	1 6-2 6
— peck	4 6-6 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen ...	2 6-3 6
Asparagus—	
— (English) bndl.	
— Worcester ...	2 0-5 6
— Giant	6 0-12 0
Aubergines, per dozen	2 6-3 0
Beans, Guernsey Dwarf, per lb.	0 9-1 0
— (English) p. lb.	0 9-1 0
— French, per packet, lb. ...	0 4-0 6
Beetroot, New, doz. bunches...	1 6-3 0
Cabbages, Evesham, pots ...	1 6-2 0
Carrots (English), pr. doz. bun....	2 0-3 0
— (French) per dozen bunches	4 0-6 0
Cauliflowers, per dozen	2 6-4 0
Chicory, per lb. ...	0 4 —
Cucumbers, per dozen	2 0-3 0
Endive, per dozen	2 6-3 0
Greens, p. bushel	1 6-2 0
Herbs (sweet), pkts., p. gross	7 0 —
Horseradish, 12 bundles ...	12 0-15 0
Leeks, per doz. ...	2 6-3 0
Lettuce (English), Cos, per tally...	2 6-3 0
Lettuce (English),	
— Cabbage, p. dz.	0 9-1 0
Marrows, per doz.	2 0-3 0
Mint, per dozen bunches ...	2 0 —
Mushrooms, cultivated, per lb.	1 0-1 6
— outdoor, per peck	3 6-4 0
Mustard and Cress, p. dz. punnets	1 0 —
Onions (Egyptian)	7 6 —
— (Spanish) ...	7 6 —
— (Spring), per doz. bunches	1 6-2 0
Parsley, ½ sieve ...	2 0-3 0
— per doz. bun.	2 0 —
Peas (English), per bushel	4 0-5 6
— bags	6 0-9 0
— shelled, pr. qt.	1 0-1 6
Radishes (English) per dozen ...	1 3-1 6
— (Jersey) long...	0 9-1 0
Rhubarb, outdoor, per dozen ...	2 6-3 0
Spinach, pr bshl	1 6-2 0
Tomatos, per doz. lbs.:	
— (Guernsey), ...	3 0 —
— (English), ...	3 0-3 6
— seconds ...	1 0-1 6
Turnips (English), per dz. bunches	2 0-3 0
Watercress, p. dz. bunches ...	0 6 —

Remarks.—The last consignments of Tasmanian Apples have been sold this week. English Apples are now making their appearance in the market. The varieties are Julyan, Beauty of Bath, Gladstone, and Red Astrachan. Washington seedless Oranges, of fine quality, from Cape Colony are now arriving weekly, and realise high prices. Apricots, Greengages, and Plums arrive daily from Continental growers; many of the samples are of excellent quality. Grapes in the following varieties are now obtainable: Muscat of Alexandria, Canon Hall Muscat, Black Hamburgh, Alicante, Gros Colmar, Gros Maroc, and Madresfield Court. The trade for Grapes has shown a slight improvement during the past week. Home-grown Cherries are fairly plentiful. Ripe Gooseberries (black, red and white) have been arriving in sufficient quantities to meet the demands. Raspberries are, for the most part, of excellent quality; selected fruit in punnets have a ready sale. There is a limited supply of Strawberries. Peaches and Nectarines from various sources reached the market in greater quantities during the past week, and consequently their prices are lower; the principal demand has been for selected highly-coloured fruits. The supplies of Melons and Figs have exceeded the demand; large quantities of Canteloupe Melons have arrived from France and Holland. Tomatos have not been so plentiful as usual, but supplies may be expected to increase towards the end of the week, and lower prices will prevail. Loganberries have arrived in increased quantities during the week, and the demand has shown a slight improvement, but its large core makes the Loganberry unpopular with the trade and public generally. The market is well supplied with vegetables; especially Peas and Lettuces. *E. H. R., Covent Garden, July 10, 1912.*

Old Potatos.

Maincrop ... ... 3 0-3 6 per cwt.

New Potatos.

	per cwt. s.d. s.d.
Bedfords	5 0-6 0
Kents	6 0-7 0
Blacklands ...	4 6-5 0
Lincolns	5 0-6 0

St. Malos ... ... 6 0-6 3 per cwt.

Remarks.—The prices of new Potatos have fallen considerably and they promise to be cheaper still at the end of this week. Trade is very slow, which is to be expected at this time of the year. *Edward J. Newborn, Covent Garden and St. Pancras, July 9, 1912.*

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending July 6, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather*.—Early in the week the weather was extremely unsettled, with thunderstorms in a few scattered localities on Sunday, and many parts of England on Monday. After Tuesday a general improvement took place, but at the close of the week thunderstorms were experienced over a large portion of our southern and eastern counties.

The *temperature* was below the average, the deficit being slight in Scotland, but rather large (more than 3°) in England N.E. and the Midland Counties. The highest readings were recorded very generally on July 6, but in the north-east of Great Britain they occurred rather commonly on June 30. As a rule the thermometer did not rise much above 70°, but at Camden Square it reached 77° on the 6th, while at Balmoral it is reported to have reached 78° on the 5th. The lowest readings occurred at times varying greatly in different parts of the country, and ranged from 40° in Scotland E. and 41° in England N.W. to 47° in England E., and 52° in the English Channel. At a depth of 1 foot the mean temperature of the soil differed but little from the average, being slightly below it in some places and above it in others. At a depth of 4 feet it was mostly above the normal.

The *mean temperature of the sea* was above the average on most parts of our west, south and east coasts, where the water was warmer than in the corresponding week of last year. In the north and on the coasts of Devon and Cornwall it was mostly below the average.

The *rainfall*.—Over eastern, central and southern England the total amount was in excess of the average. Elsewhere there was a general deficiency and in Scotland N. and W. the deficiency was large. The largest individual fall reported was 1·3 inches at Nairn on June 30; at some places in the South and East of England considerable amounts were experienced with the thunderstorms of Saturday.

The *bright sunshine* was below the average especially over eastern, central and southern England. The daily mean amount was largest, 5·4 hours, in Scotland W. In England N.E. it did not amount to as much as 2½ hours and in the Midland Counties it was only 2 hours.

THE WEATHER IN WEST HERTS.

Week ending July 10.

The sunniest day for a fortnight.—Both the days and nights were, on the whole, rather variable in temperature. There were three warm days, and on the warmest of these (the 10th) the temperature in the thermometer screen rose to 75°. There was only one cold night, when the exposed thermometer fell to within 4° of the freezing-point. The ground is at the present time at about a seasonable temperature at 2 feet deep, and 1° warmer than the average at 1 foot deep. Small quantities of rain fell on three days; the total measurement, however, was less than one-tenth of an inch. A few drops of rainwater have come each day through the bare soil percolation gauge, but none at all through that on which short grass is growing. The sun shone on an average for 4½ hours a day, which is 1¾ hours a day short of the mean duration for the same period in July. On the one sunny day (the 9th) the sun shone brightly for nearly 11 hours. The winds have been, as a rule, light. The mean amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by 1 per cent. *E. M., Berkhamsted, July 10, 1912.*

TRADE NOTICE.

ROYAL APPOINTMENT.

Messrs. Dobbie & Co., Edinburgh, who held appointments as seedsmen and florists to the late Queen Victoria and King Edward VII, have been appointed seedsmen and florists to His Majesty King George V.

SCHEDULES RECEIVED.

Twickenham and District Horticultural and Gardeners' Mutual Improvement Association.—The summer exhibition of this society will be held at Radnor House, on Wednesday, July 24. Secretary, Mr. T. J. Wheeler, 5, Chesnut Road. Twickenham.

Royal Lancashire Agricultural Society.—A horticultural show will be held in conjunction with the Agricultural Exhibition of this Society at Moor Park, Preston, on August 1, 2, 3 and 5. Particulars may be obtained from Mr. P. Blair, Trentham Gardens, Stoke-on-Trent.

CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley, Kent—Strawberries.
Boulton & Paul, Ltd., Norwich—Petrol Engines.

FOREIGN.

M. Herb, Via Trivio 24-36, Naples, Italy—Bulbs.
Walter Blom & Son, Overveen, Holland—Bulbs.

GARDENING APPOINTMENTS.

Mr. C. Ridler, for the past 2 years Gardener to the Countess of Aylesford at Packington Hall, Coventry, as Gardener to C. Clarke, Esq., Tracy Park, Wick, near Bristol, Gloucestershire.

Mr. H. C. Pearce, for 2½ years General Foreman at Blendon Hall, Bexley, as Gardener to Mrs. Bernard Foster, Duncote Hall, Towcester, Northants. (Thanks for 1s. 6d. for R.G.O.F. box.—Eds.)

Mr. James Dickson, late Gardener to Hon. Windham Baring, Fernhill, Windsor, as Gardener to Rt. Hon. Earl Amherst, Montreal Park, Riverhead, Sevenoaks, Kent.

Mr. W. H. Durose, for the past 2½ years Foreman at Caversham Park, Reading, as Gardener to Countess of Eldon, Westwood House, Tilehurst, Reading. (Thanks for 1s. for R.G.O.F. box —Eds.)

SITUATIONS VACANT.

Four Lines 3s. (Head-line counted as Two), 6d. for each succeeding line.

PRIVATE.

KENT EDUCATION COMMITTEE. — WANTED, in September next, an ASSISTANT to the Committee's Horticultural Superintendent; candidates should have ability to lecture and a practical knowledge of school garden work; the candidate appointed will be required to devote his whole time to the duties of his office, and to reside at such places as the Committee may from time to time direct; initial salary £120 per annum, together with travelling expenses. Applications, stating age, qualifications and experience, with copies of not more than three testimonials, to be sent, not later than July 31st, 1912, to the undersigned, from whom the forms, on which application should be made, may be obtained. Canvassing will be considered a disqualification.

By order of the Committee,
FRAS. W. CROOK,
Secretary.

Caxton House,
Westminster, S.W.
2nd July, 1912,.

ASSISTANT GARDENER required at the London County Asylum, Banstead, Sutton, Surrey; age not to exceed 35; must be experienced in work under Glass and in general Kitchen Garden; wages commencing at 26s. per week, no emoluments; annual leave after 12 months' service, 10 days, including Bank Holidays when taken. The person appointed will be pensionable and will be required to contribute under the Asylums Officers Superannuation Act, 1909. Applications, with copies of recent testimonials, to be sent to the MEDICAL SUPERINTENDENT, Banstead Asylum, Sutton.

WANTED, GARDENER (Head) at once; a capable and experienced man to grow Florists' Flowers and Vegetables for Exhibition at the leading Horticultural Shows; none but those possessing special qualifications and used to this kind of work need apply.—State age, experience, wages required, and when disengaged by letter only, to "EXHIBITION GARDENER," Box 20, 41, Wellington Street, Covent Garden, W.C.

WANTED, GARDENER (Head Working of four); must be highly experienced in all branches; understanding Herbaceous Borders, Shrubs, Roses, &c., Fruit Trees and Kitchen Garden; good all-round under glass; energetic and hard-working; extensive gardens; limited amount of glass; age under 38; married man with no children or small family preferred; wages 25s., cottage and garden; man from South of England and enclosing recommendation from employer preferred.—Send full particulars to "L.," Rosel Manor, Jersey.

WANTED, GARDENER (Under) to take charge of Glasshouses, with experience in Fruit and Flowers; also GARDEN LABOURER; good scythe hand, with wife to take charge of lodge. —Write full particulars of past employment, age, &c., to EDWIN WATERHOUSE, Feldemore, near Dorking.

WANTED, experienced LEADING HAND for Kitchen Garden and Hardy Fruit; wages £1 a week and good Bothy.—GOODALL. Gardens, Moreton Paddock, Warwick.

WANTED, Man as SECOND (Inside); thorough Plantsman essential; wages £1; no Bothy; alternate duty.—References to A. KILLICK, Cockfield Hall Gardens, Yoxford, Suffolk.

WANTED, ROCK and ALPINE GARDEN FOREMAN; must be thoroughly experienced in this department; wages 25s. per week, without Bothy.—Apply, E. ROSE, Castleford Gardens, Chepstow.

WANTED, a GARDENER, who understands growing Flowers and Vegetables; must be a strong, handy man; three to five years' good character; also may have to look after pony and trap.—Apply by letter, F. CRAWFORD COBB, Esq., Headley, Hants.

WANTED.—Can any Gardener recommend a thoroughly competent, willing Young Man for Kitchen Garden and Pleasure Grounds; able to use scythe; not under 24; single; £1 weekly.—ZOBEL, Castle Hill Gardens, Rotherfield, Tunbridge Wells.

WANTED, FOREMAN for large place in England; man to take charge of Herbaceous Borders; must be experienced; good wage, with Bothy, to suitable man.—Apply, with references, to DAVID W. THOMSON, 113, George Street, Edinburgh.

WANTED, two FOREMEN GARDENERS (one Outside, other Inside) for Nobleman's places; must be thoroughly experienced and strongly recommended; Protestants; wages 20s., with Bothy and perquisites.—Apply, with copies, stating age, JOSEPH ORR & SONS, Seedsmen, Belfast.

WANTED, FOREMAN (Inside); must be active and of good character; experienced with Carnations and general work; age 25 to 26; Nonconformists and abstainers only need apply; wages 24s. per week, Bothy, milk and vegetables.—H. S. H., Box 21, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN (Inside); about 25; must be hard-working and energetic; wages £1 and Bothy; replies only to selected applicants.—J. BOTTRELL, Sudbury Hall Gardens, Derby.

WANTED, FOREMAN (Inside); Church of England man; well up in Fruit, Plants, Orchids; suit Journeyman (First).—State age and full particulars to WHITLOCK, Hammerwood Gardens, East Grinstead.

WANTED, JOURNEYMAN (Inside); age about 20; must thoroughly understand growing Melons and Carnations, and Plants for Cut Flower in large quantities; state wages, without Bothy.—C. SUGGITT, Mile Bush Hill, Leighton Buzzard.

WANTED, a good JOURNEYMAN, not under 22, for Fruit range and pits; wages 18s. per week; also ditto for Conservatory, &c.; wages 17s. per week, with Bothy, &c.; both must know their work and be well recommended; two in Bothy.—Particulars, with age and height, to T. WEAVER, Oakley Hall Gardens, Basingstoke.

WANTED, JOURNEYMAN (Inside); well up with Carnations and Chrysanthemums; not under 23; wages £1 1s., no Bothy.—Apply, A. CARTER, The Gardens, Sunnyfield, West Heath Road, Hampstead.

WANTED, JOURNEYMAN; chiefly for Outside work; wages 24s. per week, no Bothy.—Apply by letter only, The CURATOR, Chelsea Physic Gardens, London, S.W.

WANTED, single MAN (Inside and Out, Second of Five); experienced in Vines and Peaches, Chrysanthemums, Carnations, &c.; give references, wages required to live in; Bothy.—Reply to R. KNOWLES, Ednaston, Derby.

WANTED, good MAN for the Kitchen Garden; well up in his work; £1 per week and cottage.—Apply, J. BACON, The Gables, Mickleover, near Derby.

WANTED, good active Man at once as SECOND; used to Inside and Out; no Bothy.—State wage and references to C. SAUNDERS, St. Vincent Gardens, Grantham, Lincs.

WANTED, YOUNG MAN with good experience of Herbaceous Borders, Roses, &c.; also knowledge of House and Table Decoration; duty alternate weeks; wages 20s. a week, no Bothy.—Apply, with full particulars, HEAD GARDENER, Foots Cray Place, Sidcup, Kent.

WANTED at once, YOUNG MAN for Lawns and Kitchen Gardens; must have a good character and be able to take duty; wages 13s. and Bothy.—Apply, A. BEASLEY, The Gardens, Holne Chase, Bletchley, Bucks.

WANTED, smart, energetic Man, not under 21, for Outside; able to take duty; wages 20s., no Bothy.—Apply, COLE, The Gardens, Lululaund, Bushey, Herts.

WANTED, strong YOUNG MAN, age 21; knowledge of Inside and Out (chiefly Outside); wages 18s., no Bothy.—H. E. MILWARD, Moons Hill Gardens, Farnham, Surrey.

WANTED, strong, active YOUNG MAN for Kitchen Garden and Mowing; not under 22; good experience; wages 21s., no Bothy.—ALFRED DENHAM, The Gardens, Lawrence Weston, Henbury, Bristol.

WANTED, YOUNG MAN for Kitchen and Flower Garden; wages 18s.—BOULTER, Underwoods Cottage, Etchingham.

WANTED, YOUNG MAN for Inside and Out; used to Mower; Bothy and duty.—MEREDITH, Firbeck Hall, Rotherham.

WANTED, smart YOUNG MAN for Inside and Out; must be a good Cricketer; wages 21s. per week.—Apply, A. W. GRAY, Settrington House Gardens, near Malton, Yorks.

WANTED, a strong, active YOUNG MAN who thoroughly understands the Planting, Pruning, and general cultivation of choice Flowering Shrubs, &c.; wages £1 per week.—GEO. GILES, South Lodge Gardens, Horsham.

WANTED, strong YOUTH (17 to 20); experience had of Inside and Out; wages 15s.—SMITH, Clifton Lodge, Llandudno.

WANTED, GARDENER (Practical), and to run electric light plant for house; thoroughly capable; married without family, or one son as boy; very good cottage; Surrey; state wages, experience, and references (boy extra).—Write, A. B., Box 12, 41, Wellington Street, Covent Garden, W.C.

TRADE.

WANTED, for end of September, a MANAGER and SECRETARY for Orchid Nursery; must be a good Grower and experienced Salesman and not afraid of work.—Write in first instance, enclosing copies of testimonials and state salary expected, to O. C., Box 1, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN (Working); to take entire charge of Soft-wooded Department in large London Market Nursery; good wages paid to competent man.—Copy of testimonial, &c., to be sent to A. H., Box 27, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN (Working); capable of growing stuff for first-class shop round.—Apply, stating experience, &c., C. C., Box 26, 41, Wellington Street, Covent Garden, W.C.

WANTED, CARNATION GROWER; well up in Tree Carnations; state age and wages.—CLURY NURSERIES, Langley, Bucks.

WANTED, at once, experienced ROSE BUDDER; state wages required; every encouragement to good man.—Apply,
KILLERMONT NURSERY, Bearsden, Glasgow.

WANTED, ROSE BUDDERS; permanent situations for young men interested in Rose growing and exhibiting.—ROSE, Box 15, 41, Wellington Street, Covent Garden, W.C.

WANTED, three MEN for the season; must be capable and successful Rose Budders.—Apply, with particulars, to
T. S. WARE, LTD., Feltham.

WANTED, CUCUMBER and TOMATO GROWER and Bedding Stuff; practical man; abstainer preferred; permanency; good reference from present employer.—C. W. BENGER, The Nursery, Grove Road, Mitcham, Surrey.

WANTED, for Landscape Department, competent man; well experienced in advising clients, surveying, designing and executing plans, making estimates, and carrying out all kinds of Landscape work.—Full particulars of experience and salary required to CLIBRANS, Altrincham.

WANTED, JOBBING GARDENER; strong, willing, practical, industrious; cottage, large garden, and 15s. a week; constant.—Apply, J. PAYNE, Florist, Ash Vale, Aldershot.

WANTED, YOUNG MAN, single (Inside and Outside); must be able to pot and layer Carnations; gentleman's Nursery garden; state wages and references.—WOOTTEN, Fairoak, Eastleigh.

WANTED, YOUNG MAN, about 20, for Glasshouses, with some experience; alternate duty.—S. BIDE & SONS, LTD., Kingsley Nursery, Bordon, Hants.

WANTED, active YOUNG MAN; some experience under Glass; usual Market crops; state wages.—MANAGER, Thatcham Fruit and Flower Farm, Newbury.

WANTED, a YOUNG MAN who has had good experience in growing young Ferns, Palms, &c.—Apply, stating age and wages expected, to GROWER, Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED at once, YOUNG MAN, willing, industrious, as PLANT GROWER, with knowledge of Decorating; must have great interest in the work; would be required to help at shows, &c.—BEALING, Nurseries, Bassett, Southampton.

WANTED, YOUNG MAN, single, age 25 to 30, to attend to planting, &c., of graves in a cemetery; previous experience not necessary, but a good knowledge of bedding is required; a hard worker a necessity; permanent; wages to commence 26s.—F. S., Box 2, 41, Wellington Street, Covent Garden, W.C.

WANTED, IMPROVER for Market Nursery.—Apply at once to F. LEWIS, Leylands, Derby.

BULB and SEED TRADE.—ASSISTANT wanted; accustomed to putting up Bulb orders; must be smart and with good references.—Apply by letter, giving full particulars, age, wages expected, &c., BARR & SONS (Private), 11, 12 and 13, King Street, Covent Garden, London.

BULB, SEED and PLANT TRADE.—ASSISTANT SHOPMAN wanted.—Write full particulars of previous experience, age, and wages expected, with photograph, BARR & SONS (private), 11, 12 and 13, King Street, Covent Garden, London.

SEED TRADE.—Young, smart COUNTER HAND wanted immediately.—Apply, with particulars as to experience, stating wages expected and when disengaged, to K. D., Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED, SHOPMAN; must be a good Salesman; well up in Seed and Bulb trade; state age, wages and experience.—BAKER'S, Seedsmen, Wolverhampton.

WANTED, SHOPMAN; willing to travel if required; general knowledge of Seeds and Bulbs; state age, experience, and wages required.—M. D., Box 16, 41, Wellington Street, Covent Garden, W.C.

WANTED, CLERK, to take entire charge of all office work under Manager's orders; used to invoice and ledger work, typing and shorthand; a good deal of circularising done; state wage, age, and if single.—W. H. PAINE, Tully Nursery, Kildare, Ireland.

WANTED, a JUNIOR CLERK, with experience in the Dispatching and Invoicing of Nursery Stocks.—Apply, stating age, wages required, and full particulars as to experience, to W. FROMOW & SONS, Windlesham Nurseries, Surrey.

WANTED immediately, LADY FLORIST; must be first-class maker-up and with good business capacity.—Send full particulars of experience, wages, and age to ALEX. DICKSON & SONS, LTD., 61, Dawson Street, Dublin.

SITUATIONS WANTED.

Twenty-six words for 1/6, & 6d. for each succeeding Eight words or less.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

PRIVATE.

Gardeners, Farm Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application.

CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

THE COUNTESS of ANCASTER will be pleased to recommend Henry Lydiatt as GARDENER (Head) to any Nobleman, Lady or Gentleman requiring the services of a thoroughly efficient and trustworthy man; first-class references; 12 years as Head.—Apply, H. LYDIATT, Grimsthorpe Castle Gardens, Bourne.

GARDENER (Head, where six or more are kept).—Mr. H. KING, Avon Castle Gardens, Ringwood, Hants, can confidently recommend his Foreman, Thomas Sidwell, to anyone requiring the services of a thoroughly practical and skilful GARDENER; nearly 15 years' first-class experience in the cultivation of choice Fruits, Vegetables and Flowers, including Orchids, Roses, Carnations, Pleasure Grounds, and general routine; age 30; married, one child.

GARDENER (Head); thoroughly experienced in all branches; Vines, Peaches, Mushrooms, Figs, Flowers, Vegetables; accustomed to large establishments; excellent references.—GARDENER, Trecilla Cottage, Llangarron, Ross-on-Wye, Herefordshire.

GARDENER (Head) seeks Re-engagement with any Lady or Gentleman requiring a first-class Gardener; life experience in all branches pertaining to Horticulture and Landscape work; nine years as Head; excellent references; age 41, no family.—R. PRATT, Beachborough, Shorncliffe, Kent.

GENTLEMAN highly recommends his late HEAD GARDENER to any Lady or Gentleman requiring a trustworthy, practical man in all branches.—Address, HAYLER, 15, Basuto Road, Parson's Green, S.W.

GARDENER (Head); a keen, energetic and capable man desires Engagement; first-class cultivator, all branches; resourceful manager.—Particulars, GEO. MORBEY, 11, Norman Street, West Gorton, Manchester.

MR. WILLIAM ROBINSON will be pleased to recommend his HEAD GARDENER as a thoroughly capable man in all the branches of a first-class gardening establishment; excellent testimonials; age 42; married, no family.—J. F. LEWIS, Granetye Manor Gardens, East Grinstead, Sussex.

GARDENER (Head) or ORCHID GROWER.—G. WOOD respectfully solicits correspondence with Lady or Gentleman requiring a thorough practical man as above; age 32; good references; married when suited.—3, Victor Cottages, Lewes Road, Lindfield, Sussex.

GARDENER (Head or thorough Single-handed); life experience in all branches; well recommended; six years last situation; age 29; disengaged when suited.—W. WAITE, 121, Taunton Road, Lee, S.E.

GARDENER (Head of three or more); life experience; good recommendations from present and previous employers; age 28; married when suited; first-class certificate from the Royal Horticultural Society.—BOWLES, 10, Devonshire Road, Mottingham, Eltham, Kent.

GARDENER (Head or good Single-handed); life experience Inside and Out; Fruit, Flowers, Vines, Cucumbers, Melons, Vegetables, &c.; married.—GARDENER, 48, Londesborough Road, Southsea. (No circulars.)

GARDENER (Head or good Single-handed); life experience; age 40; married; well recommended as good all-round man; two years Head present place, 11 years previous.—LAKER, Cricket View, Horley.

GARDENER (Head or good Single-handed); life experience in good places, including 12 and 9 years; steady and trustworthy; age 38; married.—ANDREWS, 38, Southwood Lane, Highgate.

MR. PAINE, Fernham House, Faringdon, Berks., will be pleased to recommend J. Corbett as GARDENER (Head Working, where two or three are kept, or good Single-handed); experience gained in good establishment; age 33 years; married, two children.—J. CORBETT, Millwood Cottage, Berghers Hill, Wooburn Green, Bucks.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park, highly recommends H. Stedman, where three or more are kept; life experience Inside and Out; Vines, Fruit, Flowers, Kitchen Garden; age 35; married, two children; life abstainer; good references.—STEDMAN, Bicester Lodge, Kirtlington Park, Oxon.

GARDENER (Head Working, with two or three under); life experience Inside and Out; 14 years Head; excellent references; leaving through death.—M. C. KIRBY, 94, Potter Street, Worksop, Notts.

GARDENER (Head Working, where two or three are kept); 15 years' experience in all branches; last three years as Head; age 30; married, one child; wife experienced Laundress.—P. GOLDSON, Ingwell, Moor Row, R.S.O., Cumberland.

GARDENER (Head Working, where more are kept); thorough practical first-class man; experienced in all branches; excellent testimonials.—G. BARTLE, 43, Wigston Lane, Aylestone, Leicester.

GARDENER (Head Working, where two or three are kept); life experience Inside and Out; age 28; married when suited; can be well recommended.—W. RIDGES, Gaddesden Place, Hemel Hempstead, Herts.

GARDENER (Head Working, with one or two under); age 38; life experience Inside and Out; good references.—Address, GARDENER, Hareby House, Spilsby, Lincs.

GARDENER (Head Working, where several are kept); 17 years' practical experience all branches; last five years Head; age 34; married, one child, age 4; excellent references.—A. SPRINGHAM, Chapel Lane, Stanstead Abbotts, Herts.

GARDENER (Head Working).—Mr. H. G. BULL, Breakspears, highly recommends C. Harbert as above; well versed in cultivation of Flowers, Fruit, and Vegetables; practical experience; age 30—Breakspears Gardens, Uxbridge, Middlesex.

GARDENER (Head Working); smart practical man; life experience; four years present place as Foreman; excellent references; age 32.—A. E. SALES, Western Road, Haywards Heath.

GARDENER (Head Working, where more are kept); 25 years' practical experience in all branches, Inside and Out; Orchids, Vines, Peaches, Cucumbers, Melons, Stove and Greenhouse Plants, and Herbaceous Borders; highly recommended; age 36; married, no family; abstainer.—F. BUSH, 56, Buxton Villa, Rusthall, Tunbridge Wells.

GARDENER (Head Working, where two or three are kept); life experience Orchids, Stove, Vines, Cucumbers, Flower and Kitchen Garden; leaving through place being let; age 40; married, no family.—DOWNHAM, Southfield Cottage, Queensmere Road, Wimbledon Park.

MR. H. T. MARTIN, Head Gardener, Warren Wood, Hatfield, Herts., wishes to recommend his Foreman as GARDENER (Head Working, where several are kept).—Apply, EDWARD JONES.

GENTLEMAN wishes to recommend his GARDENER to any Lady or Gentleman requiring a thoroughly hard-working, good all-round man; married; no encumbrance; wife domesticated; 6½ years' good character.—WOOD, Wildecroft, Betchworth.

GARDENER; single; age 28; 12 years' practical experience, seeks situation; Kitchen Garden and Pleasure Grounds or Lead Kitchen Garden.—WM. VANE, 6, Cottage Hill, Rotherfield, Sussex.

MAN, married (35), requires Situation in Garden; Kitchen and Pleasure Grounds; 3½ years in last situation.—Apply, C. WILKINS, The Headlands, Downton, Salisbury.

GARDENER, age 30; life experience Inside and Out; seven years in present situation; single.—E. COX, Bilton Hill, Rugby.

PLEASURE GROUNDS or KITCHEN GARDEN.—Mr. BUCKINGHAM, Milland Place Gardens, Liphook, can thoroughly recommend Lloyd Smith as a good LEADING HAND (Outside); nine years here; age 36; married when suited.

GARDENER; life experience Inside and Out; look after and clean motor if required; abstainer; good references; age 30; single; please state wages.—GREY, 41, Grafton Road, Worthing.

GARDENER; well up in all branches Inside and Out; wife good plain Cook or Housework occasionally; 36-37, one little girl age seven.—WINCH, Linden House, Loxwood, Sussex.

GARDENER (Single-handed).—Dr. SMITH, Wonston Lodge, Micheldever, Hants, recommends E. Goodyear as above; well experienced Outside and some Glass; no objection to Housework.—Apply above, or to GOODYEAR, Sutton Scotney, Micheldever, Hants.

GARDENER (Single-handed) seeks situation; 13 years' general experience; eight years last place; well recommended; age 33.—G. HENBEST, The Gardens, Colney Park, near St. Albans, Herts.

GARDENER (Single-handed or with help).—Mr. GOULD, Shernfold Park, Frant, can with confidence highly recommend good man as above; life experience in all branches; age 27.—Apply as above.

GARDENER (Single-handed or with help); experienced in all branches; age 39; married, no family; good references; disengaged; please state wages.—GARDENER, 2, Wharf Road, Brentwood.

GARDENER (Single-handed or with help); life experience in all branches; age 30; married, no family; good references; disengaged.—GARDENER, 8, Cumberland Street, Hythe Road, Staines.

GARDENER (Single-handed or with help); age 25; single; good references; willing to be useful; nine years' experience.—P. PARKER, 5, Prospect Terrace, Gainsboro, Lincs.

GARDENER (Second or Single-handed) seeks situation; nine years' experience; good reference; age 23.—J. SAMPSON, 6, Coulsdon Cottages, Buxton Lane, Caterham, Surrey.

GARDENER (Second Inside and Out, where four are kept); age 26; excellent references from large establishments; member B.G.A.—G. H., Bentley Cottage, Downe, Kent.

GARDENER (Second Inside and Out or Single-handed); eight years' experience; can be well recommended.—E. SLATER, The Gardens, Walton Hall, Eccleshall.

GARDENER (Second, where three or four are kept); good experience, Inside and Out; age 26; good references.—E. MILES, Beech Hurst Lodge, Lingfield, Surrey.

GARDENER (Second, Inside and Out); 14 years' good general experience in first-class establishments; age 28; highly recommended; married when suited.—A. CADD, Pinkney's Green, Maidenhead.

GARDENER (Second, Inside and Out); 13 years' practical experience; age 28; single; good references.—E. SLOSS, Kingsbury, The Hyde, N.W.

GARDENER (Under) as LEADING HAND in Kitchen Garden; age 25; 12 years' experience Inside and Out; good references.—A. SAUNDERS, Aldermaston, Reading.

GARDENER (Under, Inside and Out or Outside); 18; four years' experience; knowledge of Fruit and Vegetable Culture; height 6 feet.—MARSH, Hill View, Malvern Wells.

GARDENER (Under).—Young Man seeks Situation in Kitchen Garden or Pleasure Grounds; used to both; understands Stoking; good references; age 22.—J. PAINE, 4, Jubilee Cottages, Langley, Bucks.

FOREMAN (Inside) or good GARDENER (Second); 12 years' good experience; all Fruits, Plants, Carnations, Chrysanthemums, and Decorating; well recommended; married when suited.—M., Box 2, 41, Wellington Street, Covent Garden, W.C.

FOREMAN (Inside) or good GARDENER (Second); 13 years' experience amongst Plants, Fruit, Carnations, Chrysanthemums, and Decorations; good testimonials; disengaged.—H., 11, Ossington Street, Bayswater, W.

FOREMAN (Inside); age 28; good knowledge of Plants, Fruit, House and Table Decoration; disengaged.—S. WHITMORE, 4, Ruskin Terrace, Waltham Abbey, Essex.

FOREMAN (Inside or General); age 25; experienced Fruit, Flowers, House and Table Decorations; highly recommended.—Apply, G. KEMP, Woolhampton Park Gardens, Woolhampton, Berks.

MR. H. MARTIN, Pyt House, Tisbury, Wilts., can highly recommend A. Davies as GENERAL FOREMAN (Inside); Bothy preferred; 13 years and 3 months' experience; good references; 15 months as Foreman (Inside) here; age 28.

MR. CHAPMAN, Westonbirt, Tetbury, can with confidence recommend J. Carman as FOREMAN or good SECOND; 12 years' experience, including Orchids; age 26; married when suited.

MR. EVANS, The Gardens, Templemere, Weybridge, can highly recommend W. Lyde as FOREMAN (Inside); thoroughly experienced and trustworthy; two years here; age 27; married when suited.

JOURNEYMAN (Inside).—Mr. ANDREWS, Tregothnan, Truro, Cornwall, will be pleased to recommend E. Legg as above; age 23; seven years' experience; good references; Bothy preferred.

JOURNEYMAN (Inside); age 21; good experience, gained in good establishments; first-class references.—JAMES SAUNDERS, The Islet, Maidenhead Court, Maidenhead, Berks.

JOURNEYMAN (Inside) in good establishment.—Mr. HARDING, Lilleybrook Gardens, Charlton Kings, Cheltenham, can highly recommend W. Brown as above; age 23; seven years' good experience; Bothy preferred.

JOURNEYMAN (Inside or Inside and Out); age 21; six years' experience; good references; Bothy preferred; disengaged.—L. Pennifold, Ansty, Cuckfield, Sussex.—Apply, TOLHURST, Head Gardener, Bolnore, Haywards Heath, Sussex.

JOURNEYMAN (Inside); nine years' good general experience, gained in good establishment; age 23.—E. BUTLER, Wychnor Park Gardens, Burton-on-Trent.

JOURNEYMAN (Inside or Inside and Out); eight years' experience; age 25; good reference; Bothy preferred.—W. BRENNAN, 43, Causton Street, Vauxhall Bridge Road, Westminster, S.W.

JOURNEYMAN (Inside and Out); age 20; five years' experience in Glass and Outside work; good references.—Apply, J. PUGH, Clive Hall Gardens, Grinshill, Shrewsbury.

JOURNEYMAN (Inside) seeks Situation; age 21; six years' good experience; can be well recommended.—P. DE PEARE, The Gardens, Hatchlands Park, East Clandon, Guildford.

H. COSTER, Gardener to the Marquis of Bristol, can well recommend Young Man, age 19, as JOURNEYMAN (Inside and Out); four years' experience.

MR. PHILLIPS will be pleased to recommend a Young Man as JOURNEYMAN (Second); 5½ years' good experience; age 21; height 5 ft. 10 in.—KNIGHTS, Buxted Park Gardens, Uckfield, Sussex.

JOURNEYMAN (Second), age 21, seeks Situation; Kitchen Garden or Pleasure Grounds; six years' experience in good establishments; good references; Bothy preferred.—WICKHAM, Lovetts, Croxley Green, Herts.

JOURNEYMAN (Third Inside), seeks Situation in good establishment; age 20; four years' experience; good reference; Bothy preferred.—WILSON, The Gardens, Wigganthorpe Hall, York.

TWO YOUNG MEN (age 23) seek Situations in Private Gardens together; Outside preferred; five years' good references; abstainers.—W. HANNS, 4, Barnes Cottages, Weybridge, Surrey.

YOUNG MAN seeks Situation as GARDENER (Under); 2½ years' excellent character from previous situation; Bothy preferred.—Apply, S. RALLINGS, Little Waldingfield, near Sudbury, Suffolk.

YOUNG MAN, age 23, in Kitchen Garden and Pleasure Grounds; institution preferred; good references; steady and good worker.—S. SMITH, 6, Montague Road, Swanley Junction, Kent.

YOUNG MAN (21) with seven years' Vegetable and Pleasure Ground experience requires Situation.—W. MONK, The Gardens, Alderwasley Hall, near Matlock, Derbyshire.

YOUNG MAN, age 26, seeks Situation; Kitchen Garden; nine years' experience; good references; disengaged.—N. C., Box 11, 41, Wellington Street, Covent Garden, W.C.

YOUNG MAN, with good experience of Gardening, desires Situation for same; age 21; single; excellent references; near Maidstone preferred.—S., Box 20, 41, Wellington Street, Covent Garden, W.C.

YOUNG FRENCHMAN (23), speaking English, seeks Situation in private Garden, Market Nursery, or Florist; good certificate and references; London preferred.—BADIERE, 82, Robert Street, Regent's Park.

LAD, aged 15, seeks Situation in Garden; Bothy; some experience; can have good references.—BULLOCK, Chigwell, Essex.

LAD, aged 18, seeks Situation in Garden; Bothy preferred; good character; has had no previous experience; would pay small premium if necessary.—FRIPP, Northerwood, Lyndhurst, Hants.

HANDY MAN requires Situation; Painting, Glazing, Carpentring, and all kinds of repairs.—Address, A. F., 91, Bridge Road, Hammersmith, W.

HEAD GARDENER recommends HANDY MAN for Painting, Glazing, and general Repairs; age 26; good references.—Apply, P. F., Box 7, 41, Wellington Street, Covent Garden, W.C.

ADVERTISER (32), life abstainer, seeks Situation; private or trade; good Carpenter, Painting, &c.; own tools; also experienced Vegetables and Fruit Pruning; good references; disengaged middle August.—H. E., Box 13, 41, Wellington Street, Covent Garden, W.C.

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In consequence of the increase in the circulation, and also of the earlier despatch of the morning trains from London, the hour of going to press has been again advanced, and in future Advertisements received after 5 p.m. on WEDNESDAY will be held over till the following week. On no consideration whatever will any exception be made to this rule.

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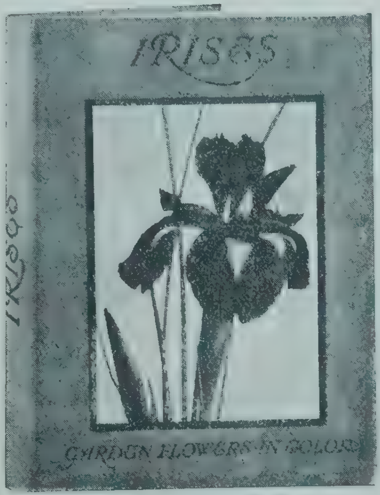

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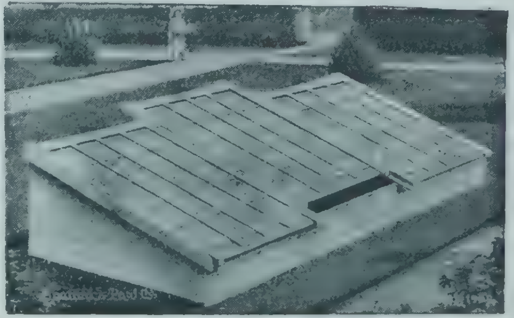

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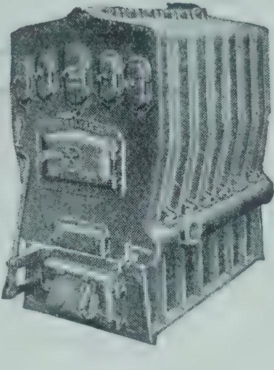

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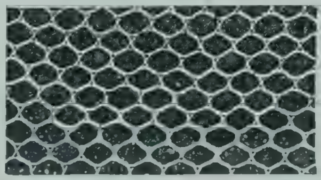

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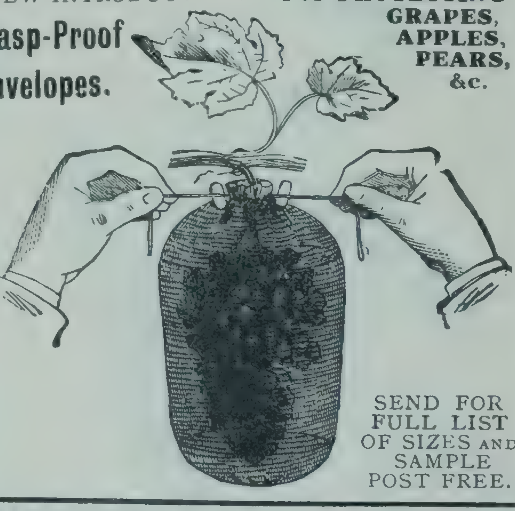

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Geo. W. HARRISON,
Horticultural Chemist,
READING.

SITUATIONS VACANT.

Four Lines 3s. (Head-line counted as Two), 6d. for each succeeding line.

PRIVATE.

Shanghai Municipal Council.

SHANGHAI POLICE FORCE.

POLICE RECRUITS are now required for the above Force; applicants must be unmarried, about 22 to 26 years of age, of good physique, with sound teeth, about 5 feet 10 inches in height, chest fully expanded about 38 inches, and able to procure excellent references as to character; salary commences at taels 70 per month, equal to about £9; there are extra allowances for knowledge of modern languages, also for plain clothes men in the detective branch; salaries rise steadily on promotion up to, in the case of Chief Inspectors, about taels 300 per month, equal to about £40; the value of the tael at present rate of exchange is about 2s. 8d., but it is liable to fluctuation. Agreement.—For three years, with free passage to Shanghai, liberal superannuation scheme, free quarters, and bonus of £5 for outfit. The climate of Shanghai is much the same as in England, though both hotter and colder; police work in Shanghai is the same kind of work as is done by any town police in the larger towns of the United Kingdom; the work in Shanghai is in no way like Colonial mounted work as done in the Colonies. Every facility is given in spare hours for enjoying all kinds of sports, such as cricket, football, cycling, &c. In addition, men of good character may take a three weeks' holiday per annum for the purposes of shooting, &c. Applicants for particulars must state their age, height, chest measurements, condition of teeth, particulars of trade or calling, and references before terms of service, and application forms will be issued to them. Apply by letter, giving these particulars, in envelope marked "POLICE," to Messrs. JOHN POOK & CO., London Agents for the Municipal Council of Shanghai, 63, Leadenhall Street, London, E.C.

WANTED, at once, GARDENER (Head, where three or four are kept); must be a keen, hard-working and experienced man, with the most excellent testimonials from a good place; he must have knowledge of Trees and Shrubs, and thoroughly well up in all departments of Gardening, both Inside and Out; a knowledge of working an electric light plant would be advantageous; 30s. a week and cottage to suitable man.—Reply by post, stating previous situations, age, number of family, to G. ELLIOT, Hull Place, Deal, Kent.

WANTED, thoroughly capable and energetic GARDENER (Head Working); experienced in all Outdoor work; must be neat in his work.—Apply, with full particulars, to Mr. ARTHUR VANHILL, Rawdon, Hinton Road, Bournemouth.

WANTED, near Windsor, GARDENER (Head Working); four kept; must be thoroughly efficient and keen; splendid personal character essential.—Address, C. E. R., Box 5, 41, Wellington Street, Covent Garden, W.C.

WANTED, experienced GARDENER (Head Working); five under him; state particulars and wages required.—Letters to be addressed, A. B., care of Smith's Library, Berkhamsted, Herts.

WANTED, GARDENER; strong, willing worker; boy help given; aged 28 to 35; must be a really Single-handed worker without supervision, and have thorough practical knowledge of cultivation of succession crops, Fruit, Flowers, and Vegetables, and take care of two Greenhouses and Poultry; wages 28s., no cottage.—Write, stating age and prior experience, to SAVERNAKE, Carlton Road, Sidcup, Kent.

WANTED, GARDENER (under Head Gardener, where several are kept), age about 30, preferably married, for Rose growing and general garden work; cottage; Somerset; state experience and wages required.—L. F., Box 3, 41, Wellington Street, Covent Garden, W.C.

WANTED, a thoroughly capable GARDENER, 25 years of age, to take charge of Kitchen Garden and help with mowing; four gardeners kept.—Apply, stating full particulars, to HEAD GARDENER, Lawrence Weston House, Henbury, near Bristol.

WANTED, KITCHEN GARDENER (married without family preferred); must be well up, both in vegetable and fruit growing, and able to take entire charge of same; one man under him, and other help given when needed; wages £1 per week, with

WANTED, an experienced MAN to take charge of Kitchen Garden and heated Frames; able to grow Bedding Plants in winter, Melons, Tomatos in summer.—Apply, stating wages required, experience, and age, to C. G. BLAKE, Bushey House Gardens, Bushey, Herts.

WANTED, good MAN, age about 26, to take LEAD in Kitchen Garden, Wall Fruit, and help on Flower Borders; wages £1 weekly, no Bothy.—Apply, HEAD GARDENER, Heathfield, Addington, Croydon.

WANTED.—Can any Gardener recommend strong, experienced Man for Kitchen Gardens and Pleasure Grounds.—Apply, WATHEN, Berkeley Castle Gardens, Berkeley, Glos.

WANTED, strong, active MAN for Lawn and Herbaceous Borders; wages 16s., Bothy; duty every third week.—Apply, COMPTON, Elcot Gardens, Kintbury, Berks.

WANTED, MAN for Pleasure Grounds; experienced in Roses, Climbers, and Shrubs; good reference essential; good wages to suitable man.—T. LEACH, Ratton Gardens, Willingdon, Sussex.

WANTED, a strong active MAN to take charge of Kitchen Garden; duty alternate weeks; wages 21s., no Bothy.—G. WYATT, Stonehurst Gardens, Ardingly.

WANTED, smart, active, married Man as LEADING HAND on Pleasure Grounds; good cottage and garden provided.—Apply, with full particulars and copies of references, to H. PEARCE, Gardens, Duncote Hall, Towcester, Northants.

WANTED, good Man as SECOND; Fruit, Plants, and Decorating; wages 18s. per week, Bothy, milk, vegetables. — Apply R. W. THATCHER, The Gardens, East Carlton Park, Market Harborough.

WANTED, GARDENER (Single-handed with help); Fruit growing.—Address, Hon. Mrs. DALE, Tingrith Rectory, Woburn.

WANTED, GARDENER (Second, chiefly Inside), with good experience; wages £1 1s., no Bothy.—NICHOLSON, Aldborough Manor Gardens, Boroughbridge, Yorks.

WANTED, FOREMAN (Inside), not under 24; good knowledge of Inside work; 19s. to 20s. per week, Bothy and vegetables.—References to H. MARTIN, Pyt House Gardens, Tisbury, Wilts.

WANTED, FOREMAN for Plant Houses; to understand Floral work; age about 25; 21s. week and Bothy.—J. BARBER, Riddings House Gardens, Alfreton.

WANTED, a JOURNEYMAN (First) for Inside and Out; well up in the cultivation of Vines, Hardy Fruit, and Vegetables; age about 24; wages 17s. a week; good Bothy; duty every other week.—E. CARR, The Gardens, Elveden, Suffolk.

WANTED, at once, JOURNEYMAN (Inside); must be a good grower of Malmaisons, Tree Carnations, and Chrysanthemums; wages £1 1s., no Bothy.—A. CARTER, The Gardens, Sunnyfield, West Heath Road, Hampstead.

WANTED, immediately, strong, active Young Man for Inside; wages 13s. per week, with Bothy, &c.—Apply, with references and age, to MUNNINGS, Aswarby Gardens, Folkingham, Lincs.

WANTED, YOUNG MAN for Kitchen Garden and Pleasure Grounds, and take duty every alternate week; wages 15s., Bothy, &c.—ALLEN, Gardens, Cottrell, near Cardiff.

WANTED, strong YOUNG MAN for Pleasure Grounds; used to horse machine; wages 17s., Bothy, vegetables.—CHAS. MATTHEWS, Zeals House Gardens, Wilts.

WANTED.—Can any Gardener recommend strong, active Young Man for Pleasure Grounds; one used to lawn machine; state age, experience, wages, &c.—R. MIDDLETON, Exbury House, Exbury, Southampton.

WANTED, GARDEN LABOURER; single; good Scythesman; willing to clean sewage tanks; wages to commence 10s. weekly, with board, lodging and washing; travelling expenses paid after six months satisfactory service.—Apply, SECRETARY, National Sanatorium, Benenden, Kent.

WANTED, at once, strong, active Young Lad, about 16, for Inside and Out; no

TRADE.

WANTED, ESTATE MANAGER in October; he must have a thoroughly practical and scientific knowledge of Dairy Farming (with pedigree Jerseys), Hop and Fruit Growing, and Market Gardening (including intensive and glasshouse work), and a knowledge of Estate work; unquestionable references essential.—Apply, stating age, experience, and salary required, to "KENT," Box 8, 41, Wellington Street, Covent Garden, W.C.

WANTED, GARDENER, to work with and teach boys Kitchen and Market Gardening; must be competent to control boys and keep in order seven acres of ground; wages commencing 21s. per week, with house, garden, fuel and light free.—Apply by letter in own handwriting, stating age, qualifications, previous employment, number and ages of children, if any, and enclose three testimonials (copies only), to C. G., care of The Manager, Essex Industrial School, Chelmsford.

WANTED, a thoroughly good FOREMAN GROWER (Working) to take charge of Nursery (1,100 ft. run of glass, four acres land); steady and reliable; good manager of men; must understand growing Chrysanthemums, Tomatos, Bedding Stuff in quantity; applicants must be able to point to successful records; only those whose abilities and character will bear strictest investigation need apply.—GAMBLING, 64, Mawson Road, Cambridge.

WANTED, a good GROWER to take charge and grow Peaches, Tomatos, Cucumbers, Mushrooms, &c.; good wage to a good man.—W. HILLS, Nurseryman, Crescent Road, Bury Street, Lower Edmonton.

WANTED, GROWER; Tomato, Cucumber, Chrysanthemums and general Bedding Stuff; state age, experience, and wages required.—PETTIT, Wraysbury Nurseries, Staines.

WANTED, GROWER, with good experience under glass; Cucumbers, Tomatos, Chrysanthemums, Grapes, Bedding Stuff, Roses, &c.; state age, experience, married or single.—
BIRD & VALLANCE, Downham, Norfolk.

WANTED, ROSE BUDDERS; permanent situations for young men interested in Rose growing and exhibiting.—ROSE, Box 15, 41, Wellington Street, Covent Garden, W.C.

WANTED at once, good ROSE BUDDER; state wages required. — Apply, JAMES TOWNSEND & SONS, Rose Growers, Lower Broadheath, Worcester.

WANTED, for the cultivation of American Perpetual-Flowering Tree Carnations for commercial purposes, South Coast, a thoroughly competent Man of great experience; applications will be treated in strict confidence.—Write, "L.," care of W. H. Smith & Son, The "Bookshop," Kingsway, W.C.

WANTED, the services of several really first-class LANDSCAPE FOREMEN for the coming season, especially those familiar with Rock and Water Gardening; only men who have had thorough experience need apply.—R. WALLACE & CO., Colchester.

WANTED, YOUNG MEN for the Orchid Houses; men with previous experience preferred.—Apply, sending copies of testimonials, full particulars, &c., to S. R. P., Box 16, 41, Wellington Street, Covent Garden, W.C.

WANTED, IMPROVER; thoroughly trained in Tree Carnations; wages 20s.—Apply, CLURY NURSERIES, Langley, Bucks.

SEED TRADE.—Young, smart COUNTER HAND wanted immediately.—Apply, with particulars as to experience, stating wages expected and when disengaged, to K. D., Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED, for Yorkshire town, clever and up-to-date SHOPMAN; capable of managing and developing business of Fruiterers, Florist, Seeds, and Nursery trade; first-class maker-up essential. —Write, giving particulars, to PROGRESS, Box 13, 41, Wellington Street, Covent Garden, W.C.

WANTED, YOUNG MAN, to take charge of branch shop in Liverpool; Retail Seeds, Plants, and Cut Flowers; good Salesman, and able to keep shop and windows attractive; small security required.—G. C., Box 9, 41, Wellington Street, Covent Garden, W.C.

WANTED, young ASSISTANT for small Flower, Seed and Bulb Shop; state wages. —R. T., Box 17, 41, Wellington Street, Covent Garden, W.C.

WANTED, steady Young Man as STOKER and help Inside; also Young Man for Cucumbers, Tomatos, and Chrysanthemums, &c.—

SITUATIONS WANTED.

Twenty-six words for 1/6, & 6d. for each succeeding Eight words or less.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

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PRIVATE.

Gardeners, Farm Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application.

CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

HER GRACE the DUCHESS of WELLINGTON will be pleased to recommend R. Nudds as GARDENER (Head) to any Lady or Gentleman requiring the services of a thoroughly experienced and trustworthy man; excellent references; four years as Head here.—Apply, R. NUDDS, Ewhurst Gardens, Basingstoke, Hants.

THE COUNTESS of ANCASTER will be pleased to recommend Henry Lydiatt as GARDENER (Head) to any Nobleman, Lady or Gentleman requiring the services of a thoroughly efficient and trustworthy man; first-class references; 12 years as Head.—Apply, H. LYDIATT, Grimsthorpe Castle Gardens, Bourne.

LORD HERBERT SCOTT can confidently recommend his GARDENER (Head) to any Lady or Gentleman requiring the services of a good man, where three or more are kept.—W. UDELL, Bridgefoot Gardens, South Mimms, Barnet.

THE Right Rev. BISHOP MATHER wishes to recommend his GARDENER (Head); been with him four years, leaving through employer going abroad.—F. FOWLER, Hampton Bishop, Hereford.

HON. Mrs. ANSTRUTHER highly recommends as GARDENER (Head) W. Jennings; with her seven years; excellent character from present employer; age 35; married.—JENNINGS, Palace Gardens, Lichfield.

ROBERT FELLOWES, Esq., will be pleased to recommend his GARDENER (Head) to anyone requiring the services of a thoroughly efficient and trustworthy man; nearly 11 years in his service; very successful exhibitor with Orchids, Sweet Peas, Herbaceous Flowers, Fruits, &c.—Please apply, LEWIS SMITH, Shotesham Park Gardens, Norwich.

J. G. WELLER POLEY, Esq., highly recommends his late GARDENER (Head); 12 years' excellent character; eight previous; age 41; married, no family; left through place being let.—W. COOPER, Ringshall Laundry, Great Berkhamstead.

THOMAS MEAD, Cranbourne, Whippendell Road, Watford, seeks Situation as HEAD of two or more; age 29; 13 years experience in all branches; well recommended by late employer.

MR. WHITELEY, Thorngrove, Worcester, highly recommends his late GARDENER (Head), has been with me five years, to any Lady or Gentleman requiring a good man to take charge of their gardens.—PRICE, 12 West Street, Chester.

MR. WILLIAM ROBINSON will be pleased to recommend his GARDENER (Head) as a thoroughly capable man in all the branches of a first-class gardening establishment; excellent testimonials; age 42; married, no family.—J. F. LEWIS, Gravetye Manor Gardens, East Grinstead, Sussex.

GARDENER (Head), age 39, married, seeks Situation where several are kept; 24 years' practical experience gained in large establishments; 12 years as Head; well recommended; state wages.—Steventon Lodge, Orchard House, Erith, Kent.

GARDENER (Head, where two or more kept) seeks Re-engagement; gentleman highly recommends his Gardener; thoroughly experienced all branches; trustworthy; married; leaving when suited.—S. F., Box 25, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head).—Mr. JAMES VERT, Head Gardener to Lord Howard de Walden, highly recommends his Foreman (Outside) as above; 19 years' practical experience in all branches; 10 years in present situation; age 34; married, no family.—A. LARSSON, Audley End Gardens, Saffron Walden.

GENTLEMAN recommends his GARDENER as Head of two or more; Lawns, Flower and Kitchen Gardens; Tomatos, Cucumbers, Vines; also electric light, oil engines, cows, pigs, poultry; three years' character.—CARVER, Halebourn, Chobham W. End.

GARDENER (Head of three or more); life experience; good recommendations from present and previous employers; age 28; married when suited; first-class certificate from the Royal Horticultural Society.—BOWLS, 10, Devonshire Road, Mottingham, Eltham, Kent.

GARDENER (Head of two or three) seeks Situation; good knowledge of Herbaceous, Alpine and Bedding Plants; general routine of private garden; 3½ years as Foreman; married when suited.—CHAS. MORRIS, Walmsgate Hall, Louth, Lincs.

GARDENER (Head).—F. E. WATERS seeks re-engagement; age 30; abstainer; life experience, Inside and Out; 11½ years with the late Admiral Field, C.B. The Exors. will be pleased to give reference (personal).—The Grove, Gosport, Hants.

W. GODDARD, Langley House Gardens, Abbots Langley, Herts, highly recommends his Foreman, D. Diplock, as a thorough capable and trustworthy GARDENER (Head); thorough practical experience in all branches; abstainer.

GARDENER (Head) or ORCHID GROWER.—G. WOOD respectfully solicits correspondence with Lady or Gentleman requiring a thorough practical man as above; age 32; good references; married when suited.—3, Victor Cottages, Lewes Road, Lindfield, Sussex.

GARDENER; life practical experience all branches; good establishments, country and suburban; seeks as Head, where no objections to unmarried man; age 32; disengaged August 3rd.—Apply, R. RADFORD, Belsize Court Gardens, Hampstead, Middlesex.

GARDENER (Head).—A keen, energetic and reliable man desires engagement; first-class all branches; capable manager.—Apply, GEO. MORBEY, 11, Norman Street, West Gorton, Manchester.

GARDENER (Head, or good Single-handed); life experience; age 40; married; well recommended as good all-round man; two years Head present place; 11 years previous.—LAKER, Cricket View, Horley.

GARDENER (Head or thorough Single-handed); life experience in good establishments; six years last situation; can be well recommended; age 29; disengaged when suited.—W. WAITE, 121, Taunton Road, Lee, S.E.

GARDENER (Head Working, where several are kept); 17 years' practical experience all branches; last five years Head; age 34; married, one child, age 4; excellent references.—A. SPRINGHAM, Chapel Lane, Stanstead Abbotts, Herts.

GARDENER (Head Working, where two are kept); life experience, Inside and Out; age 25; married; well recommended.—J. DUNN, Bovingdon House, Hemel Hempstead, Herts.

GARDENER (Head Working, with two or three under); life experience, Inside and Out; 14 years Head; excellent references; leaving through death.—M. C. KIRBY, Potter Street, Worksop, Notts.

GARDENER (Head Working).—Mr. BANKS, Landguard Manor, highly recommends W. Hughes where two or more are kept; life experience, Inside and Out; Vines, Peaches, Melons, Cucumbers; age 33; married when suited; excellent references.—W. HUGHES, The Gardens, Landguard Manor, Shanklin, Isle of Wight.

GARDENER (Head Working, with one or two under); age 35; married, one child, age 8; near London preferred.—G. B., Box 1, 41, Wellington Street, Covent Garden, W.C.

GARDENER-POULTRYMAN (Head Working, Inside and Out): life experience; Gardening and Poultry (exhibition and utility), Orchard, Orchard House, and general; age 36; single; references.—G., Box 2, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park, highly recommends H. Stedman, where three or more are kept; life experience Inside and Out; Vines, Fruit, Flowers, Kitchen Garden; age 35; married, two children; life abstainer; good references.—STEDMAN, Bicester

MR. C. DYKE, Gardens, Garston Manor, Watford, highly recommends his Foreman, J. Barrett, as GARDENER (Head Working); 17 years' practical experience in all branches, Inside and Out; age 30; married, no family.

GARDENER (Head Working); age 38; married; thoroughly experienced in all branches, including Orchids, Herbaceous and Alpine Rockeries; 12½ Head at present place; highly recommended; estate to be sold.—H. WARREN, Highfield Gardens, Gainsborough.

GARDENER (Head Working); life experience in all branches of Horticulture; 10 years as Head; age 37; married, two children, school age; Wife help in house if required; excellent references.—GREEN, Mead Cottage, Yateley, Hants.

GARDENER (Head Working) requires new berth where four or more are kept; life experience; age 30; personal reference and well recommended from previous situations.—Apply, HIBBS, Upper Gatton, Merstham, Surrey. (No circulars.)

GARDENER; age 28; single; 12 years' experience, seeks Situation in Kitchen Garden and Pleasure Grounds or Lead (Kitchen Garden).—WM. VANE, Bridge Street, Wye, Kent.

MR. W. BARRELL, Coombe Cottage Gardens, Kingston Hill, can highly recommend E. Drury as LEADING HAND on Pleasure Grounds and Kitchen Garden; excellent references from previous situations; take duty; Bothy preferred; age 26; leaving when suited.

MAN, married (35), requires Situation in Garden, Kitchen and Pleasure Grounds; 3½ years in last situation; good Scythe hand.—C. WILKINS, The Headlands, Downton, Salisbury.

GARDENER (Working); 38; experienced, all-round man; also stock.—ELGIE, Seabrook Vale Lodge, Hern Street, Shorncliffe, Kent.

SITUATION required as KITCHEN GARDENER or Kitchen Garden and Pleasure Ground; good references; age 29; married, no family; Wife willing to help in house if required; Kent preferred.—S. CORK, Alderbourne Manor, Gerrards Cross, Bucks.

GARDENER, age 30, desires Situation; life experience Inside and Out; seven years in present situation; single.—E. COX, Bilton Hill, Rugby.

GARDENER or CARETAKER.—Situation required by experienced Gardener in all branches; age 50; Wife willing to be useful; 20 years' good references.—Apply, GEORGE HAYWARD, 24, Farrell Road, Stockton Heath, Warrington.

GARDENER (Single-handed); life experience in all branches; age 39; married, two boys, 12 and 15 years; good references.—WOOD, 9, Griffens Wood, Epping, Essex.

GARDENER (good Single-handed) or Kitchen Garden Foreman; highly recommended; five years present situation; good references; age 35; married.—A. BACON, Rickmansworth Park, Herts.

GARDENER (Single-handed or with help); life experience in all branches; age 30; married, no family; good references; disengaged.—GARDENER, 8 Cumberland Street, Hythe Road, Staines.

GARDENER (Single-handed or otherwise); used to oil engine and acetylene light; Wife good cook or help in the house; good references.—FRIPP, Northerwood, Lyndhurst, Hants.

GARDENER (Single-handed); age 40; single; experienced Inside and Out; willing to be useful; excellent character.—W. GRIFFITHS, Clovelly, Cowfold, Sussex.

GARDENER (Single-handed or with help); 12 years' experience in all branches; age 36; married, one child, 9 years; reference last place.—W. F., Box 12, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Single-handed) or with help); experienced in all branches; age 39; married, no family; good references; disengaged; please state wages.—GARDENER, 2, Wharf Road, Brentwood.

C. M. TATHAM, Esq., wishes to recommend his GARDENER (Single-handed or otherwise); 10 years' practical all-round experience, gained in good establishments; also understands Bee management; age 26; married, four in family.—Address, A. G. TOMKINS, Emberton, Newport Pagnell, Bucks.

EDGAR TAYLOR, Esq., will be pleased to recommend G. Henbest as GARDENER (Single-handed); 13 years' general experience; age 33.—Apply, HENBEST, Colney Park Gardens, near St. Albans.

GARDENER (good Single-handed or Second of four or five); nine years' excellent references from large establishments; age 26; single

GARDENER (Second, where two or three are kept); 15 years' experience in all branches, Inside and Out; good references; age 28; married, no family.—W. HILL, 3, St. Mary's Terrace, Guildford.

GARDENER (Second, Inside and Out); 13 years' practical experience in all branches; height 5 ft. 11 in.; age 28; single; good references.—E. SLOSS, Kingsbury, The Hyde, N.W.

GARDENER (Second) seeks Situation; well up in Vines, Peaches, &c., and all-round work; 27; single; Bothy preferred.—Marshall, The Lodge, Gt. Finborough, Stowmarket, Suffolk.

GARDENER (Second, Inside and Out); age 26; single; good practical experience; can be well recommended; disengaged.—Apply, L. FOSTER, Fernlee Villas, Glebe Road, Warlingham, Surrey.

MR. SAYER, Priory Gardens, Stoke-by-Nayland, Suffolk, wishes to highly recommend E. Vince as SECOND (Inside and Out); five years here as Second; good experience Inside; Herbaceous and Rockwork; married when suited.

GARDENER (Under), age 20, seeks Situation in Kitchen Garden and Pleasure Ground; good character; Sussex preferred.—J. ELLIS, Woodside Villa, Laughton, Shortgate, Sussex.

GARDENER (Under, Outside or Inside and Out); over five years in Letheringsett Hall Gardens; age 23; total abstainer.—B. LEVERIDGE, Letheringsett, Holt, Norfolk.

GARDENER (Under).—Young Man seeks Situation as GARDENER (Under or Single-handed); age 22; three years' good character from last place; five years previous engagement.—P. EDWARDS, Spring View, Forest Row.

FOREMAN (Inside) or good GARDENER (Second); age 28; 14 years' experience; three years last place; can be highly recommended.—H. DINNAGE, Taylor's Gate, Capel, Dorking, Surrey.

FOREMAN (Inside); well up in Plants, Fruit, Carnations, House and Table Decoration; disengaged; age 28.—S. WHITMORE, 4, Ruskin Terrace, Waltham Abbey, Essex.

FOREMAN (Inside); experienced with Fruit and Plants; good grower of Chrysanthemums for exhibition; seven years references as Foreman; age 29.—R. ASHTON, Gardens, Oakfield, Mortimer, Berks.

FOREMAN (Inside); age 26.—H. CHAPLIN, Normanton Gardens, Stamford, can thoroughly recommend G. Gray; trustworthy and energetic; experience in Fruit and Plants, House and Table Decorations; good with Chrysanthemums, Carnations, Begonias.—22, Caversham Road, Reading.

FOREMAN; 13 years' practical experience; 3½ years Foreman; highly recommended; age 28; height 5 ft. 10 in.; single.—JOHN PARMENTER, The Gardens, Meadfields, Haslemere, Surrey.

FOREMAN or SECOND seeks Situation; life experience in all branches, including House and Table Decoration; two years last as Inside Foreman; highly recommended.—MILTEN, Ash Cottage, Oatwood, Wakefield.

MR. G. ABBEY, The Gardens, Aston Rowant, Oxon, will be pleased to recommend W. Grant as FOREMAN (Inside); age 27; good references, including Aston, Clinton, and Leyswood; 20 months as Plant Foreman here; House and Table Decoration.

JOURNEYMAN.—Mr. TOLHURST, Head Gardener, Bolnore, Haywards Heath, wishes to recommend L. Pennifold; Inside or Inside and Out; disengaged; age 21; six years' experience; good references.

JOURNEYMAN (First, Inside) under Foreman, seeks Situation; age 22; eight years' experience; well recommended; cricketer.—T. LEE, The Gardens, Ponsbourne Park, near Hertford.

JOURNEYMAN (Inside or Inside and Out); age 20½; over four years in present situation; good references.—F. WARNER, Victoria Terrace, Much Hadham, Herts.

MR. THOS. SMITH, Gardener to the Marquis of Ripon. will be pleased to recommend experienced JOURNEYMAN, age 25, for Kitchen and Flower Garden.—Apply, Coombe Court Gardens, Kingston Hill, S.W.

MR. PHILLIPS will be pleased to recommend a Young Man as JOURNEYMAN (Second, Inside); 5½ years' good experience; age 21; height 5 ft. 10 in:—KNIGHTS, Buxted Park Gardens, Uckfield, Sussex.

MR. W. COOKE can with confidence recommend a strong, sober Young Man for Kitchen Garden and Pleasure Grounds or Inside and Out; used to duties; age 22.—Apply, Brockencote Hall Gardens, Worcestershire.

YOUNG MAN (23) seeks Situation as GARDENER (Single-handed or Under); married; can milk; last situation with titled gentleman.—L. J., 107, Forest Road, Loughton, Essex.

YOUNG MAN, age 27, seeks Situation (Single-handed or Under); 14 years' experience; good references; disengaged.—A. RANDALL, 62, Sussex Road, South Croydon.

YOUNG MAN seeks Situation in Kitchen Garden and Pleasure Ground; take duty; good references; age 25; 10 years' experience; disengaged.—A. KNIGHT, High Street, Codicote, Welwyn, Herts.

YOUNG MAN (25) as GARDENER, where one or two others kept (or good Single-handed); 9½ years present place; last five as Second, Inside and Out; married when suited.—KINGHAM, Hillside, Totteridge, N.

YOUNG MAN seeks Situation in Kitchen Garden and Pleasure Ground; age 22; four years' experience; good references.—G. YOUNG, The Grange Gardens, Alresford, Hants.

YOUNG MAN desires Situation in Kitchen Garden or Pleasure Grounds; 5½ years' experience; well recommended; age 21.—H. BISH, 22, Maxwell Road, Fulham, S.W.

YOUNG MAN seeks Situation as GARDENER (Under); age 21; four years' good reference; South Devon preferred.—H. COOK, Hailey Lane, Hertford, Herts.

YOUNG MAN seeks Situation as GARDENER (Inside and Out); three years' experience; age 21.—S. FREED, Peckham Cottages, Headcorn, Kent.

YOUNG MAN (22) seeks Situation as GARDENER; eight years' experience, Inside and Out; non-smoker.—E. BAILEY, Swaffham Prior, Cambs.

YOUNG MAN seeks Situation Inside or Inside and Out; seven years' experience; good references; age 22.—E. PUCKNELL, Shipbourne, Tonbridge, Kent.

YOUNG MAN (22) seeks Situation Outside and Inside; Bothy preferred.—H. E., Box 11, 41, Wellington Street, Covent Garden, W.C.

YOUNG MAN, age 26, seeks Situation in Kitchen Garden or Pleasure Grounds; nine years' experience; good references; disengaged; Staffordshire preferred.—A. C., Box 7, 41, Wellington Street, Covent Garden, W.C.

C. PAXTON, Branches Park Gardens, Newmarket, highly recommends YOUNG MAN as Rose Grower and Assist in Pleasure Grounds in a large establishment; smart, civil, and obliging; 7½ years' experience here; desires a change; age 31.

MR. EVANS, Carnation Specialist, Bexley Heath, Kent, wishes to recommend YOUNG MAN for Kitchen Garden under Kitchen Gardener; little experience; strong; 22; Sussex or Surrey preferred.

GARDENER.—Young Man (20) requires Situation as IMPROVER (Inside, where others are kept); five years' experience, Inside and Out; good references.—H. DUKE, Burdett Place, Hastings.

MR. E. MOLYNEUX, Swanmore Park, Bishop's Waltham, Hants., can recommend a tall, smart Youth of 18 as IMPROVER; abstainer; good worker, &c.

MR. T. SIMPSON, Head Gardener to the Countess of Stradbroke, will be pleased to recommend a good GARDEN LABOURER; used to Kitchen Garden and Pleasure Ground work; also used to horses and mowing machines; age 28; married, one child; Wife could look after Bothy or Lodge Gates.—Apply, Henham Gardens, Wangford, Suffolk.

HANDY MAN (deaf); Carpentring, Painting, Glazing; has worked in Garden and Nurseries; 12 months present situation; wages moderate; own tools; willing to do Sunday duty.—A. GERMAN, Rectory, Crowhurst. (No circulars.)

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ELECTRICIAN; age 31; life abstainer; thorough knowledge of gas, oil and steam engines; used to estate repairs of all kinds.—HAYWARD, 78, Albert Street, Slough.

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MANAGER; 28; Nursery Stock, Seeds, Bulbs, Sundries; good Salesman, Window Dresser and Ticket Writer.—S. S., Box 10, 41, Wellington Street, Covent Garden, W.C.

MANAGER and FOREMAN for a good Nursery; Ireland or Scotland preferred; well up in the business; could travel if required.—A. B., 2, Braehead Terrace, Maxwelltown, Dumfries.

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FOREMAN or PROPAGATOR; age 29; 14 years' experience; well up in Hardy Plants, Trees and Shrubs; highly recommended.—J. T. SMITH, Poffley End, Hailey, Witney, Oxon.

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FOREMAN; London-Provincial experience; grower all Pot Plants, Bedding and Soft-wooded Stuff; Cut Bloom, Fruit, Bulbs, Ferns, Palms, Chrysanthemums; routine Forcing; Propagating; good references.—Ivy Cottage, Leighs, Chelmsford.

FOREMAN in Nursery; life experience in Pot and Cut Stuff; Ferns, Bulb and Valley Forcing; Cucumbers and Tomatos; age 31.—C. P., "Rosedene," Witley, Surrey.

GROWER or PACKER; well up in Vines, Peaches, Tomatos, Cucumbers, Strawberries, &c.; good references; age 33.—Write, GROWER, 84, Waterloo Road, Romford, Essex.

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SITUATION required in Nursery; 10 years' experience; Ferns, Palms, Bedding, Bulbs; able to force Valley, Tulips, &c.; good references.—T. M., 1, "Avondale," Queen's Road, Bembridge, I. of W.

TO NURSERYMEN.—Advertiser, age nearly 20; good Grafter and grower of Roses, Clematis, Rhododendrons, Conifers, and general stock, requires Situation under Foreman in good Nursery; good references.—C. CLARK, 43, Lincoln Road, Enfield, Middlesex.

YOUNG MAN seeks Situation in Retail or Market Nursery in Palms, Carnations, Chrysanthemums, Tomatos and general Nursery work; good references.—C. N., Brown's Farm, Stubbington, Fareham.

YOUNG MAN, aged 24, with four years' experience in Alpine Hardy Plant Nurseries, desires position in a good general Nursery, where trees and shrubs, amongst other plants, are well done.—S. W., Box 1, 41, Wellington Street, Covent Garden, W.C.

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SEED TRADE.—Scotchman wishes Situation as IMPROVER or SHOPMAN (Under); well recommended by Messrs. Laird & Sons, Edinburgh.—Write, "T.," 36, Polworth Gardens, Edinburgh.

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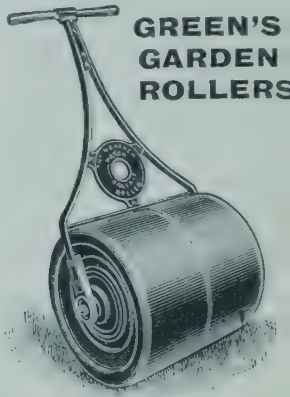
FLORIST (male); four years' high-class provincial experience; quick; good all-round knowledge Seeds, Bulbs and Sundries; excellent references; age 22; total abstainer.—A. L., Box 15, 41, Wellington Street, Covent Garden, W.C.



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"Gardeners' Chronicle" Offices, 41, Wellington St., Covent Garden, London, W.C.

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In consequence of the increase in the circulation, and also of the earlier despatch of the morning trains from London, the hour of going to press has been again advanced, and in future Advertisements received after 5 p.m. on WEDNESDAY will be held over till the following week. On no consideration whatever will any exception be made to this rule.

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WEBBS' EMPEROR CABBAGE.
"BRITAIN'S GREAT CABBAGE."
Wonderfully popular, and acknowledged to be the earliest and best in cultivation. Remarkably free from any tendency to 'bolt.' 6d. and 1s. per packet; 1s. 6d. per ounce, post free.

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Per packet, 1s. and 1s. 6d., post free.
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For Advertisement Charges see page vii.

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FOREST HOTEL, BRACKNELL.—There is now in bloom a Yucca plant at the Forest Hotel, Bracknell, Berks. Visitors may photograph it, and the proprietor will be pleased to show it to anyone interested. Return fare from Waterloo 4s. 10d.

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County Borough of Halifax.

THE PARKS COMMITTEE of the Halifax Corporation invite Tenders for the supply of Dutch and other Bulbs and Flowering Roots for the parks. Forms of tender and quantities may be obtained on application to Mr. Herbert Tate, F.R.H.S., Parks Inspector, Belle Vue, Halifax. Tenders, endorsed "Bulbs," must be sent to the undersigned on or before Friday, 16th August, 1912. The person whose tender is accepted will be required to observe the Fair Contracts Clauses adopted by the Corporation. The Committee do not bind themselves to accept the lowest or any tender.

By order,
PERCY SAUNDERS,
Town Clerk.

Town Hall, Halifax.
25th July, 1912.

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Agricultural Show,

Thursday, August 15th.

GRAND HORTICULTURAL SECTION.

13 OPEN CLASSES.

Royal Horticultural Society's Medal.

Entries close August 9th (Finally).

Send for Schedule and Entry Forms to Secretary, G. FLETCHER BAGSHAW, Uttoxeter.

SANDY SHOW (Bedfordshire).

44th Year.

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including £90 for Plants, and £55 for Cut Flowers.

Entries close August 22nd, 1912.

Schedules, Entry Forms, &c., of WM. GREEN,
Secretary, Sandy.

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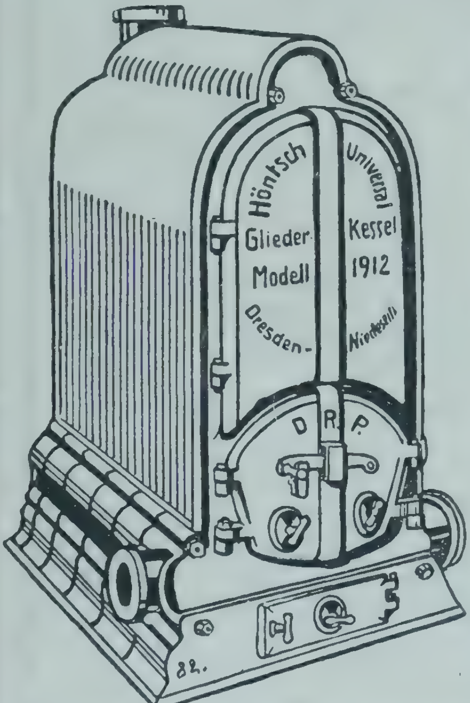

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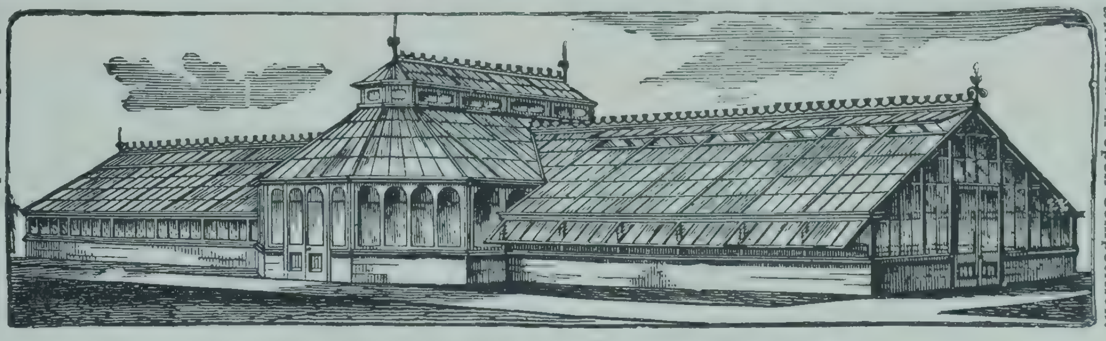

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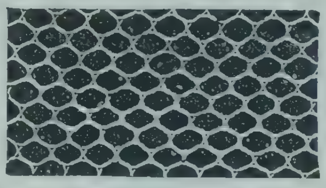

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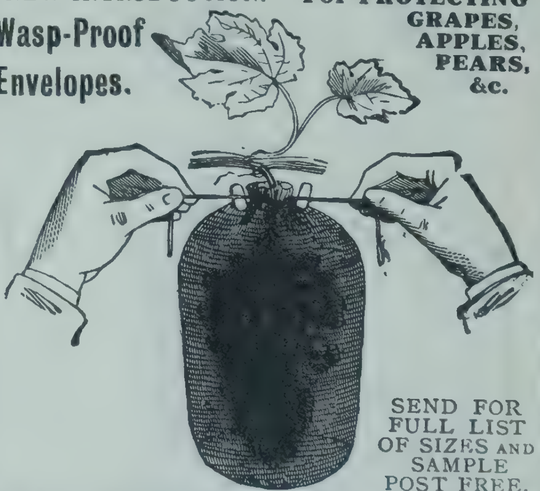

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SITUATIONS WANTED.

26 words, **1s. 6d.**, and **6d**. for every additional **8** words or fewer.

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41, WELLINGTON STREET,
COVENT GARDEN, LONDON, W.C.
Telegrams "Gardchron, London."
Telephone: Gerrard 1543.

SITUATIONS VACANT.

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PRIVATE.

MR. G. ELLIOT wishes to Thank the many Applicants for the post of GARDENER (Head), and to inform them that the Situation is now Filled.

GARDENER (Head or Single-handed); experienced in Vines, Fruit, Flowers, Kitchen Garden; married, no family; wife caretaker; two years' character.—E. LUKER, 37, Althorpe Road, Wandsworth Common, S.W.

WANTED, LADY HEAD GARDENER for garden of about eight acres, including Kitchen Garden of four acres, with Vines, Peach Houses, Melons, &c., Herbaceous Border, and Rose Garden; four men kept; must have had previous experience and full training.—Apply, giving full particulars, to P. VAUGHAN MORGAN, Esq., Puttenham Priory, Guildford.

WANTED, thoroughly experienced GARDENER (Head Working); Vines, Stove, Greenhouse, Kitchen Garden; three kept; age 30 to 35; personal character for industry and respectability.—Apply by letter, Mrs. TYNDALE, Meadowcroft, Chislehurst.

WANTED, good GARDENER; must know his work; wife as laundress; no family; Second kept; £1 per week and cottage.—Letters only, A. E. GIBBS, Kitchener's Meads, St. Albans.

WANTED, GARDENER; must be thoroughly experienced in all branches; not over 40; married; must have personal reference.—State full particulars to Mrs. HAHN, Hillside, Potters Bar, Middlesex.

WANTED, thoroughly capable and energetic all-round GARDENER, with wife to occupy lodge; assistance given.—Write, stating experience, age, number of family, and wages required, to E. MILLS, "Lomey," Mumbles, South Wales.

WANTED, LEADING HAND for Pleasure Ground; used to laying out of grounds; good wages for competent man; Bothy; state age, &c.—J. HAYNES, The Gardens, Thornes Beach, Beaulieu, Hants.

WANTED, first-class, married MAN for Herbaceous Borders, Fruit Trees, and general routine of Outside work; only men well experienced in the former need apply; one not objecting to lodge two under Gardeners and able to take duty; wages 21s., with good seven-roomed cottage.—Apply, with copies of references, D. THOMPSON, Smalley Hall Gardens, Derbyshire.

WANTED, GARDENER (Single-handed with help); thoroughly experienced in Kitchen and Flower Garden and care of Lawns; married; good wages offered.—Apply, GILBERTSON, Gellygron, Pontardawe.

WANTED, GARDENER (Single-handed with help); Pumping.—Address, Hon. Mrs. DALE, Tingrith Rectory, Woburn.

WANTED, FOREMAN (Inside); must have good experience; wages £1 per week, Bothy.—Apply, with references, ROBT. AUSTIN, Lavington Manor Gardens, Littleton Panell, Wilts.

WANTED, a reliable, energetic FOREMAN (Working, Inside); must be a first-class Plant and Cut Flower Grower, and well up in House and Table Decorations; none but well-conducted men that can be thoroughly recommended need apply; state age, height, and experience with copies of testimonials.—ORCHIDS, Box 10, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN GARDENER; age 26-27; single; experience in Vineries, Peach, Melon, Stove, House work.—Apply by letter, stating wages expected, to C. F. LEVENS, Broxmead, Cuckfield.

WANTED at once, good JOURNEYMAN (Inside); good Plantsman essential; wages £1, no Bothy; alternate duty.—A. KILLICK, Cockfield Hall Gardens, Yoxford, Suffolk.

WANTED, a good Hardy Fruit JOURNEYMAN, not under 24 years of age; must have had good experience, and be thoroughly recommended; wages 19s., Bothy and vegetables.—Apply, W. B. HANSON, Tylney Hall Gardens, Rotherwick, Hants.

WANTED at once, smart, active Man as SECOND of four, chiefly for Pleasure Grounds, Herbaceous and Roses; used to Lawn Mowers and knowledge of Inside; also active YOUTH for Pleasure Grounds; 18s. and 12s., Bothy.—A. C. HUMPHREY, The Gardens, Healing Manor, Lincs.

WANTED immediately, strong, active MAN for Outside; good Scythesman; 17s. and Bothy.—Age and reference to MAY, Gaddesby Hall, near Leicester.

WANTED, GARDENER; Young Man for Hotel Garden; well trained; Cucumbers, Tomatos, Vegetables, Flowers, Pigs and Poultry; Single-handed with help as required; 10s. weekly, board and lodging.—Address, with references, age, and experience, GARDENER, Box 22, 41, Wellington Street, Covent Garden, W.C.

WANTED, YOUNG MAN for Pleasure Grounds; well up in Roses and Herbaceous Borders; good reference essential; state age and experience.—Apply, H. J. ALDERMAN, Ardenrun Place, Blindley Heath, Surrey.

WANTED, August 19th, strong, active YOUNG MAN for Kitchen Garden, &c.; must be well experienced; wages 19s. weekly, Bothy; duty once in four; also strong LAD; wages 12s. weekly and Bothy; give fullest particulars.—A. WOODS, Beamish Park Gardens, Beamish, S.O., Durham.

WANTED, strong, active YOUNG MAN, not under 24, for Kitchen Garden and Pleasure Grounds; able to take duty; wages 19s., no Bothy.—Apply, F. ELLIOTT, Bramcote Hall Gardens, Notts.

WANTED, YOUNG MAN, age about 22; experienced in Kitchen Garden and Pleasure Grounds.—SAUNDERS, Lickey Grange Gardens, Bromsgrove, Worcester.

WANTED, YOUNG MAN for Inside; understands Vines, Carnations, and the general work.—Apply, HEAD GARDENER, Oldland, Fairwarp, Uckfield, Sussex.

WANTED, energetic YOUNG MAN of good experience for Inside and Out; wages £1, no Bothy.—J. SPILSBURY, Clowance, Prage, S.O., Cornwall.

WANTED, a first-class, well-conducted DECORATOR, who has had good experience in Rock, Rose and Herbaceous Plants; single or married man without family preferred.—Write, stating age, experience and wages expected, with copies of testimonials, FLORAL, Box 9, 41, Wellington Street, Covent Garden, W.C.

WANTED, DECORATOR; not under 25 years of age; must be well up in both House and Table Decorations; first-class characters essential; wages 19s. a week, Bothy. &c.—Apply W. B. HANSON, Tylney Hall Gardens, Rotherwick, Hants.

WANTED.—Can any Gentleman recommend a Man to take charge of electric light plant, Tangye oil engine, motor pumps, and circular saw; rough carpenter; house and estate work under Head Gardener; 25s., cottage and garden.—Apply, Lady M. H., Kneesworth Hall, Royston, Herts.

TRADE.

WANTED, a FOREMAN (Working) on a large Market Garden Farm; must be able to write well and keep farm accounts; good wages to an experienced, capable man.—Apply, by letter only, to T. MAY, Vallance, Chadwell Heath.

WANTED FOREMAN (Working) who thoroughly understands forcing Narcissus, Tulips, &c., with knowledge of packing and grading preferred; permanent situation to suitable man.—State experience and wages expected to W. W., Box 11, 41, Wellington Street, Covent Garden, W.C.

WANTED, GROWER, with good experience under glass; Cucumbers, Tomatos, Chrysanthemums, Grapes, Bedding Stuff, Roses, &c.; state age, experience, married or single.—
BIRD & VALLANCE, Downham, Norfolk.

WANTED at once, good ROSE BUDDER; state wages required.—Apply, GEO. BOLTON & SON, The Nurseries, Buntingford, Herts.

WANTED, good, smart, JOURNEYMEN; ages 20 to 24.—State experience, age, height, salary, &c., to DICKSON & ROBINSON, The King's Seedsmen, Manchester.

WANTED, good MAN to work amongst Carnations; quick at layering.—State wages to J. DOUGLAS, Gt. Bookham, Surrey.

WANTED, MAN (25-30); well used to planting for effect, for cemetery work greater part of year; fill up time in Nursery; applicants from near London only; give fullest particulars of experience; permanent; wages 26s. to commence.— FROOME & SON, High Road, East Finchley.

WANTED, MAN; thoroughly experienced in Cucumbers and Tomatos, Grapes and general Pot Stuff.—Copies of testimonials and wages (with room), to KNOWLE NURSERIES, Sidmouth, Devon.

WANTED, an energetic and trustworthy YOUNG MAN, not under 24 years of age, to take the LEAD under Glass in a Market Nursery; must be single; to live in Bothy, and have good character and experience; one from a good private garden not objected to.—State particulars of experience, &c., to W. CONNELLY, Lyme Regis, Dorset.

WANTED, YOUNG MAN with experience in Grafting and Growing Roses in pots (indoors); state experience and wages required.—K., Box 17, 41, Wellington Street, Covent Garden, W.C.

WANTED, for Yorkshire town, clever and up-to-date SHOPMAN; capable of managing and developing business of Fruiterers, Florist, Seeds, and Nursery trade; first-class maker-up essential. —Write, giving particulars, to PROGRESS, Box 13, 41, Wellington Street, Covent Garden, W.C.

WANTED, smart YOUNG SHOPMAN; Seeds, Bulbs, Plants, Flowers; good Salesman and able to keep shop and window attractive; South of Scotland.—Apply, with full particulars as to age, wages, &c., S. J., Box 14, 41, Wellington Street, Covent Garden, W.C.

WANTED, FIRST ASSISTANT; with good knowledge of Vegetable and Flower Seeds and used to high-class Counter Trade; good references required.—Apply by letter, giving experience and wages expected, ROBERT VEITCH & SON, Exeter.

WANTED, SENIOR ASSISTANT; capable of taking charge; must be a first-class Salesman, with a good general knowledge of all branches of the Seed and Nursery Trade.—Write, giving references, age, and full details, to M. S., Box 16, 41, Wellington Street, Covent Garden, W.C.

WANTED, SHIPPING CLERK by Wholesale Seed Merchants; must have knowledge of trade.—Address, giving experience, age and salary, to S. L., Box 12, 41, Wellington Street, Covent Garden, W.C.

FLORIST and FRUITERER.— Wanted, smart Young Man; used to Plants and Furnishing, and to make himself generally useful.— FLORIST, 7, Wellington Street, Strand, W.C.

SITUATIONS WANTED.

Twenty-six words for 1/6, & 6d. for each succeeding Eight words or less.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal authorities and returned to the Sender.

PRIVATE.

Gardeners, Farm Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application

CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

THE COUNTESS of ANCASTER will be pleased to recommend HENRY LYDIATT as GARDENER (Head) to any Nobleman, Lady or Gentleman requiring the services of a thoroughly efficient and trustworthy man; first-class references; 12 years as Head.—Apply, H. LYDIATT, Grimsthorpe Castle Gardens, Bourne.

GENTLEMAN recommends his GARDENER as Head of two or more; Lawns, Flower and Kitchen Gardens; Tomatos, Cucumbers, Vines; also electric light, oil engines, cows, pigs, poultry; three years' character.—CARVER, Halebourne, Chobham W. End.

ALBERT BARRATT, Esq., highly recommends H. KINGHAM as HEAD where one or two others kept; 9½ years present place, last five as Second (Inside and Out); married when suited.— H. KINGHAM, Hillside, Totteridge, N.

GARDENER (HEAD), age 39, married, seeks Situation where several are kept; 24 years' practical experience gained in large establishments; 12 years as Head; well recommended; state wages.— Steventon Lodge, Orchard House, Erith, Kent.

GARDENER (HEAD).—A keen, energetic, and reliable Man desires Engagement; first class all round; capable manager.—GEO. MORBEY, 11, Norman Street, West Gorton, Manchester.

GARDENER (HEAD of three or more); life experience; good recommendations from present and previous employers; age 28; married when suited; first-class certificate from the Royal Horticultural Society.—BOWLS, 10, Devonshire Road, Mottingham, Eltham, Kent.

GARDENER (HEAD of two or three) seeks Situation; good knowledge of Herbaceous, Alpine and Bedding Plants; general routine of Private Garden; 3½ years as Foreman; married when suited.— CHAS. MORRIS, Walmsgate Hall, Louth, Lincs.

GARDENER (HEAD, where three or more are kept); thoroughly experienced, Inside and Out; 20 years as Head; nearly five years in present place; excellent references; married, no family.— E. BASON, Iris Court, Pangbourne, Berks.

GARDENER (HEAD); life practical experience in all branches; disengaged when suited; six years' good reference from present employer.— KETTLE, Violet Cottage, Whitstone Road, Pen-y-lan, Christchurch, Newport, Mon.

GARDENER (HEAD, where two are kept); thorough good all-round practical experience in all branches, both Inside and Out; also with Herbaceous Plants; excellent character.— H. GARDENER, 124, Hampstead Road, London, N.W.

GARDENER (HEAD) in a good establishment; good experience, all branches; 5½ years present situation; previously Head Earl Sondes, previously Fruit Foreman Duke of Marlborough.—E. WELLING, Hollywood, Rochester, Kent.

GARDENER (HEAD or good SINGLE-HANDED); life experience, Inside and Out; 6½ years' excellent character from last situation; married; Wife Caretaker, could also assist in house if required. —GARDENER, Bridle Coombe, Betchworth, Surrey. (No circulars.)

GARDENER (HEAD, where two or more kept) seeks Re-engagement; gentleman highly recommends his Gardener; thoroughly experienced all branches; trustworthy; married; leaving when suited.—S. F., Box 25, 41, Wellington Street, Covent Garden, W.C.

GARDENER (HEAD or good SINGLE-HANDED); life experience; age 38; married; well recommended as good all-round man; nearly five years present place.—J. JACKSON, Little Thakeham, Pulborough.

GARDENER (HEAD WORKING, where two or more are kept); life experience, Inside and Out; married, no family; abstainer.—J. E. WALDEN, Tamworth Lodge, Mitcham. (No circulars.)

GARDENER (HEAD WORKING, where five or six are kept); life abstainer; age 29; three years last place, six years previous; Kent preferred; married when suited.—E. MILLS, Dean Cottages, Farnham Common, near Slough, Bucks.

GARDENER (HEAD WORKING, where several are kept); 17 years' practical experience all branches; last five years Head; age 34; married, one child, age 4; excellent references.—A. SPRINGHAM, Chapel Lane, Stanstead Abbotts, Herts.

GARDENER (HEAD WORKING, where more are kept); thorough practical first-class man; experienced in all branches; excellent testimonials.—G. BARTLE, 43, Wigston Lane, Aylestone, Leicester.

GARDENER (HEAD WORKING, one or two under, or good SINGLE-HANDED); thorough practical experience all branches; highly recommended; leaving as Gentleman giving up house; age 35; abstainer; married.—REID, Atlantic Villa, Heywood Road, Pill, Bristol.

GARDENER (HEAD WORKING, where two or three are kept).—Mr. M. R. AIRD can thoroughly recommend E. ALLNUTT as above; age 27; married when suited.—Detailed particulars will be given by Mr. BERRY, Head Gardener, Wilton Park, Beaconsfield, Bucks.

GARDENER (HEAD WORKING); life experience all branches, Inside and Out; eight years previous situation; well recommended; age 35.— JOLLEY, 12, Brunswick Grove, Hessle, E. Yorks.

GARDENER (HEAD WORKING, with one or two under), seeks Engagement where good all-round man is required; life experience, Inside and Out; employer highly recommends; age 33; one child (eight).—T. B., Box 12, 41, Wellington Street, Covent Garden, W.C.

GARDENER (HEAD WORKING) seeks Situation; thoroughly experienced in all branches; excellent references; age 32; married, two children, ages seven and four years.—TILLY, Shottenden, Chilham, Canterbury.

GARDENER (HEAD WORKING); life experience, gained in large Gardens, both Inside and Out; care of electric light plant if required; age 29; married, no family.—F. BOOKER, The Manor House, White Waltham, Berks.

GARDENER (HEAD WORKING); life experience all branches; would undertake stock; 10 years last situation, three years present; married, no children; highest references; leaving when suited.—MILAM, Edgebarrow Lodge, Wellington College, Berks.

GARDENER (HEAD WORKING), age 34, seeks Re-engagement; thorough practical experience in all branches of gardening, Inside and Out; four years present situation as Head; married; good references.—FLOWERS, Abbey Gardens, Sutton Courteney, Berks.

GARDENER (WORKING); age 29; life experience in all branches; Vines, Peaches, Chrysanthemums, &c.; excellent references; married when suited.—GIBBERD, Barrow Hills, Long Cross, Chertsey, Surrey.

MR. STANLEY CLARKE, Glanymor, Highlands, St. Leonards, highly recommends the late Mrs. Stanley Clarke's GARDENER; thoroughly experienced in all branches.—LEMAR, 73, Bulverhythe Road, St. Leonards.

GARDENER; 27 years' experience in all branches Inside and Out; age 39; married, no family; 10 years Head last place.—SNELL, Springs Cottages, Turnford, near Broxbourne, Herts.

GARDENER, age 30, desires Situation; life experience Inside and Out; seven years in present situation; single.—E. COX, Bilton Hill, Rugby.

GARDENER; age 28; single; 13 years' experience, seeks Situation, Inside and Out or Kitchen Garden and Pleasure Grounds.—WM. VANE, Bridge Street, Wye, Kent.

GARDENER.—A Gentleman wishes to find Situation for Gardener with two under; leaving at own wish; 29; life experience.—HALLAM, Shakespeare Terrace, Barby, Rugby.

GARDENER; very useful, strong, willing Young Man; 25; abstainer; low wages; excellent character; good worker; early riser.—J. T., 27, St. Dunstan's Hill, City.

YOUNG GERMAN, well experienced both Inside and Out; Hothouse, Greenhouse Plants, Flower Gardening, Landscape, requires Situation October 1st.—Apply to A. DENNIG, Koestrik Thuer, Germany.

GARDENER or CARETAKER.— Situation required by experienced Gardener in all branches; age 50; Wife willing to be useful; 20 years' good references.—Apply, GEORGE HAYWARD, 24, Farrell Road, Stockton Heath, Warrington.

GARDENER (good SINGLE-HANDED with help); thoroughly experienced; near London preferred; age 37; life abstainer; excellent references; hard-working and capable.—H., 62, Wordsworth Street, Hove.

GARDENER (SINGLE-HANDED or otherwise); well up in all branches; disengaged; age 28; single; good references.—A. RICHARDSON, Crown Lane, Bexley Road, Eltham, Kent.

GARDENER (SINGLE-HANDED); life experience in all branches; well recommended; married, one child.—A. SUTER, 51, Grant Road, Wealdstone, Middlesex.

GARDENER (Single-handed); age 40; single; experienced Inside and Out; willing to be useful.—W. GRIFFITHS, Clovelly, Cowfold, Sussex.

GARDENER (Single-handed) or with help; used to Vegetable and Flower Growing; good Nursery experience of Forcing and Growing under Glass; married; 10 years present situation.—W., 144, Castlemain Road, Stourfield Park, Bournemouth.

GARDENER, age 25, married, seeks Situation (Single-handed, or where two or more are kept); experienced in all branches; good references. —Apply, EATON, Alderton Road, Tewkesbury, Gloucestershire.

EDGAR TAYLOR, Esq., wishes to recommend G. Henbest as GARDENER (Single-handed); 13 years' general experience; age 33.—Apply, G. HENBEST, Colney Park, near St. Albans, Herts.

C. M. TATHAM, Esq., wishes to recommend his GARDENER (Single-handed or otherwise); 10 years' practical all-round experience, gained in good establishments; age 26; married, four in family; also understands Bee management.—Address, A. G. TOMKINS, Emberton, Newport Pagnell, Bucks.

GENTLEMAN wishes to recommend his GARDENER (Single-handed); with him five years; steady, trustworthy; age 36; married (boy, aged four); disengaged.—C., 5, Manor Terrace, Farncombe, Surrey.

GARDENER requires Situation (Single-handed or Second of three); six years present place; five years previous; age 24.—Apply, J. H., 20, Dormans Park Road, East Grinstead, Sussex.

GARDENER (Second or Single-handed).—LIEUT.-COL. J. G. SANDEMAN can recommend G. Russell as above; 8½ years present place; age 24; single.—G. RUSSELL, Coast Guards, Hayling Island, Hants.

GARDENER (Second, Inside and Out); 13 years' practical experience in all branches; height 5 ft. 11 in.; age 28; single; good references.—E. SLOSS, Kingsbury, The Hyde, N.W.

MRS. SAYER, Priory Gardens, Stoke-by-Nayland, Suffolk, wishes to highly recommend E. Vince as SECOND (Inside and Out); five years here as Second; good experience Inside Herbaceous and Rockwork; married when suited.

GARDENER (Under), age 20, seeks Situation in Kitchen Garden and Pleasure Ground; good character; Sussex preferred.—J. ELLIS, Woodside Villa, Laughton, Shortgate, Sussex.

GARDENER (Under); used to general work of Garden; two years last situation; good reference: age 20; abstainer.—F. SMITH, Moreton Cottage, Westerham, Kent.

FOREMAN or SECOND (Inside), age 27.—W. BRUCKSHAW, The Gardens, Pellwall, Market Drayton, can highly recommend H. Wallace as above; good Carnation grower; three years present situation; excellent references.

FOREMAN (Inside) or good GARDENER (Second); age 28; 14 years' experience; three years last place; can be highly recommended.—H. DINNAGE, Taylors Gate, Capel, Dorking, Surrey.

W. H. HONESS will be pleased to recommend H. Cleveland as FOREMAN (Inside) in good establishment; past 15 months as Foreman here; age 29.—Hopedene Gardens, Holmbury St. Mary, Dorking, Surrey.

W. HORSEMAN is open for an Engagement; 15 years Foreman Alpine, Landscape Department at Smith's, Worcester; would accept Head in good private place; excellent testimonials.—Oxshott, Surrey.

FOREMAN (Inside) or good GARDENER (Second); 12 years' good experience; all Fruits, Plants, Carnations, Chrysanthemums, and Decorating; well recommended; married when suited. —M., Box 2, 41, Wellington Street, Covent Garden, W.C.

FOREMAN (Inside); well up in Plants, Fruit, Carnations, House and Table Decoration; age 28; disengaged.—S. WHITMORE, 4, Ruskin Terrace, Waltham Abbey, Essex.

FOREMAN (Inside or General); age 25; experienced Fruit, Flowers, House and Table Decorations; highly recommended.—Apply, G. KEMP, Woolhampton Park Gardens, Woolhampton, Berks.

FOREMAN; 13 years' practical experience; 3½ years Foreman; highly recommended; age 28; height 5 ft. 10 in.; single.—JOHN PARMENTER, The Gardens, Meadfields, Haslemere, Surrey.

JOURNEYMAN (Inside), age 21, under Foreman; five years' experience; Bothy preferred; well recommended.—R. WILLSHER, The Manor House Gardens, Hambleden, Henley-on-Thames.

JOURNEYMAN (Inside) in good establishment; six years' experience; two years Inside here; age 21; Bothy preferred; well recommended by HEAD GARDENER, Minterne, Dorchester.

JOURNEYMAN (Inside or Inside and Out) seeks Situation; seven years' general experience under Glass; excellent references; age 23; disengaged.—J. FRANCIS, Gardens, Sand Hutton, York.

MR. SIMMONS, Tandridge Court Gardens, Oxted, recommends S. Pitts as JOURNEYMAN (Inside); age 24; eight years' experience.—S. PITTS, 73, Beaufort Road, Reigate.

MR. JOLLAND, Eshton Hall, Gargrave, Leeds, can highly recommend C. Cheshire as JOURNEYMAN (Inside or Inside and Out); age 23.—Apply to C. CHESHIRE, Bredenbury, Bromyard, Worcestershire.

F. IBBOTSON, Rolleston Hall Gardens, Leicester, wishes to recommend V. Sandle as JOURNEYMAN (Inside and Out); five years' experience; age 22; good references.

JOURNEYMAN (Outside) seeks Situation; age 22; Flower Garden or Rock Garden, Hardy Shrubs; nine years' experience; good references; Sussex or Surrey preferred.—GEORGE COURAGE, Charlton Marshall, Blandford, Dorset.

MAN, married, requires Situation in Garden (Kitchen) and Pleasure Ground; 3½ years in last situation; good references.—C. WILKINS, The Headlands, Downton, Salisbury.

YOUNG MAN, age 19, seeks Situation as GARDENER (Under, Outside and In); five years' good reference.—B. BARRETT, Brandon Creek Bridge, near Downham, Norfolk.

YOUNG MAN seeks Situation for Kitchen Garden and Pleasure Grounds; age 28; single; good reference can be given.—H. BEAUCHAMP, North Common, Landford, near Salisbury.

MR. READ, The Orchard, Chellaston, Derby, can with confidence recommend a Young Man for Kitchen Garden; age 20; hard-working, very willing, and good appearance.

YOUNG MAN seeks Situation in the Gardens; three years at Gwentlands, Chepstow; two years at Aberper Gwm, Glyn Neath, South Wales; six months at Castleford, Chepstow.—J. LOVEDAY, Burnt Barn, Chepstow, Mon.

YOUNG MAN (22) seeks Situation in Kitchen Garden or Pleasure Ground; 10 years' experience; good references; Bothy preferred.— H. TAYLOR, 43, Salisbury Street, Bedford.

YOUNG MAN as UNDER in Gentleman's Gardens; 5½ years' experience Inside and Out; can take duty; good references.—W. PERRY, Edington, Bridgwater, Somerset.

YOUNG MAN seeks Situation as GARDENER (Inside and Out); eight years' experience; age 22.—E. E. BAILEY, Swaffham Prior, Cambs.

YOUNG MAN (23) seeks Situation under good Man as IMPROVER in Perpetual Tree Carnations; five years' experience; good references.—H. BURRELL, Parson Drove, Wisbech.

MR. W. J. GOULD, Rumwood Gardens; Maidstone, recommends Young Man as IMPROVER; age 22; abstainer; has knowledge of Kitchen and Flower Garden; very willing worker; Bothy preferred.—Apply, A. LINDRIDGE, Post Office, Langley, Maidstone.

IMPROVER (Outside), age 18½ years; four years' experience; strong and willing; can be well recommended by a lady.—S. RAYNER, Chart Road, Sutton Valence, Maidstone.

GENTLEMAN recommends Young Man (17½) as IMPROVER; good reference; Bothy preferred; Inside or Inside and Out.—T. M., Box 19, 41, Wellington Street, Covent Garden, W.C.

G. BATES, Head Gardener to A. D. Acland, Esq., Digswell House, Welwyn, Herts., can thoroughly recommend strong Lad, age 17, as IMPROVER (Inside); two years' experience; Bothy preferred.

SITUATION wanted as COW and POULTRYMAN on Gentleman's Estate; wife dairy.—NASH, White Cottage, Lubenham, Market Harborough.

SITUATION required as ESTATE CARPENTER; general experience; also in Garden work.—Particulars and references if required.—W. CLARK, 87, Tharp Road, Wallington, Surrey.

HEAD GARDENER recommends HANDY MAN for Painting, Glazing, and general Repairs; age 26; good references.—Apply, P. F., Box 7, 41, Wellington Street, Covent Garden, W.C.

TRADE.

MANAGER or FOREMAN; life experience in London and country Nurseries; good Grower, Salesman, Florist, Decorator, and Furnisher; age 33; single; good references.—T. W., care of Mrs. White, Hill Cottage, Addington, Winslow, Bucks.

FOREMAN; life experience in Market Work, Stove and Greenhouse Stuff, Ferns, Chrysanthemums, Bulb and Valley Forcing, Cucumbers, and Tomatos; age 31.—C. P., "Rosedene," Witley, Surrey.

FOREMAN CHRYSANTHEMUM and TOMATO GROWER requires Situation, with knowledge of Roses and general Pot Stuff; good references.—J. S. W., care of Mr. F. J. Brown, 7, Ivy Cottages, Hillingdon, Middlesex.

FOREMAN GROWER or manage small place; age 33; married; not afraid of work; life experience; Tomatos, Chrysanthemums, Cucumbers, Mushrooms, Ferns, Palms, Bedding Stuff and general Pot Plants; Wholesale and Retail; disengaged; good references; 10 years last place.—NEWMAN, 30, Yardley Street, Brighton.

SITUATION required; good experience in Fern Growing and general Market Stuff; London and provincial experience; distance no object. —C. C., care of Mrs. Coy, Long Row, Horsforth, Leeds.

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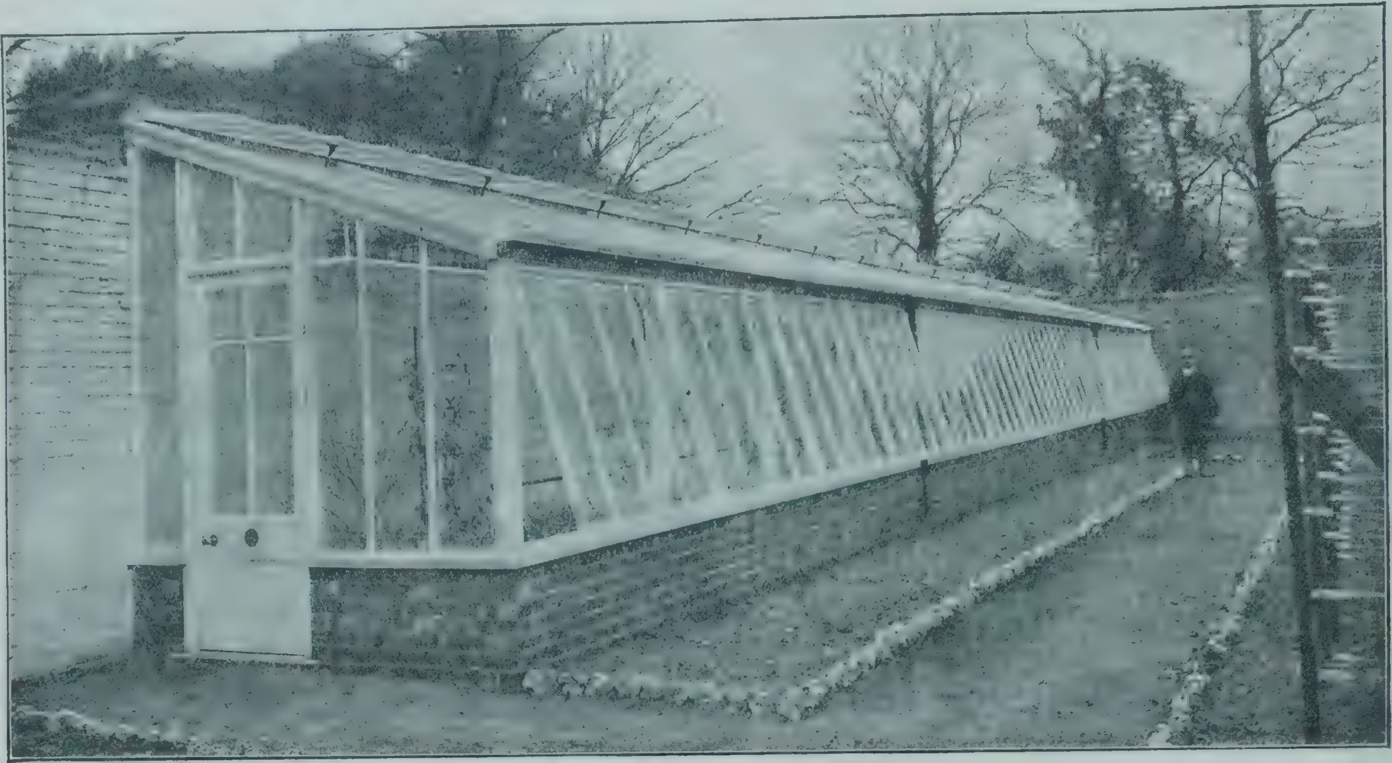

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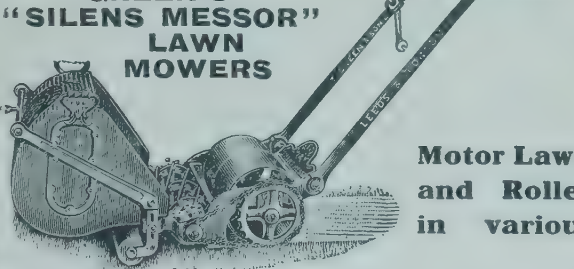

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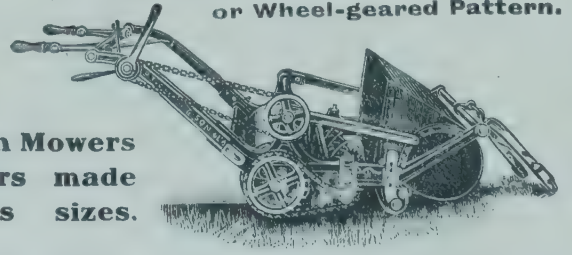

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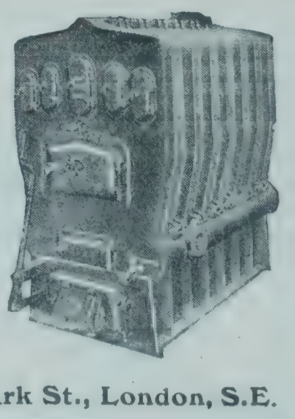

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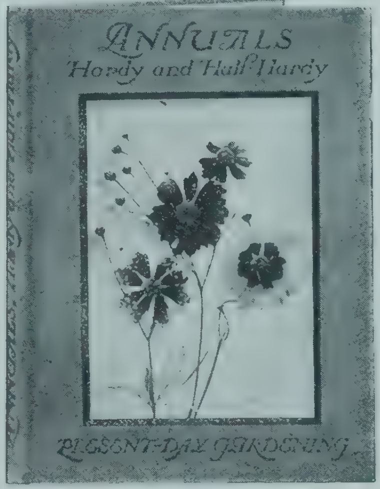

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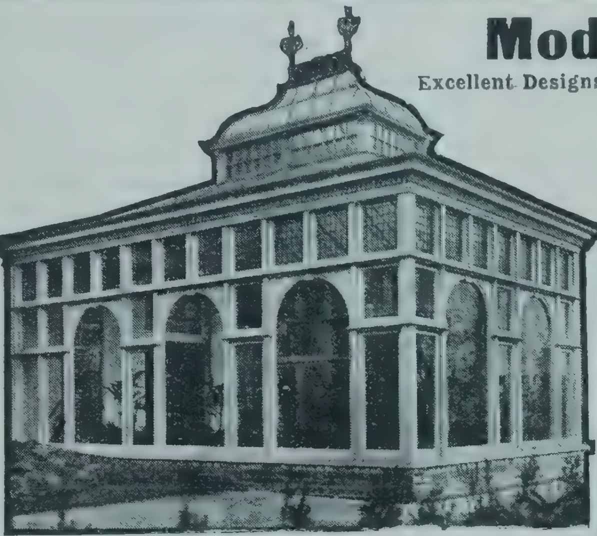

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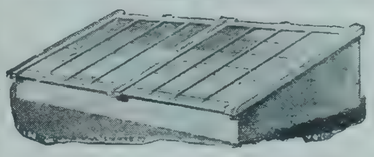

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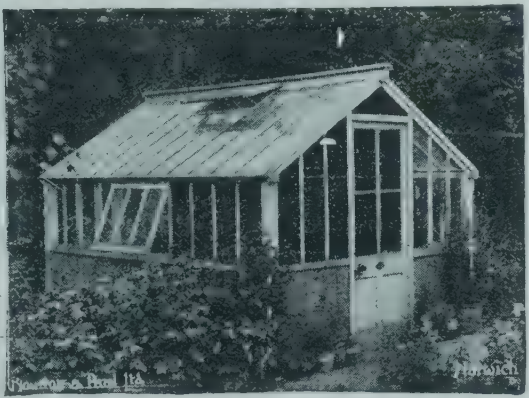

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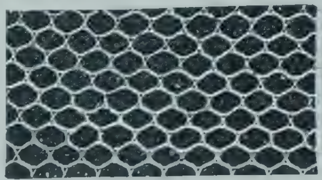

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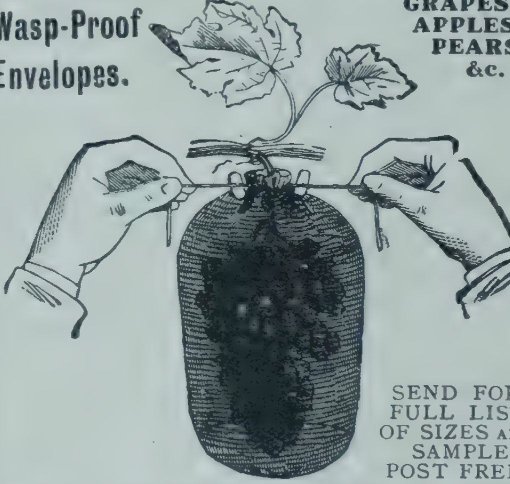

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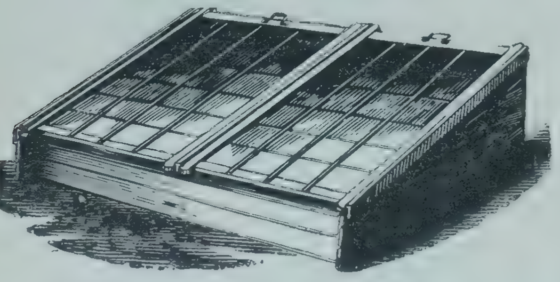

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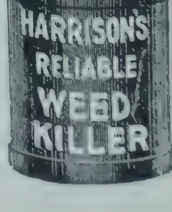

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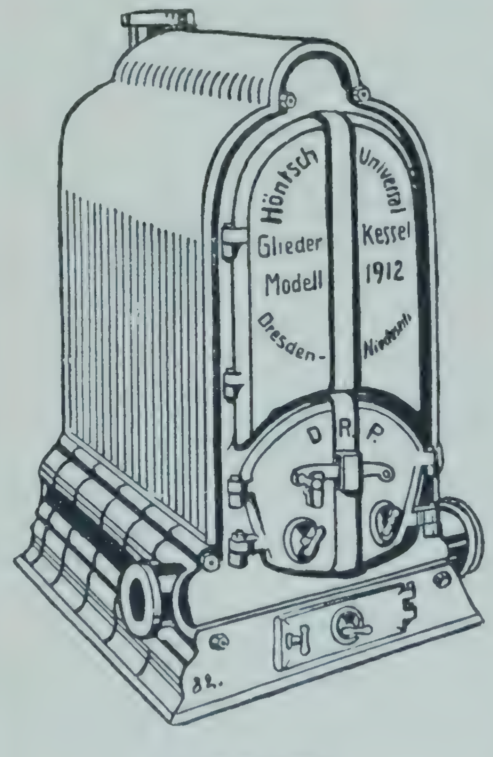

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— yellow	1 6- 2 0
Chrysanthemum maximum, per doz. bunches	0 9- 1 0
Coreopsis, per doz. bunches	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches	0 6 -0 9
Gardenias, per box of 15 and 18 blooms	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	1 0- 1 6
— Bride, white per dz. bnchs:	2 0- 4 0
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
— paniculata	3 0- 4 0
Lapagerias, white, per dozen	1 6- 2 0
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	1 6- 2 0
— — short	1 6 —
— lanciforium alba, long	1 0- 1 3
— — short	1 0 —
— speciosum rubrum, p. dz., lng.	1 3- 1 6
Lilium speciosum rubrum, p. dz., short	0 9 —

	s.d. s.d.
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches	4 0- 5 0
Montbretia, pr. dz. bunches	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	9 0-10 0
— Cattleya Harrissonii, p. doz.	6 0 —
— Odontoglossum crispum	3 0- 4 0
Pancratiums, p. dz. blooms	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms,	
— Bridesmaid,	0 9- 1 0
— C. Mermet	0 9- 1 0
— Frau Karl Druschki	0 9- 1 0
— General Jacqueminot	0 9 —
— Liberty	0 9- 1 0
— Madame A. Chateney	0 9- 2 0
— Niphetos	1 0- 1 6
— Richmond	1 0- 2 6
— Sunburst	1 6- 2 0
— Sunrise	0 6- 0 9
— President Carnot	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegan	1 0- 1 6
— Kaiserine	0 9- 1 6
Scabious caucasica, per doz. bnchs.	0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve,	3 0- 4 0
— white & yellow	3 6- 4 6
Stephanotis (72 pips)	1 0- 1 6
Stock, per dozen bunches:	
— white	2 0- 3 0
Sweet Peas, pr. dz. bunches:	
— coloured	1 0- 2 0
Tuberoses, p. doz. blooms, long	0 4 —
— — short	0 3 —
Violas, small blue, p. doz. bunches	0 9- 1 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Carnation foliage, doz. bunches	4 0 —

	s.d. s.d.
Croton foliage, various, per dozen bunches	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, p.dz.	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Asters, per dozen	4 0- 5 0
Chrysanthemum coronarium, 48's, per dozen	3 0- 5 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6

	s.d. s.d.
Coleus, per doz.	3 0- 4 0
Croton, per dozen	18 0-30 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, doz.	6 0 —
— choicer sorts per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Heliotropes	6 0- 8 0
Hydrangeas white, 48's, per dozen	18 0 21 0
— pink	8 0-12 0
— blue, each	2 0- 5 0
— paniculata, per dozen	18 0-24 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0 18 0
— lancifolium alba	15 0-18 0

	s.d. s.d.
Lilium longiflorum, per dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
— yellow	10 0-12 0
Mignonette, 48's, per dozen	6 0- 8 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargoniums, per dozen	9 0-12 0
— Ivy-leaved	7 0 9 0
Phœnix rupicola, each	2 6-21 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0
Verbenas, pink	6 0- 8 0
— scarlet	8 0- 9 0
— white	8 0- 9 0
— blue	8 0- 9 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— English ½ bshl.	2 6- 3 0
— Cooking	1 0- 2 0
— Tasmanian per case	16 0-18 0
Bananas, bunch:	
— Doubles	10 0 12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured	5 6- 6 6
— Jamaica Giants, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Cherries, English,	
— Morello, ½ bush.	8 0-10 0
— „ ½ bushel	10 0-12 0
Figs (Guernsey), per dozen	1 6- 4 0
— English	1 6- 4 0
Grape Fruit, case:	
— 96's	18 0-20 0
— 80's	
— 64's	
— 54's	
— English (new) per lb.	0 9- 2 6
— Canon Hall	1 6- 5 0
— Muscats	10- 3 0
— Gros Colmar	1 2- 1 6
— Black Alicante	0 8- 1 6
— Madresfield Court	1 0- 2 6
— Gros Maroc	1 0- 2 0
Greengages, p. bx.	0 9- 1 0
— ½ sieve	7 6-11 6
— Cooking	5 0- 6 0
Lemons:	
— Messina, per case	20 0-22 6
— ordinary, per case	17 0-25 0
— Naples	28 0-45 0
Limes, per case	6 0 —

	s.d. s.d.
Melons (Guernsey)	1 0- 2 0
— (English)	1 0- 2 0
— Canteloupe	1 6- 4 0
Nectarines, per dozen:	
— selected	10 0-12 0
— best	4 0- 6 0
— seconds	2 0- 3 0
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Chestnuts, per bag	3 6-19 0
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 3 —
— Walnuts (Naples), kiln dried, cwt. cases	54 0 —
Oranges:	
— Italian per case	20 0-22 6
— Cape, per case	20 0-25 0
— Naartjees, per box	4 0- 4 6
Peaches	
— French, boxes	5 6- 7 6
— English, dozen:	
— selected	10 0-12 0
— best	4 0- 6 0
— seconds	2 0- 3 0
Pears:	
— French, per case	3 0- 4 6
— English, ½ bushel	2 6 —
Pineapples, St. Michael	2 6- 5 0
— Californian, per case	6 0- 7 0
Plums, French, ½ sieve	5 6- 7 6
— English, ½ sieve	2 6- 5 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen	2 0- 3 0
Aubergines, p. doz.	2 6- 3 0
Beans:	
— Scarlet Runners, per bushl.	6 0- 7 0
— Broad, per bushel	4 0- 5 0
Beetroot, per ½ bushel	2 0- 2 6
Cabbages, p. tally	5 0- 7 0
Carrots (English), pr. doz. bun.	2 0- 3 0
— (French) per dozen bunches	4 0- 6 0
Cauliflowers, per dozen	3 6- 4 0
Chicory, per lb.	0 4 —
Cucumbers, per flat	6 0- 8 0
Celery, bundle	1 0- 1 6
Endive, per dozen	2 6- 3 0
Greens, p. bushel	1 6- 2 0
Herbs (sweet), pkts., p. gross	7 0 —
Horseradish, 12 bundles	12 0-15 0
Leeks, per doz.	2 6- 3 0
Lettuce (English), Cos, per box	2 6- 3 0
Cabbage, p. bx.	2 6- 3 0

	s.d. s.d.
Marrows, per tally	2 0- 3 0
Mint, per dozen bunches	2 0 —
Mushrooms, cultivated, per lb.	2 0- 2 6
Mustard and Cress, p. dz. punnets	1 0 —
Onions (Egyptian)	7 6 —
— (Spanish)	7 6 —
— (Spring), per doz. bunches	1 6- 2 0
Parsley, ½ sieve	2 0- 3 0
— per doz. bun.	2 0 —
Peas (English), per bushel	3 6- 5 0
— bags	6 0- 9 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen	0 10- 1 6
Spinach, pr. bshl.	1 6 —
Tomatos, per doz. lbs.:	
— (Guernsey),	2 6- 3 0
— (English),	2 6- 3 0
— seconds	1 0- 1 6
Turnips (English), per dz. bunches	2 6- 3 0
— French, crates	3 6 —
Watercress, p. dz. bunches	0 6 —

REMARKS.—Heavy supplies of English Apples are arriving daily, the bulk consisting of windfalls, due to the stormy weather. With regard to Apples from Tasmania some good samples of Sturmer Pippin are still on offer. There are very heavy crops of Pears, especially such varieties as Chalks, Lammas, and Jargonelles; the fruits are cheap in consequence. There is a good sample of French fruits of Williams's Bon Chrètien. Very heavy supplies of English and Continental Plums have arrived during the past week, and are selling at very low rates. Grapes from all sources are very plentiful and sell at reasonable rates. Peaches and Nectarines have shown a considerable increase in supply during the past week, and there has been a sharp drop in prices. Supplies of both home-grown and Continental varieties of Melons are very plentiful. The market is well supplied with both English and Guernsey Figs. English and Continental Tomatos remain a heavy supply, showing a slight depreciation in prices. It is anticipated that there will be a record supply of Cobnuts this season. There is a full supply of vegetables all round. *E. H. R., Covent Garden, August 7, 1912.*

New Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 4 3
Kents	4 0- 5 0

	per cwt. s.d. s.d.
Blacklands	3 6- 3 9
Lincolns	3 9- 4 6

REMARKS.—Trade is a little better and prices are higher. The supply is very light which no doubt is on account of the wet weather. *Edward J. Newborn, Covent Garden and St. Pancras, August 7, 1912.*

GARDENING APPOINTMENTS.

[Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. C. ROWLAND, who was for 9 years Gardener to Col. PALEY, Mickleton, Gloucester, as Gardener to H. C. IRVING, Esq., Burnfoot, Ecclefechan.

Mr. T. WHITE, for the past 3 years Gardener to H. M. DUNCAN, Esq., Fairlawn, Weybridge, as Gardener to EDWARD J. PREVITE, Esq., Foxhill House, Keston, Kent.

Mr. F. J. HAYLER, late of Dunsland, Glanmire, Co. Cork, as Gardener to Capt. TYNTE, Tynte Park, Co. Wicklow.

Mr. J. F. LEWIS, for the past 3½ years Gardener to WILLIAM ROBINSON, Esq., Gravetye Manor, East Grinstead, Sussex, as Gardener to A. HUGH HARMAN, Esq., Grayswood Place, Haslemere, Surrey.

Mr. A. J. DOWDING, for 5 years Second Gardener at The Oaks, Chester, as Gardener to ROBERT E. STEPHENS, Esq., Kelston Knoll, Weston, Bath.

Mr. W. E. JONES, for 4 years Gardener to ALFRED A. THORN, Esq., Harcourt, Linslade, as Gardener to W. GRAVELLY W. WILLIS, Esq., North Street, Leighton Buzzard.

Mr. F. J. HUNT, for the past 2 years Foreman in the gardens, Oakley Hall, Basingstoke, and previously at Pinkney Park, Wiltshire, as Gardener to the Rev. ARTHUR NAPIER, Kingston Rectory, Wareham, Dorsetshire. (Thanks for 2s. for R.G.O.F. box.—EDS.)

DEBATING SOCIETY.

BATH GARDENERS'.—The annual outing of the members of this society took place on Wednesday, July 24. A party of about sixty assembled at 8 a.m., and drove by motor to Wilton House, Salisbury, the home of the Earl of Pembroke and Montgomery. The visitors were conducted through the beautiful gardens and pleasure grounds by the gardener, Mr. Thomas Challis.

TRADE NOTICE.

ROYAL APPOINTMENT.

MESSRS. GEE & SONS, Biggleswade, inform us that they have been granted a renewal of the Royal Warrant of Appointment to the King. Messrs. Gee & Sons held a similar appointment under King Edward VII.

CATALOGUES RECEIVED.

THE BLACK ROCK NURSERY, Bognor, Sussex—Alpine and Rock Plants.

LITTLE & BALLANTYNE, Carlisle—Bulbs, Roses, &c.

T. METHVEN & SONS, 15, Princes Street, Edinburgh—Bulbs.

HERD BROTHERS, Penrith—Bulbs, Roses, &c.

J. R. PEARSON & SONS, Lowdham, Nottingham—Bulbs.

COOPER, TABER & CO., 90 and 92, Southwark Street, London—Bulbs.

THE AGRICULTURAL AND HORTICULTURAL ASSOCIATION (ONE AND ALL), 92, Long Acre, London—Bulbs.

CLIBRANS, Hale, Altrincham—Bulbs.

DAVID W. THOMSON, 113, George Street, Edinburgh—Bulbs.

DICKSON, BROWN & TAIT, Corporation Street, Manchester—Bulbs.

FOREIGN.

M. ZANDBERGEN & SON, Hillegom, near Haarlem, Holland—Dutch Bulbs and Plants.

HAAGE & SCHMIDT, Erfurt—Bulbs, Seeds and Plants

SCHEDULE RECEIVED.

Ancient Society of York Florists.—The thirty-third annual Chrysanthemum Show of this society will take place in the Exhibition, York on Wednesday and Thursday, November 13 and 14. Secretary, Mr. Geo. Smithyes, 12, New Street, York.

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending August 3, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather* was extremely unsettled throughout the entire week. Rain was frequent and often heavy, the sky seldom clear, and thunderstorms occurred on at least one occasion in most districts. At Alnwick Castle on July 29 a thunderstorm was accompanied by very large hail.

The *temperature* was much below the average; in Ireland S. the deficit was nearly 6°, and in many other districts more than 4°. The highest of the maxima were generally recorded early in the week, and ranged from 70° in England N.E., E. and S.E. to 64° in several districts in the extreme north-west and north. The lowest of the minima, which occurred at most stations on August 3, were very low for the time of year. In England S.W. (at Llangammarch Wells) the thermometer fell to 30°, and Scotland E. (at West Linton) to 31°, while elsewhere the readings ranged from 34° in England S.E. and N.W. to 39° in Ireland N., and to 46° in the English Channel. On the grass the lowest values were 25° at Birmingham, 28° at Llangammarch Wells and Crathes, and 30° at Hereford and West Linton. At all stations except Clacton-on-Sea the thermometer at 1 foot below the surface of the soil recorded readings below the normal, but at 4 feet the mean values were mostly above the average.

The *rainfall* was more than the average, the excess being very large except in Scotland and England E. Falls of more than an inch in 24 hours occurred on July 28 and 31 and August 1 and 3. On the 31st ult. they were very general in the north-west of England, and on the 3rd inst. in the south-west. The heaviest daily amounts were 1·9 inch at Malin Head on the 28th ult., 2·3 inches at Blackpool on the 31st inst., and 1·9 inch at Scilly and Falmouth on the 3rd inst.

The *bright sunshine* was considerably below the normal. Over a large area in the north and north-west of the Kingdom the mean daily amount was less than 3 hours, and in all districts excepting the English Channel it was less than 4½ hours. The percentage of the possible duration ranged from 16 in Scotland N. and E. and 18 in England N.E. to 29 in England E. and S.E., and Ireland S., and to 39 in the English Channel.

THE WEATHER IN WEST HERTS.

Week ending August 7.

Exceptionally cold, wet and gloomy.—Throughout the past week the days have been all, more or less, cold for the time of year, while there has occurred only one unseasonably warm night. On the coldest day (the 6th) the temperature in the thermometer screen never rose higher than 59°, which is about 11° colder than is usual at the beginning of August. On two consecutive nights the exposed thermometer fell respectively to within 5° and 1° of the freezing-point, the latter being the lowest reading recorded here in the month of August since 1892, or for 20 years. At 2 feet deep the ground is now 3° colder, and at 1 foot deep 4° colder than is seasonable. Rain fell on five days, and to the total depth of more than 1½ inch, making this the wettest week since the third week in January, or for over six months. These rains have re-started the percolation gauge on which short grass is growing, through which no rainwater at all had previously passed since the middle of June, or for seven weeks. About 2½ gallons have come through the bare soil gauge during the week. The sun shone on an average for only four hours a day, which is 2½ hours a day short of the usual duration for the first week in August. The winds were again, as a rule, rather high, but in no hour did the mean velocity exceed 13 miles. The average amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by 9 per cent.

July.

Seasonable in temperature and rainfall, but unusually calm and gloomy.—Taken as a whole this proved a July of about seasonable warmth. There occurred a hot period in the middle of the month lasting eight days, on five of which the highest temperature in the thermometer screen exceeded 80°. On the hottest of those days the highest reading was 87°, making this with three exceptions the hottest day I have yet recorded here in July. On the coldest night the exposed thermometer fell to 36°, which is about the average extreme minimum reading for the month. Rain fell on 16 days, and to the total depth of 2½ inches, or slightly less than the July mean. The sun shone on an average for 4¾ hours a day, which is 1¾ hours a day below the usual duration for the month. During the past 22 years there has occurred only one other July as sunless. The winds proved unusually light, indeed, with one exception lighter than in any of the previous 26 Julys. In no hour did the mean velocity exceed 13 miles—direction west. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by eight per cent. *E. M., Berkhamsted, August 7, 1912.*

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SITUATIONS VACANT.

Four Lines 3s. (Head-line counted as Two), 6d. for each succeeding line.

PRIVATE.

WANTED, GARDENER, married, for large garden; one hour from London; must be thoroughly competent man who loves his garden.—Apply, first instance, Mr. HARMAN, 177, New Bond Street.

WANTED, GARDENER (under Head Gardener, where several are kept), age about 30, preferably married, for Rose growing and general garden work; cottage; Somerset; state experience and wages required.—L. F., Box 3, 41, Wellington Street, Covent Garden, W.C.

WANTED, GARDENER (Single-handed, with help); must be thoroughly experienced in Kitchen and Flower Garden and care of Lawns; married; good wages offered.—G. C., Box 16, 41, Wellington Street, Covent Garden, W.C.

MESSRS. JAMES VEITCH & SONS, LTD., require for a private place in Hampshire a good, smart MAN, 25 to 27 years of age, to take full charge of House and Table Decorating, and to help in the Houses; wages £1 per week, Bothy and vegetables.—Apply, with full particulars of experience and copies of testimonials, to W. B., Royal Exotic Nursery, Chelsea, S.W.

WANTED, strong, active MAN, about 25, for Kitchen Garden and Pleasure Grounds; able take duty; 18s., Bothy.—H. BRIDGER, The Gardens, Stansted House, Stansted, Essex.

WANTED, GARDENER (Kitchen); active, sober, and good grower of Vegetables; 18s. and Bothy.—Full particulars to D. G., Box 22, 41, Wellington Street, Covent Garden, W.C.

WANTED, immediately, strong, active Man as SECOND (Inside and Out); 16s., Bothy, milk, and vegetables.—Write, stating age and experience, E. PARKER, Bookham Lodge Gardens, Cobham, Surrey.

WANTED, a good trustworthy FOREMAN (General); experienced in Fruit, Flowers, and Decorating; also a strong, active JOURNEYMAN for Inside and Out; wages £1 and 15s., with Bothy and vegetables.—Apply, enclosing copies of testimonials, G. SIMMONS, The Cheverells, Dunstable, Beds.

WANTED, FOREMAN (Inside); good experience Carnations, Chrysanthemums, &c.; age about 25; £1 per week and good Bothy.—Apply, J. ROBINSON, The Gardens, Dalham Hall, Newmarket.

WANTED, good, smart JOURNEYMEN; ages 20 to 24.—State experience, age, height, salary, &c., to DICKSON & ROBINSON, The King's Seedsmen, Manchester.

WANTED, JOURNEYMAN (First, Inside) for Plants and Fruit House; good Plantsman essential; wages 16s.; extra for duty each alternate week; age 23; two in Bothy.—J, PARKER, High Leigh, Hoddesdon.

WANTED, JOURNEYMAN (Inside and Out); Plant Houses and Flower Garden; wages 15s. per week, Bothy, milk, and vegetables; duty alternate week.—Apply, stating age and experience, to W. EMERTON, Belton Gardens, Grantham.

WANTED, good JOURNEYMAN (Inside); Roman Catholic; wages 17s., Bothy, &c.—J. F. WOODMAN, Castle Gardens, Arundel.

WANTED, experienced JOURNEYMAN for Flower Garden; must be steady, energetic man, with good experience; take turn duty; wages 17s., with Bothy.—F. SMITH, Coombe Court Gardens, Kingston Hill.

WANTED, two strong, active Young Men; Kitchen and Pleasure Grounds; able to use Scythe and take duty; 17s., Bothy; also strong Lad for Gardens; 10s., Bothy.—Age and references to P. MAY, Gaddesby Hall Gardens, near Leicester.

WANTED, active, intelligent Young Man for Kitchen Garden and Pleasure Ground work; wages 18s.—Apply, W. FRITH, Foston Hall Gardens, Derby.

WANTED, strong, active YOUTH; age 18 to 20, as GARDENER (Under) for Kitchen and Flower Garden and good all-round work.—Apply, with full particulars, age, and wages expected (live in), PRATT, Dolphin Hotel, Cleethorpes.

WANTED, GARDEN LABOURER for Wales; able to handle horse mower and work in Flower Garden; married man; for end of August; 18s., with house and garden.—Full particulars to STEWART & CO., 13, South St. Andrew Street, Edinburgh.

WANTED, strong, active MAN (single) as COWMAN for gentleman's place; good milker, understanding pedigree Jersey cows, pigs, and poultry; wages 20s. and Bothy.—Apply, giving references and experience, to KING, Kilworth House, near Rugby.

WANTED, CARETAKER (Woman); good plain cook; attend to gardeners' Bothy, garage, and valet's rooms; preference given to widow with grown-up daughter or two sisters (middle-aged); good cottage provided.—Please reply, with references and full particulars, stating wages required, to R. DAVIDSON, The Gardens, Polesden Lacey, near Dorking.

TRADE.

ORCHID DEPARTMENT.—Messrs. WILLIAM BULL & SONS require the services of a very capable Orchid Seedling Raiser and Grower to take entire charge of their Orchid Department.—Apply, Establishment for New and Rare Plants, King's Road, Chelsea, London.

WANTED, energetic FOREMAN (Working); good at Pot Stuff, Forcing Bulbs, &c.; able to manage men.—Reply, stating age, experience, family, and wages, with copies testimonials, to RATHGAR NURSERIES, Rathgar, Dublin.

WANTED, a FOREMAN (Working) on a large Market Garden Farm; must be able to write well and keep farm accounts; good wages to an experienced, capable man.—Apply, by letter only, to T. MAY, Vallance, Chadwell Heath.

WANTED, LEADING HAND on extensive Fruit Farm; must be experienced Pruner; good position to capable man of good character.—Apply, with full particulars as to age, experience, &c., to C. J., Box 17, 41, Wellington Street, Covent Garden, W.C.

WANTED, GROWER, with good London Nursery experience; Bedding Stuff, Chrysanthemums, Tomatos, Cucumbers, &c.; state age, experience, wages, married or single; also good SPADE HAND, with knowledge of Hardy Shrubs, Roses, &c., for Outside Nursery; state age, experience, and wages.—MIDDLESEX, Box 25, 41, Wellington Street, Covent Garden, W.C.

WANTED, GLASSHOUSE HAND; experienced Market Growing, Grapes, Tomatos, Chrysanthemums; state age, height, wages, copy references.—Mr. BULLEN, Hangleton Nurseries, Goring, near Worthing.

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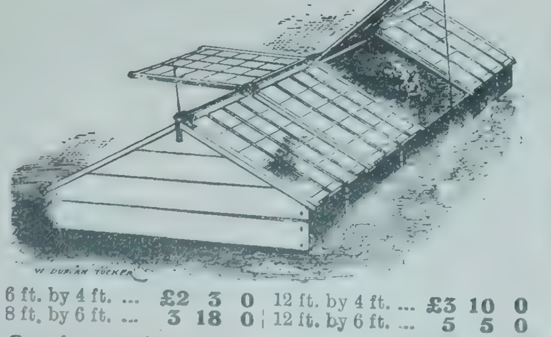

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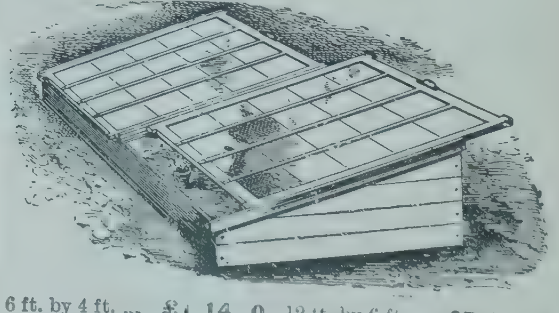

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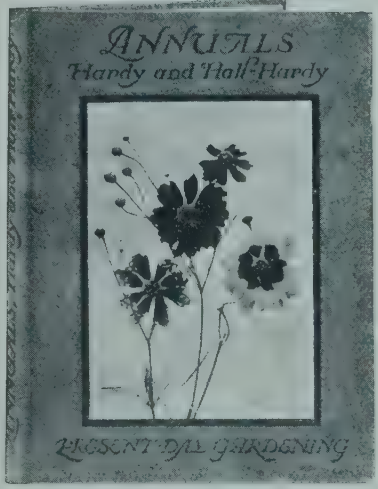

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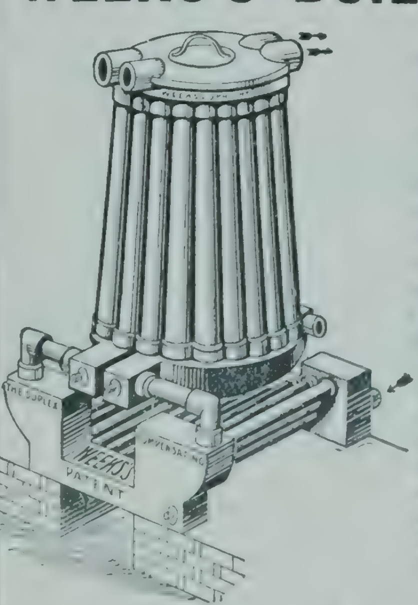

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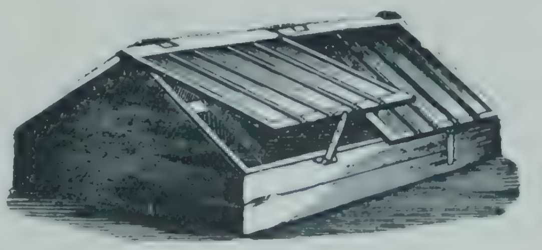

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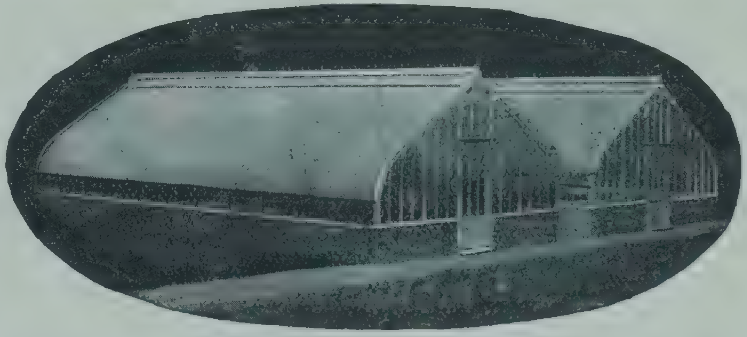

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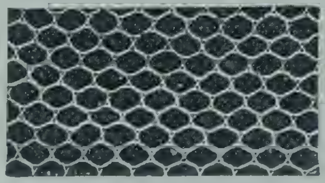

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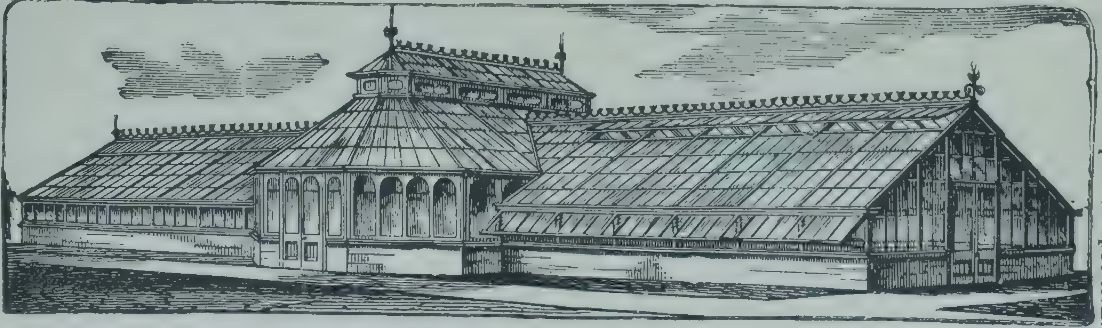

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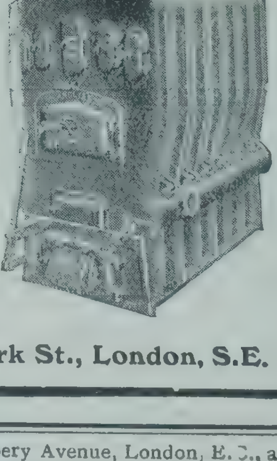

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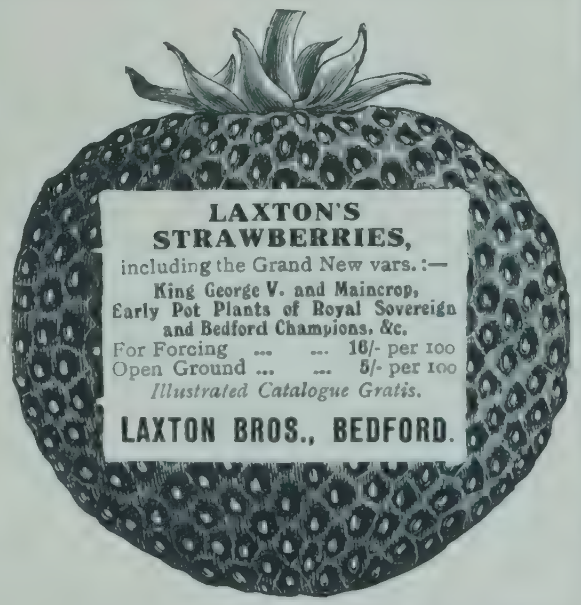

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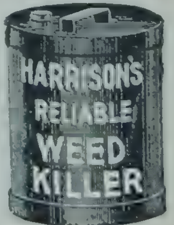

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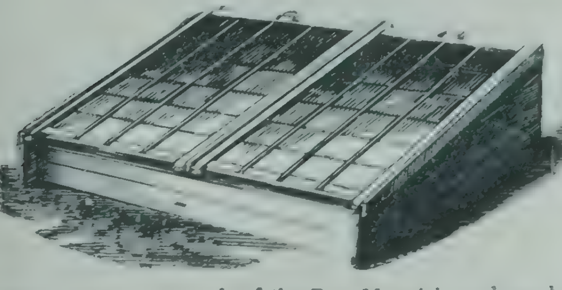

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Bianca		1/-	10/6
Blood Orange		3d.	2/-
Bullfinch		3d.	2/-
Cornelia		9d.	8/-
Dairymaid		3d.	2/-
Diadem		9d.	8/-
Ethelbert		5/-	—
Firebrand		4d.	3/-
Glitter		4d.	3/-
Gloria Mundi		9d.	8/-
Golden Bell		3d.	2 6
Goldfinch		4d.	3/-
Golden Nugget		3d.	2/-
Great Warley	3 for £5	40/-	—
Homespun	3 for 10/-	3/6	—
Horace		8d.	7/-
Incognita	3 for 8/-	3/-	—
King Alfred	3 for 6/6	2/6	—
Lady Margaret Boscawen	3 for 8/-	3/-	—
Lemon Queen	3 for 27/-	10/-	—
Lucifer		6d.	5/-
Lulworth		—	1/9
Madame de Graaff		4d.	3/-
Mrs. H. J. Veitch		9d.	8/-
Noble	3 for 20/-	7/6	—
Oriflamme		9d.	8/-
Red Chief		3/-	—
Seabird		2/-	—
Seagull		3d.	2/-
Shooting Star		5d.	4/-
Southern Star		2/-	20/-
Torch		9d.	8/-
Watchfire		2/-	20/-
Weardale Perfection		2/-	—
Wheatear		6d.	5/-
White Lady		5d.	4/-
Will o' the Wisp		6d.	5/-
Zenith		5/-	—

Stocks of some of the above are very limited.

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	Per doz.	Per 100
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Good First Size	2/3	16/-

FREESIAS.

	Per doz.	Per 100
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Good First Size	8d.	4/6

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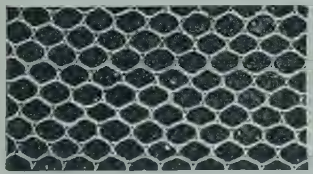
PROTECT your FRUIT from WASPS

COVER ALL VENTILATORS WITH



WASP PROOF SCRIM.

No. 1. (Fine), as shown above.		No. 2. (Rather Stronger)	
48 in. wide	**1/2** per yd.	48 in. wide	**1/4** per yd.
60 ,,	**1/6** ,,	60 ,,	**1/8** ,,
72 ,,	**1/10** ,,	72 ,,	**2/-** ,,
84 ,,	**2/6** ,,	84 ,,	**2/9** ,,

Other widths in proportion.

NEW INTRODUCTION. **For PROTECTING GRAPES, APPLES, PEARS, &c.**

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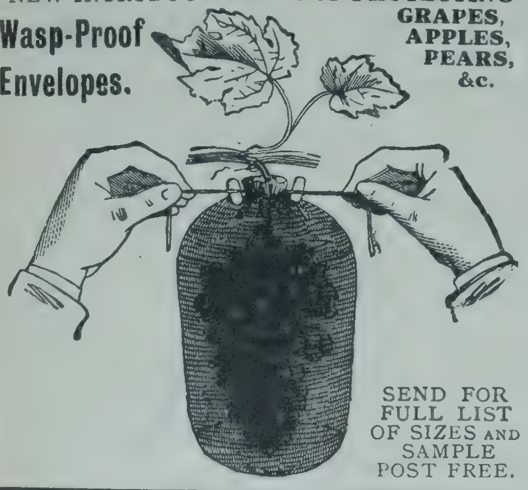

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No lighting of fuses. SIMPLE, INFALLIBLE.

WASP DESTROYER No. 2 (LIQUID) FOR KILLING WASPS

in Vineries and Houses, full directions on all bottles.
Prices, either kind, small bottles, **1/6**, large bottles, **2/6** each.

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WOOD GREEN, LONDON.
'Phone, Palmer's Green, 877 & 878. 'Grams, "Fungheto, London."

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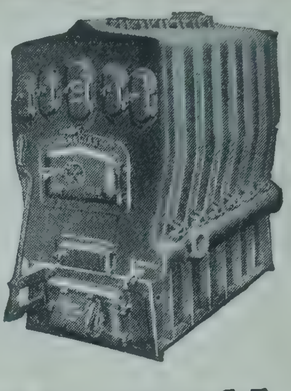

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The **"HORSE-SHOE,"** for the small Greenhouse.

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in every variety,

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CONSERVATORIES, GREENHOUSES, &c.

OUR Blinds effectually shield plants under glass from the scorching sun's rays, at the same time allowing full admission to the modified sunlight.

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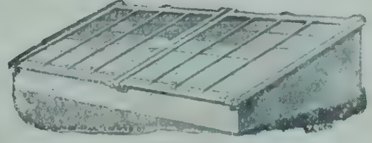


No. 77. VIOLET FRAME.
(As illustrated.)

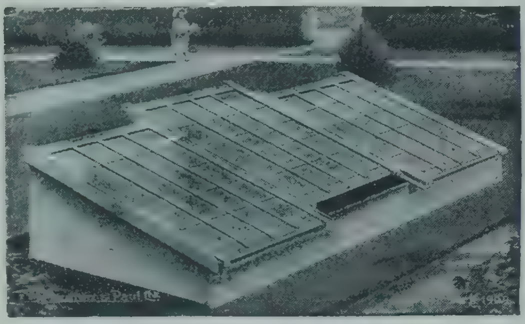
6 ft. by 4 ft.	**£1 15 0**
9 ft. by 4 ft.	**£2 7 6**

No. 75. MELON AND CUCUMBER FRAME.

4 ft. by 6 ft.,	**£2 0 0**
8 ft. by 6 ft.,	**3 0 0**
12 ft. by 6 ft.,	**3 19 0**
16 ft. by 6 ft.,	**4 18 0**

All Frames and Lights Painted Three Coats.

Glazed with 21 oz. Glass.



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is the most powerful, produces the most permanent effects, and has the largest sale of any Weed Destroyer manufactured.

1 to 50 (Liquid): 3 galls., **10/-**; 6 galls., **18/-**; 12 galls., **£1 13**; 20 galls., **£2 7 6**; 40 galls., **£4 10.**
1 to 80 (Liquid): 3 galls., **14/6**; 6 galls., **£1 6**; 12 galls., **£2 5**; 24 galls., **£4 7 6.**

BENTLEY'S COMPOUND LIQUID QUASSIA EXTRACT. (The Original.)

An infallible non-poisonous destroyer of Aphis in all its forms.

10 galls., **3/7**; 5 galls., **3/8** per gallon. 1 gall., **4/2**; ½-gall., **2/6**; 1 quart, **1/6**; 1 pint, **1/-**

BENTLEY'S SWEET PEA MANURE.

Prolongs the flowering period. The only Fertilizer in the World which has helped to grow Sweet Peas worth £1,000 a bunch.

1 cwt., **£1**; ½ cwt., **12/-**; 28 lbs., **7/-**
Tins, **2/-** and **6d.** each.

Carriage paid on 5/- orders and upwards.
Complete Catalogue free on application to

JOSEPH BENTLEY, Ltd., Chemical Works, Barrow-on-Humber, HULL.

MARKETS.

COVENT GARDEN, *August 21.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Achillea, per doz. bunches ...	1 6- 2 0
Alstroemeria ...	3 0- 4 0
Arums (Richardias)	2 0 —
Asters, white ...	1 6- 2 6
Bouvardia, per dz. bunches ...	6 0- 7 0
Carnations, p. doz. blooms, best American var.	1 0- 1 6
— smaller, per doz. blooms ...	0 6- 0 9
— Carola, crimson, extra large	1 6- 2 0
— Malmaisons, p. doz. blooms:	
— — pink ...	8 0-15 0
Centaurea (Sweet Sultan) mauve and white, per doz. bunches...	2 0- 3 0
— yellow	1 0 —
Chrysantheumms, per dozen:	
— white	1 0- 2 0
— pink	1 0- 2 0
— yellow	1 0- 2 0
— bronze	1 0- 2 0
— white, per doz. bunches ...	4 0- 6 0
— maximum, per doz. bunches...	0 9- 1 0
Coreopsis, per doz. bunches ...	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches ...	0 6 -0 9
Gardenias, per box of 15 and 18 blooms... ...	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	2 0- 2 6
— Bride, white per dz. bnchs:	3 0- 4 0
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
— paniculata ...	3 0- 4 0
— double	6 0- 8 0
Lapagerias, white, per dozen ...	1 6- 2 0
Lilium auratum, per bunch ...	4 0- 5 0
— longiflorum, per doz., long	1 6- 2 0
— — short ...	1 6 —
— lanciforium alba, long ...	1 0- 1 3
— — short ...	1 0 —

	s.d. s.d.
Lilium speciosum rubrum, p. dz.,	
— long	1 3- 1 6
— short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0-18 0
— special... ...	10 0-12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches...	4 0- 5 0
Montbretia, pr. dz. bunches ...	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	12 0-15 0
— Cattleya Harrissonii, p. doz.	6 0 —
— Odontoglossum crispum ...	3 0- 4 0
Pancratiums, p. dz. blooms ...	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms,	
— Bridesmaid,	0 9- 1 0
— C. Mermet ...	0 9- 1 0
— Frau Karl Druschki ...	0 9- 1 0
— General Jacqueminot ...	0 9 —
— Liberty ...	0 9- 1 0
— Madame A. Chateney ...	0 9- 2 0
— Niphetos ...	1 0- 1 6
— Richmond ...	1 0- 2 6
— Sunburst ...	1 6- 2 0
— Sunrise ..	0 6- 0 9
— President Carnot	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegan	1 0- 1 6
— Kaiserine ...	0 9- 1 6
Scabious caucasica, per doz. bnchs.	2 0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, per dozen bunches:	
— mauve, ...	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	1 6- 2 0
Stock, p. d. bnchs:	
— white ... ...,	4 0- 5 0
Tuberoses p. doz. blooms, long...	0 4 —
— — short ...	0 3 —
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches ...	1 6- 2 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0-18 0
— Sprengeri ...	10 0-12 0
Carnation foliage, doz. bunches...	4 0 —

	s.d. s.d.
Croton foliage, various, per dozen bunches ...	12 0-15 0
Cycas leaves, artificial, per doz.	8 0-12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, per gross ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved ...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, p.dz.	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated ...	30 0-60 0
Asters, per dozen	4 0- 5 0
— various colours, per dozen ...	6 0-12 0
Croton, per dozen	18 0-30 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ...	2 6-10 6

	s.d. s.d.
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0-12 0
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, doz. ...	6 0 —
— choicer sorts per doz. ..	8 0-12 0
— in 32's, per dz.	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Geonoma gracillis,	
— larger, each ...	2 6- 7 6
Hydrangeas white 48's, per dozen	18 0-21 0
— pink	8 0-12 0
— blue, each ...	2 0- 5 0
— paniculata, per dozen	18 0-24 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen ...	15 0-18 0

	s.d. s.d.
Lilium lancifolium alba	15 0-18 0
Lilium longiflorum, per dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Mignonette, 48's, per dozen ...	6 0- 8 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Phœnix rupicola, each	2 6-21 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— English ½ bshl.	2 0- 2 6
— Cooking, bshl.	2 6- 3 0
— Tasmanian per case ...	13 6-16 6
Bananas, bunch:	
— Doubles ...	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured...	5 6- 6 6
— Jamaica Giants, per ton ...	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Figs (Guernsey), per dozen ...	1 0- 2 6
— English ...	1 0- 2 6
Damsons, ½ bushel	2 6 —
Grape Fruit, case:	
— 96's	18 0-20 0
— 86's	
— 64's	
— 54's	
— English (new) per lb.	0 9- 2 6
— Canon Hall ...	1 6- 5 0
— Muscats ...	10- 3 0
— Gros Colmar...	1 2- 1 6
— Black Alicante	0 8- 1 6
— Madresfield Court	1 0- 2 6
— Gros Maroc ...	1 0- 2 0
Greengages, ½ sieve	10 0-13 0
— Cooking ...	5 0- 6 0
— English, ½ bshl.	6 0 —
Lemons:	
— Messina, per case	20 0-22 6
— ordinary, per case	17 0-25 0

	s.d. s.d.
Lemons:	
— Naples ...	28 0-45 0
Limes, per case ...	6 0 —
Melons (Guernsey)	1 0- 2 0
— (English) ...	1 0- 2 0
— Canteloupe ...	1 6- 4 0
Nectarines, per dozen:	
— selected ...	6 0-12 0
— best ...	2 0- 3 0
— seconds	
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 3 —
— Filberts, per lb.	0 2- 0 3
Oranges:	
— Italian per case	20 0-22 6
— Cape, per case	20 0-25 0
— Naartjees, per box	4 0- 4 6
Peaches	
— French, boxes	1 0- 2 0
— English, dozen;	
— selected ...	6 0-12 0
— best ...	2 0- 3 0
— seconds	
Pears:	
— French, pr. box	3 0 —
— — per case ...	5 0- 6 0
— English, ½ bushel	3 0- 5 0
Pineapples, St. Michael ...	2 6- 5 0
Plums, French, ½ sieve	2 6- 3 6
— English, ½ sieve	3 6- 5 6

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen ...	1 6 —
Aubergines, per dozen... ...	2 6- 3 0
Beans:	
— French, ½ bshl.	1 6 —
— Scarlet Runners, per bushl.	1 3 —
— — per bag ...	3 0 —
Beetroot, per ½ bushel ...	2 0- 2 6
Cabbages, p. tally	3 0 —
— Red, per dozen	2 0 —
Carrots (English), pr. doz. bun....	2 0- 3 0
— per bag ...	5 0 —
Cauliflowers, per dozen	1 3 —
Celery, per dozen	1 0- 2 0
Cucumbers, per flat	4 0- 6 0
Endive, per dozen	1 6 —
Greens, p. bushel	1 6- 2 0
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles ...	12 0-15 0
Leeks, per doz. ...	3 0 —
Lettuce (English), Cos, per box ...	1 0- 1 2
Cabbage, per box	1 0- 1 6

	s.d. s.d.
Marrows, per tally	2 0- 3 0
Mint, per dozen bunches ...	2 0 —
Mushrooms, cultivated, per lb.	0 10- 1 0
— field, per lb. ...	0 4- 0 6
Mustard and Cress, p. dz. punnets	1 0 —
Onions (English) per bushel ...	3 6- 6 0
— (Spring), per doz. bunches	1 6- 2 0
Parsley, ½ sieve ...	2 0- 3 0
— per doz. bun.	2 0 —
Peas (English), per bushel	3 6- 5 0
— bags	6 0- 9 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen ...	0 6- 1 0
Sage, per dozen ...	2 0 —
Spinach, ½ bushel	1 6 —
Tomatos, per doz. lbs.:	
— (Guernsey), ...	2 6- 3 0
— (English) ...	2 6- 3 6
— seconds ...	1 0- 1 6
Turnips (English), per dz. bunches	2 6- 3 0
— per bag	5 0 —
Watercress, p. dz. bunches ...	0 4- 0 6

Remarks.—Home-grown dessert and culinary Apples from all sources are very plentiful, supplies being much in excess of demand. Crops of Pears—Hazel, Jargonelle, Clapp's Favorite, and Williams's Bon Chrétien—are very heavy. French Pears are also being largely supplied. Large consignments of Californian Pears will shortly be received. Plums—Greengages and Damsons—are coming in good quantities; also French and Spanish Plums. Peaches and Nectarines are plentiful; a few selected fruits are much in request. Melons and Figs are still being fully supplied and are meeting with a rather slow demand. Nuts—Filberts and Cobs—are arriving principally from Kent, and there is a very heavy crop of every kind. Cultivated Blackberries are now making their appearance in chips (4lbs.). Mushrooms (outdoor) are obtainable in large quantities; the cultivated kinds being supplied in amounts about equal to the demand, but sold somewhat cheaper in consequence of large arrivals of the outdoor kinds. Grapes are still arriving in large quantities from all sources. Tomatos have shown a considerable increase in supply since last week. The Vegetable Market has been well supplied, clearances being effected at very low rates. *E. H. R., Covent Garden, August 21, 1912.*

New Potatos.

	per cwt. s.d. s.d.
Bedfords	3 9- 4 0
Kents	4 0- 4 9

	per cwt. s.d. s.d.
Blacklands ...	3 3- 3 6
Lincolns	3 6- 4 0

Remarks.—Trade is still very quiet, and there is a fair supply considering the state of the weather. The blight throughout Lincolnshire and Cambridgeshire is quite as serious as reported. *Edward J. Newborn, Covent Garden and St. Pancras, August 21, 1912.*

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending August 17, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—The conditions were unseasonable in all parts of the kingdom, but the rain was less heavy generally than during the preceding week. In some localities in the north-east of England more than half the days were rainless. Thunderstorms occurred in various parts of eastern England during the earlier half of the period. At Southport, on the morning of the 13th, three striking waterspouts were observed: two over the Ribble Estuary and one over Liverpool Bay,

The *temperature* continued below the average, the deficit amounting to about 6° in England S.E. and the Midland Counties to 5° in England E. and S.W., and to 4° in Ireland. In Scotland N. and W. it was only 2°. The highest of the maxima were registered at most stations on the 16th or 17th, and ranged from 71° in England N.E. to 65° in England S.W., Ireland N., and Scotland N. The lowest of the minima, which occurred generally about the middle of the week, ranged from 34° in Ireland N. 35° in England S.W., and 36° in the Midland Counties, to 41° in Scotland N., and to 49° in the English Channel. The lowest grass readings reported were 27° at Raunds and Birmingham, 30° at Dublin, 31° at Markree Castle, Llangammarch Wells, and Hampstead, and 32° at Hereford. The temperature of the soil was below the average in all parts of the kingdom, both at the 1 foot and 4 feet, the divergence at 1 foot being large.

The *rainfall* exceeded the normal in England S.E., S.W., and N.W., and also in the English Channel, but was less in the other districts. As much as 2·2 inches fell at Jersey on the 12th, and 1·1 inch at Plymouth and Salcombe on the 17th.

The *bright sunshine* was again much below the average. In most districts the mean daily duration was less than 2½ hours, and in the Midland Counties, England S.W, and Scotland N. and E. less than 2 hours. The percentage of the possible duration ranged from 21 in the English Channel and Ireland N. to 11 in Scotland N. and the Midland Counties, and to 9 in Scotland E.

THE WEATHER IN WEST HERTS.

Week ending August 21.

The third cold and gloomy week in succession.—Throughout the past week the days have again been unseasonably cold, while the nights were, as a rule, rather warmer than the average. On the warmest day the temperature in the thermometer screen never rose above 65°, but on the other hand on no night did the exposed thermometer register a reading below 40°. At 2 feet deep the ground is now 3°, and at 1 foot deep 4°, colder than is seasonable. Rain fell on each day of the week, and to the total depth of more than three-quarters of an inch. Since the present month began rain has fallen on all but four days, the total measurement amounting to 2½ inches, or about the average quantity for the whole of the month. During the week 1½ gallon of rainwater has passed through the percolation gauge on which short grass is growing, and 1½ gallon through the bare soil gauge. The sun shone on an average for only 1½ hour a day, which is as much as 4½ hours a day short of the usual duration in the middle of August. The winds proved, as a rule, rather high, but in no hour did the mean velocity exceed 11 miles. The average amount of moisture in the air at 3 o'clock in the afternoon exceeded a seasonable quantity for that hour by as much as 16 per cent. *E. M., Berkhamsted, August 21, 1912.*

GARDENING APPOINTMENTS.

Mr. W. Cooper, for the past 12 years Gardener at Chadacre Hall, Bury St. Edmunds, as Gardener to Mrs. Pearson, Millfield, Great Berkhamsted.

Mr. F. Whicker, for 5½ years Gardener to Col. Kemmis, C.M.G., Everton Grange, Lymington, Hampshire, as Gardener to Ivor Vachell, Esq., High Mead, near Cardiff. (Thanks for donation of 2s. 6d. for R.G.O.F. box.—Eds.)

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DEBATING SOCIETIES.

BATH GARDENERS'.—The usual monthly meeting of this society was held at the Foresters Hall, Bath, on the 13th inst. Mr. T. Parratt, chairman, presided over a good attendance of the members. A lecture on "Vegetable Cultivation" was given by Mr. C. J. Wait.

STIRLING AND DISTRICT HORTICULTURAL.—The last excursion for the season of the members of this society took place on the 10th inst., when Dalmeny Park, the seat of Lord Rosebery, was visited. The nursery for the rearing of forest trees, coniferæ, and shrubs; the home-farm, the gardens and policies, and Barnbougle Castle were all inspected. Tea was provided by the factor, Mr. McLaren, who was formerly a member of the association.

The Gardeners' Chronicle

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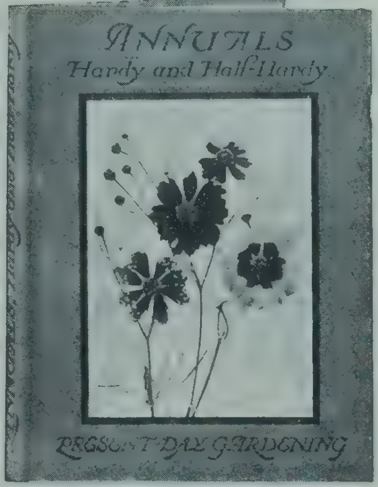

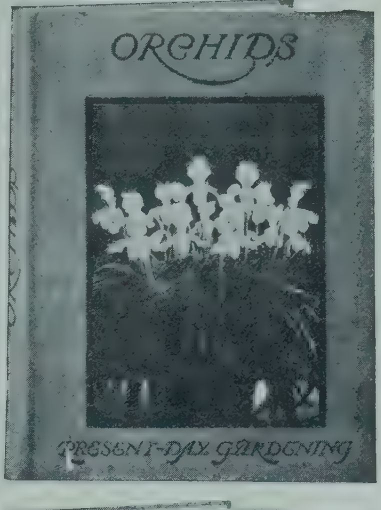

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LILLEY'S GUERNSEY BULBS.
It is unwise to risk failure by buying from middlemen. You want reliable, free-blooming bulbs. Easy to force, free from disease, moderate in price. Therefore buy direct from the grower.
LILLEY, Bulb Grower, Dept. C, Guernsey.

CROSS'S CLUBICIDE kills Eelworm, Wireworm, Slugs, Maggot, and all Disease Germs. Pint flasks, 1s.; ½-gall., 4s.; 1 gall., 7s. 6d.

CROSS'S BALLIKINRAIN ANT DESTROYER.—The only certain remedy for the Ant Pest. As used in Royal Gardens, Windsor. Bottles, 2s. 6d. and 3s. 6d. each.

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CROSS'S INSECTICIDE and MILDEW DESTROYER, Cross's Nicotine Vaporiser, Cross's Special Chrysanthemum Manures (Lunt's Formula), &c., &c.

From all Seedsmen. Full particulars on application.
Sole Manufrs.: A. CROSS & SONS, Ltd., 19, Hope Street, Glasgow.

GREENHOUSE PAINTING & GLAZING "Vitrolite," superior to White Lead Paint, 9/- per gall. "Plastine" supersedes Putty, 16/- per cwt. Full particulars from W. CARSON & SONS, Grove Works, Battersea. Agents throughout the country.

For Advertisement Charges see page viii.

A PERENNIAL GARDEN means Perennial Pleasure, if composed in whole or in part of Kelway Artistic Colour Borders. Quotations for any area by return of post with full particulars. A copy of "Gardens of Delight" for 6d. (post free). Now is the time to *plan*.

From ——, Esq., Excelsior, Minn., U.S.A. "I enclose a photograph of one corner of my "Kelway" Garden, showing some Onaperdon Bracteatums in the foreground, and Delphiniums and Pæonies in background."
KELWAY & SON, The Royal Horticulturists, Langport, Somerset.

GISHURST COMPOUND is harmless in use; its soluble Sulphur, &c., has for 40 years cured Blights and Fungus on Plants, and is good for washing unhealthy dogs. Gishurstine keeps boots dry in all weathers; they will polish. Good for Harness.
Wholesale from—
PRICE'S PATENT CANDLE CO. LTD., London.

POULTRY and KENNEL APPLIANCES of every description. Write for latest Catalogue free on application.
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CARTWRIGHT & GOODWIN, LTD.—The finest varieties of DAFFODILS, TULIPS, HYACINTHS, Etc. Lowest prices, best quality only. Bulbs for forcing, and Fibre a speciality. Our New Illustrated Catalogue is now ready, and will be sent post free on application to:—CARTWRIGHT & GOODWIN, Ltd., The Premier House for Daffodils, KIDDERMINSTER.

New Phloxes

IN all the most brilliant shades of colour. Specimen blooms and lists on application. Awarded Silver Cups at Olympia and International Exhibition.
Address: GUNN & SONS, Olton, Warwickshire.

RIVERS' FRUIT-TREES, ROSES, VINES, FIGS, ORANGES, & ORCHARD-HOUSE TREES. A large and select stock always on view. Illustrated and descriptive Catalogue, post free, 3d.—THOMAS RIVERS AND SON, Sawbridgeworth, Herts. Station: Harlow, G.E.R.

WM. DUNCAN TUCKER & SONS, Ltd., 27, Cannon Street, London, E.C.; Works, Tottenham. Conservatories, Winter Gardens, Vineries, Peach-houses, Portable Buildings, etc. Catalogue gratis.

AUTO SHREDS FUMIGANT kills Leaf-mining maggot, insects in greenhouses, frames. For 1,000 cubic feet, 6d.; 10,000, 3s. 6d. No apparatus.
WM. DARLINGTON & SONS, Patentees, Hackney, N.E.

ROMAN HYACINTHS and other Bulbs for early forcing. All of extra selected quality.
DICKSONS, Bulb Growers, Chester.

ALPINES & HERBACEOUS PLANTS, —Himalayan and other rare Rhododendrons, rare Shrubs, Construction of Rockeries. Catalogues ready.
G. REUTHE, Keston, Kent.

OSMUNDA for Orchids.—Consignments arrive fortnightly. 2s. 6d. per bushel; per bag, 8s. 6d.
SANDER & SONS, St. Albans.

To the Trade.

COOPER, TABER & CO., Ltd., 90 & 92, Southwark Street, London, have posted their WHOLESALE BULB CATALOGUE to all their customers. If not received another copy will be sent on application.

NARCISSI and DAFFODILS, HYACINTHS and TULIPS, &c.; Bulbs of the very finest flowering qualities; price list post free.—T. G. BROWN, Bulb Gardens, Tresco, Scilly Isles.

HARRISON'S "RELIABLE" WEED KILLER.—Best and cheapest. See p. iii. last issue.

SALES BY AUCTION.

DUTCH BULBS.

Mr. J. C. STEVENS begs to announce that his

Sales by Auction

are held

MONDAY, WEDNESDAY & THURSDAY, at 12.30.

Catalogues post free.

Lots purchased, packed, and forwarded to all parts.

STEVENS' AUCTION ROOMS

(Established 150 Years),

38, King St., Covent Garden, London, W.C.

FRYETT, WHITE & CO., Moorgate Auction Rooms, 23-25, Moorfields, E.C., beg to announce that their Sales of Dutch Bulbs and Horticultural Produce are held every Tuesday, Wednesday and Friday. Catalogues free on application.

SPECIAL TRADE SALE.

Wednesday next, September 4th, at One o'Clock.

100,000 Polyanthus and other Narcissus, a consignment of 40,000 Galanthus Elwesii, Scilla bifolia, Cyclamen, &c., 20 cases Amaryllis Belladonna, thousands of Snowdrops, Lilium candidum, Tulips, Hyacinths, &c., French grown bulbs, retarded Lily of Valley, 10,000 Roman Hyacinths.

At FOUR O'CLOCK.

Ornamental and decorative Palms and plants, Standard and Pyramidal Bays, &c., received direct from the Continent.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

The Nurseries, Chingford, Essex.

A few minutes from Chingford Railway Station.
Twenty-seventh Great Annual Trade Sale of
POT PLANTS,

consisting of large quantities of TEA and other ROSES, all the newest and best varieties.

BEGONIAS Gloire de Lorraine, Mrs. Leo Rothschild, Turnford Hall, Agatha, and others.

FERNS.—Many thousands in various sizes, including all the newest varieties of Nephrolepis, &c.

ZONAL GERANIUMS.

PALMS in great variety, including large quantities of KENTIAS.

AMERICAN TREE CARNATIONS, best winter-flowering varieties.

Large quantities of Asparagus plumosus nanus, Crotons, Dracænas, Bouvardias, Cyclamen, Solanums, Aralias, Araucarias, Aspidistras, Ficus elastica, Genistas, Hydrangeas, Ampelopsis, Lapagerias, Clematis, Ivies, Veronicas, Cinerarias, and Stove Plants in great variety.

MESSRS. PROTHEROE & MORRIS are instructed by Messrs. H. B. May & Sons to SELL the above by AUCTION at The Nurseries, Chingford, Essex, on MONDAY, SEPTEMBER 9th, at 11 o'Clock.

May be viewed any day prior to Sale. Catalogues had on premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE.

By order of Messrs. B. Maller & Sons.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION at the Burnt Ash Road Nurseries, Lee (adjoining Lee Railway Station), on TUESDAY, SEPTEMBER 10th, at 11 o'Clock, a remarkably well-grown stock of

WINTER-BLOOMING HEATHS

and other stove and greenhouse plants, consisting of 23,600 Erica hyemalis, gracilis, Cavendishii, gracilis nivalis, ventricosæ, and persoluta alba, all well set with bloom buds

1,000 Ampelopsis Veitchii.
1,500 Epacris (to name).
1,200 Boronia megastigma, &c.
600 Grevillea robusta.
4,000 Solanum capsicastrum (well berried).
6,000 Genistas.
300 New Zonal Geraniums Salmon Paul Crampel.
1,000 Lomaria gibba.
4,000 Adiantum cuneatum.
600 Tea Roses (in pots).
2,000 Aralia Sieboldii.
2,000 Begonias of sorts.
6,000 Kentias.
1,000 Asparagus of sorts.
200 Acacias.
300 Lapagerias.
300 Araucaria excelsa.
200 Bouvardias of sorts.

Four pairs specimen KENTIAS, 6 to 8 ft.

A fine lot of Dracæna indivisa, Crotons, Hydrangeas, Gardenias, new Zonal Geraniums, Poinsettias, Tacsonias, Plumbagos, Double Furze, Passifloras, Jasmine, Clematis, new Marguerites, Ceanothus, Myrtles, Oleanders, and Bougainvilleas, a large quantity of young Ericas, Genistas, Kentias, Asparagus, Adiantums, &c., in 60's for growing on.

May be viewed. Catalogues had on premises, at 61, High Street, Lewisham, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—The stock is in exceptionally fine condition, and will repay a visit from intending purchasers.

The Nurseries. South Woodford, Essex.

(George Lane Station, G.E.R.)
Expiration of Lease.
THE FINAL ANNUAL TRADE SALE BY AUCTION OF

9,000 Erica hyemalis.
3,000 „ gracilis and nivalis.
300 Erica Cavendishii.
5,500 Genista fragrans.
2,000 Ampelopsis Veitchii.
2,000 Cyclamen persicum (Fraser's superb strain)
2,500 Zonal Geraniums (strong stock plants).
3,500 Variegated and other Ivies.
500 Tea-scented Roses in pots.
4,000 Clematis Jackmannii and other best-named sorts.
1,700 Marechal Niel and other climbing Roses in pots.
1,000 Araucaria excelsa.
3,000 Bouvardias, including all the best sorts for cutting.
1,000 Hydrangeas.
1,500 Solanums.
750 Double Hollyhocks.
240 Grape vines (strong fruiting canes).

Together with considerable quantities of Magnolia grandiflora (Exmouth var.), Loniceras of sorts, Figs (strong fruiting plants), Ficus elastica, white Jasmines, Passion Flowers, Ceanothus, Lobelia fulgens Queen Victoria, Begonias, Aspleniums, Jasminum primulinum, Cratægus Lelandii, and many other plants, will take place on WEDNESDAY and THURSDAY, SEPTEMBER 11th and 12th, at 11 o'Clock each day.

This annual Sale has now been held for over 40 years, and it will be noticed that two days will be occupied on this occasion, as

MESSRS. PROTHEROE & MORRIS have been instructed by Mr. John Fraser to sell the WHOLE OF THIS CLASS OF PLANTS.

The out-door stock of fruit trees, evergreen and deciduous Shrubs, Roses, &c., will be offered during the ensuing season.

Catalogues will be obtainable at the Nurseries, or of the Auctioneers, 67 and 68, Cheapside, E.C.

DUTCH BULBS.

SALES EVERY DAY (Excepting Saturdays) at 10.30 o'Clock.

10,000 LOTS Sold Weekly of Hyacinths, Tulips, Crocus, Narcissus, and others received direct from Holland, at PROTHEROE & MORRIS'S Central Sale Rooms, 67 and 68, Cheapside, London, E.C. Established 80 years. Commissions executed; lots packed and forwarded to all parts. Catalogues free.

Longlands Nursery, Sidcup, Kent, S.E.

Thirty-first Great Annual Trade Sale of
WINTER-FLOWERING HEATHS AND FERNS.
By order of Messrs. H. Evans & Sons.

MESSRS. PROTHEROE & MORRIS beg to announce that this important Annual Sale will take place on THURSDAY, SEPTEMBER 12th, at 11 o'Clock. Full particulars will appear next week.

BUSINESSES FOR SALE, &c.

KENILWORTH.—FREEHOLD MARKET NURSERY, well stocked, consisting of four acres of land, 24,000 square feet of glasshouses; ample water supply; office, store room, packing shed, boiler house, hot and cold frames, &c.; also seven-roomed dwelling house; all modern built to Architect's designs.—Address, F., 144, Masonic Buildings, Coventry.

FOR immediate SALE or PARTNERSHIP.—Owing to death of proprietor, the lease, goodwill, stock-in-trade and business of old-established FLORIST, NURSERYMAN & SEEDSMAN. Excellent shop and dwelling-house. Large garden at rear. Greenhouses, 2½ acres well stocked nursery ground situated in main street of large market town on south coast, close to railway. Excellent opportunity for pushing man with moderate capital.—FLORIST, Box 15, 41, Wellington Street, Covent Garden, W.C.

FREEHOLD NURSERY FOR SALE at seaside; Grapes, Tomatos, and Chrysanthemums; over 800 ft. run of glass (heated); 2¾ acres ground; water-mill, packing shed, &c.; freehold £1,400.—L. R., Box 2, 41, Wellington Street, Covent Garden, W.C.

TO NURSERYMEN.—An old-established NURSERY, with Retail Shop attached, for disposal in Canterbury, Kent; ingoing only £350; a bargain.—GEERING & COLYER, Ashford, Kent.

NURSERY FOR SALE, near London; five large greenhouses, two large outbuildings; low rent.—NASH, St. Mark's Road, Mitcham.

BUSINESSES TO LET.

NURSERY to LET; splendid position; five minutes from rail and trams; 350 ft. glass, 1¼ acres fruit; good house, rent £40.—Further particulars from MILES, Royal Hotel, Sheerness.

SUFFOLK.—TO LET, FARM; 68 acres; part used for flower cultivation, with glass, &c.; produce sent daily to Covent Garden; stock and fixtures optional; 10-roomed house, cottages, and buildings.—C. T., Box 20, 41, Wellington Street, Covent Garden, W.C.

BUSINESS CARDS.

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R.H.S. EXAM. — CORRESPONDENCE CLASSES for GARDENERS; first-class results.—Full particulars from the HEAD GARDENER, Heath End House, Baughurst, Basingstoke.

TENDERS.

Borough of Darlington.

THE Corporation invite TENDERS for the supply of Bulbs to the Public Parks. Particulars may be obtained on application at the offices of Mr. George Winter, Borough Surveyor. Sealed tenders, endorsed "Tenders for Bulbs," to be sent to the undersigned not later than noon on Thursday, the 19th September. No pledge is given that the lowest or any tender will be accepted.

HY. G. STEAVENSON,
Town Clerk.

22nd August, 1912.

PLANTS, &c., WANTED.

WANTED, large KENTIA PALMS, from 5 feet to 25 feet in height; large, well-coloured Dracænas and Crotons, also Aspidistras; for cash or exchange.—ROBERT GREEN (1911), LTD., 28, Crawford Street, London, W.

WANTED, quantity of PAUL CRAMPEL Stools and Cuttings; also Box Edging.—Lowest price to MAPLECROFT, Norwood Green, Southall.

WANTED, GERANIUM CUTTINGS, Paul Crampel and Rev. Atkinson; state price.—F. STYAN, Florist, York.

WANTED, PIPINGS of Pinks and Root Cuttings of Violas in exchange for new Roses.—X. Y. Z., Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED, GERANIUM CUTTINGS, Paul Crampel, pink and single whites; large or small quantities; prompt cash.—REDMAN & SON, The Nurseries, St. Neots, Huntingdon.

WANTED, quantity of CUTTINGS of Crampel, Denmark, Mrs. Lawrence, and Ivy Leaf Turner and Galilee; price per 1,000.—W. COLE, Alexandra Nursery, Croxted Road, Herne Hill, S.E.

PLANTS, &c., FOR SALE.

CUTHBERT'S SPECIALITE MUSHROOM SPAWN.—NEW SPAWN NOW READY. We continue to receive the most gratifying testimonials as to the productiveness and good quality of our Spawn. Per bushel, 5s.—R. & G. CUTHBERT, Seed and Bulb Merchants, Southgate, Middlesex.

EARLY-FLOWERING BULBS, Roman Hyacinths, five inches round, 12s. 100; Freesias, about 2½ inches round, 5s. 100; paper-white Double Roman Narciss, 4s., 6s. 100; special offer early-flowering bulbs and autumn seed now ready.—ELLISON, 45, West Bromwich.

100,000 WALLFLOWERS, Blood Red and Cranford Beauty (yellow); Seed direct from Carter's; grand plants.—FELGATE & SONS, Burhill Nursery, Walton-on-Thames.

SURPLUS PLANTS FOR DISPOSAL; a quantity of well-grown Nerines, Hippeastrums, Crinums, Pancratiums, and other rare stove, greenhouse, and hardy plants; to make room.—Apply to Mr. WALTERS, Colesborne Park, near Cheltenham.

A GRAND strain of Hybrid DELPHINIUMS, strong seedlings, 2s. 100, 8s. 6d. for 500; Wallflowers, blood-red, strong, 1s. 6d. 100, 10s. 6d. 1,000; White Wallflowers, 2s. 100, 15s. 1,000, Iceland Poppies, 1s. 100, 7s. 6d. 1,000; Rose Campion, 2s. 100; Lychnis chalcedonica, 2s. 6d. 100; all carriage paid.—COLLIER, Headley, Epsom.

GOLDEN PRINCEPS NARCISSUS, very fine large bulbs, ready for boxes or pots for Christmas flowering, price 10s. per 1,000, 3,000 for 28s.; carriage paid for cash; 50,000 to sell.—J. HANDSCOMBE, F.R.H.S., The Nurseries, Feltham, Middlesex.

NERINE SARNIENSIS, spare bulbs, two dozen at 4s. per doz.; two dozen pudica, 2s. per doz., free cash.—PORTER, Cowcliffe, Huddersfield.

FOR SALE, four Chrysanthemums and four Cut Flower Stands, with 70 cups and holders, at a moderate price.—Apply, T. SQUIRES, The Gardens, Worth Hall, Crawley, Sussex.

PAUL CRAMPEL Standards, splendid plants, 6s. dozen.—W. WILLIAMS, 215, Eversleigh Road, Battersea, S.W.

GERANIUMS.—Strong rooted Cuttings, Paul Crampel, 10s. per 100; Jacoby and Denmark, 8s.; Crousse, 7s.—
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CABBAGE PLANTS, autumn sown, Ellam's Early, 2s. 500; 2s. 6d. 1,000.—
W. HORNE & SONS, Cliffe, Rochester, Kent.

WALLFLOWERS.—Vulcan, Blood Red, and Golden King, 1s. 6d. 100, 10s. 1,000; Forget-me-Nots, 2s. 100; Coreopsis grandiflora and Gaillardia grandiflora, 9d. per dozen, 5s. 100; Canterbury Bells, extra strong stuff, 3s. 100; Iceland Poppies, orange, white, yellow, 2s. 100; Hollyhocks, finest double, 2s. and 3s. dozen; catalogues on application.—BROADHEAD'S, Wooldale Nurseries, Thongsbridge, Huddersfield.

FERNS! FERNS!! 100,000 Tree Ferns, Climbing Ferns, Basket Ferns, Stove and Greenhouse Ferns; catalogues free.—J. E. SMITH, London Fern Nurseries, Loughboro' Junction, London, S.W.

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MISCELLANEOUS.

SPHAGNUM-MOSS, fresh, clean, 5s. bag; Peat, good brown, six bags, 9s.; 10 yards in truck, 70s.; Fibrous Loam, 10 yards in truck, 80s.; Bonemeal, 8s. cwt.; Charcoal, best, 7s. 6d. per cwt.—ALBERT HEAD, Seaford Road, Wokingham.

PEAT! PEAT!! PEAT!!!—In consequence of a death and the estate being sold, three acres of the finest Peat has to be cleared. The price of the same, suitable for Orchids, at 10s. 6d. per cubic yard, 3s. 6d. per sample sack; the remainder, a good general Peat, at 7s. 6d. per yard, not less than six yard truck loads in any case, or the latter, in well-filled bags, six at 2s. 6d. each. I have made arrangements with the railways for a special cheap rate for same.—Apply to Sole Agent, GEO. B. DENNIS, Esq., Hanworth, Middlesex.

Kirengeshoma palmata,
FLOWERING PLANTS OF THIS VARIETY,
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THE JERSEY Nurseries, JERSEY.

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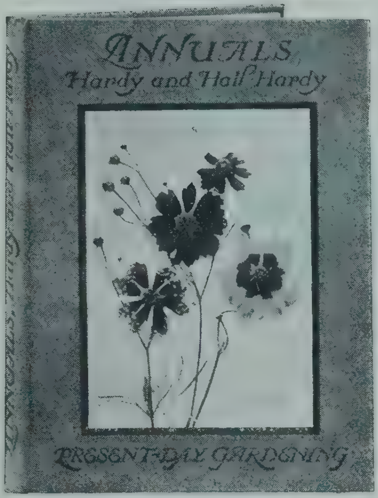

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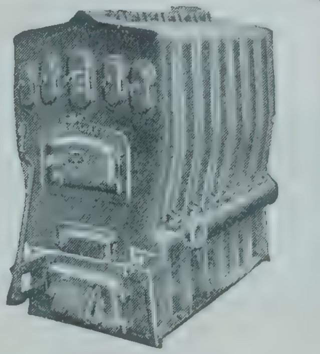

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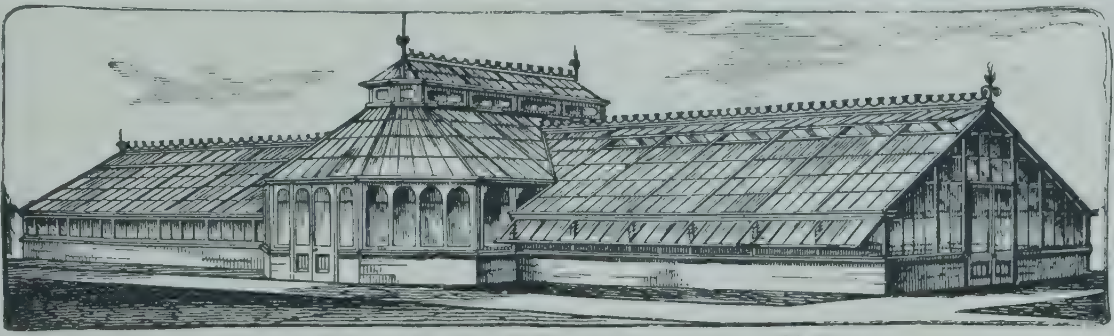

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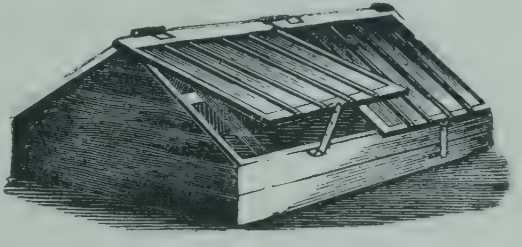

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12 feet ,, 5 feet ,,	4	15	0
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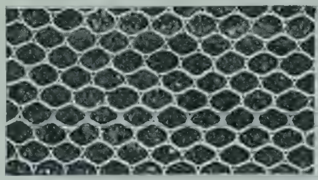

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MARKETS.

COVENT GARDEN, *August 28.*

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Alstroemeria	3 0- 4 0
Arums (Richardias)	2 0 —
Asters, white	1 6- 2 6
— coloured, per doz. bunches	2 0- 5 0
— single, mixed	2 0- 3 0
Bouvardia, per dz. bunches	6 0- 7 0
Carnations, p. doz. blooms, best American var.	1 3- 2 0
— smaller, per doz. blooms	0 8-0 10
— Carola (crimson), extra large	1 6- 2 0
— Malmaisons, p. doz. blooms:	
— — pink	8 0-15 0
Centaurea (Sweet Sultan) mauve and white, per doz. bunches	2 0- 3 0
— yellow	1 0 —
Chrysanthemums, per dozen:	
— white	1 0- 2 6
— pink	1 0- 2 6
— yellow	1 0- 2 6
— bronze	1 0- 2 6
— white, per doz. bunches	4 0- 6 0
— coloured	4 0- 6 0
— maximum, per doz. bunches	0 9- 1 0
Coreopsis, per doz. bunches	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches	0 6 -0 9
Gardenias, per box of 15 and 18 blooms	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	2 0- 2 6
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
— double	6 0- 8 0
Lapagerias, white, per dozen	1 6- 2 0
Lilium auratum, per bunch	2 6- 3 0
— longiflorum, per doz., long	1 6- 2 0
— — short	1 6 —
— lanciforium alba, long	1 0- 1 3
— — short	1 0 —

	s.d. s.d.
Lilium speciosum rubrum, p. dz.,	
— long	1 3- 1 6
— short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches	4 0- 5 0
Montbretia, pr. dz. bunches	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	12 0-15 0
— Cattleya Harrisonæ, pr. doz.	6 0 —
— Odontoglossum crispum	3 0- 4 0
Pancratiums, p. dz. spikes	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 0
— C. Mermet	0 9- 1 0
— Frau Karl Druschki	0 9- 1 0
— General Jacqueminot	0 9 —
— Liberty	0 9- 1 0
— Madame A. Chateney	1 0- 2 0
— Niphetos	1 0- 1 6
— Richmond	1 0- 2 6
— Sunburst	1 6- 2 0
— Sunrise	0 6- 0 9
— President Carnot	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegen	1 0- 1 6
— Kaiserine	0 9- 1 6
Scabiosa caucasica, per doz. bnchs.	2 0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve,	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	1 6- 2 0
Stock, p. d. bnchs:	
— white	4 0- 5 0
Tuberose, p. doz. blooms, long	0 4 —
— — short	0 3 —
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches	1 6- 2 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0 12 0
Carnation foliage, doz. bunches	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross bunches	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, p. dz.	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Asters, per dozen	4 0- 5 0
— various colours, per dozen	6 0-12 0
Campanula, blue and white	8 0-10 0
Chrysanthemums, 48's	6 0-12 0
Croton, per dozen	18 0-30 0

	s.d. s.d.
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, doz.	6 0 —
— choicer sorts per doz.	8 0-12 0
— in 32's, per dz.	10 0-18 0

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Hydrangeas, white, 48's, per dozen	18 0-21 0
— pink	8 0-12 0
— blue, each	2 0- 5 0
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0

	s.d. s.d.
Lilium lancifolium rubrum in pts., per dozen	15 0-18 0
— — alba	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Mignonette, 48's, per dozen	6 0- 8 0
Pandanus Veitchii, per dozen	36 0-48 0
Phœnix rupicola, each	2 6-21 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— English ½ bshl.	2 6- 4 0
— Cooking, bshl.	2 0- 3 0
— Tasmanian per case	13 6-16 6
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured	5 6- 6 6
— Jamaica Giants, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Figs (Guernsey), per dozen	1 6- 3 0
— English	1 6- 3 0
Damsons, ½ bushel	3 0 —
Grape Fruit, case:	
— 96's	24 0-26 0
— 80's	
— 64's	
— 54's	
Grapes, English (new), per lb.	0 9- 2 6
— Canon Hall	1 6- 5 0
— Muscats	10- 3 0
— Gros Colmar	1 2- 1 6
— Black Alicante	0 8- 1 6
— Madresfield Court	1 0- 2 6
— Gros Maroc	1 0- 2 0
Greengages, ½ sieve	10 0 —
— Cooking	5 0- 6 0
— English, ½ bshl.	6 0- 8 0
Lemons:	
— Messina, per case	19 0-23 0
— ordinary, per case	16 0-24 0

	s.d. s.d.
Lemons:	
— Naples	28 0-45 0
Limes, per case	4 0- 6 0
Melons (Guernsey)	1 0- 2 6
— (English)	1 0- 3 0
— Canteloupe	2 0- 4 6
Nectarines, per dozen:	
— selected	6 0-12 0
— best	2 0- 3 0
— seconds	
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 2- 2½
— Filberts, per lb.	0 2- 0 3
— Walnuts (French), p. lb.	0 5- 0 7
Oranges:	
— Italian per case	21 0-24 0
— Cape, per case	20 0-25 0
— Naartjees, per box	3 6- 4 0
Peaches	
— English, dozen:	
— selected	6 0-12 0
— best	1 0- 4 0
— seconds	
Pears:	
— French, pr. box	3 0 —
— — per case	4 0- 6 0
— English, ½ bushel	3 6- 6 0
Pineapples, St. Michael	2 6- 5 0
Plums, French, ½ sieve	3 6- 5 6
— English, ½ sieve	3 6- 6 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen	3 0 —
Aubergines, per dozen	2 0 —
Beans:	
— French, ½ bshl.	3 0 —
— Scarlet Runners, per bushl.	3 0 —
— — per bag	7 0 —
Beetroot, per bushel	2 0- 2 6
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	3 0 —
— Red, per dozen	2 0 —
Carrots (English), pr. doz. bun.	2 0- 3 0
— per bag	5 0 —
Cauliflowers, per dozen	2 0 —
Celery, per dozen	1 6 —
Cucumbers, per flat	3 6 —
Endive, per dozen	1 6 —
Greens, p. bushel	1 6- 2 0
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles	12 0-15 0
Leeks, per doz.	2 0 —
Lettuce (English), Cos, per box	1 6 —
Cabbage, per box	1 0- 1 6

	s.d. s.d.
Marrows, per tally	2 6-4 0
Mint, per dozen bunches	2 0 —
Mushrooms, cultivated, per lb.	0 9 —
— field, per lb.	0 3- 0 4
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bushel	4 0 —
— (Spring), per doz bunches	3 0 —
Parsley, ½ sieve	2 0- 3 0
— per doz. bun.	2 0 —
Parsnips, pr. bshl.	1 6 —
— per bag	4 0 —
Peas (English), per bushel	3 6- 5 0
— bags	10 0-12 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen	0 6- 1 0
Sage, per dozen	2 0 —
Spinach, ½ bushel	1 6 —
Tomatos, per doz. lbs.:	
— (Guernsey),	2 0 —
— (English)	2 0- 2 6
— seconds	1 0 —
Turnips (English), per dz. bunches	2 6- 3 0
— per bag	5 0 —
Watercress, p. dz. bunches	0 4- 0 6

Remarks.—Apples, both dessert and culinary, continue to arrive in large quantities, and can only be disposed of at very low prices. These remarks also apply to the commoner Pears. Some very fine Williams's Bon Chrétien Pears are arriving from France and supplies from California are anticipated. Plums from the same source are now arriving, carefully graded and packed in boxes; these fruits present a very attractive appearance. English Plums consist principally of the following varieties: Monarch, Pond's Seedling, Victoria, and Magnum; Damsons are also very plentiful and cheap. Selected, highly-coloured Peaches and Nectarines are in demand, but the supply of second-rate fruits is greatly in excess of the requirements. Large supplies of English and Continental Tomatos reach the market daily and prices rule very low. The supplies of Melons and Figs exceed the demand. The market is over-supplied with Grapes, and some kinds are selling at 3d. per pound. Large quantities of Walnuts, Filberts, and Cobs are arriving, and as the crops are very heavy this condition is likely to continue. The Vegetable market continues to be well supplied with all seasonable kinds of Vegetables. *E. H. R., Covent Garden, August 28, 1912.*

New Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 5 0
Kents	4 6- 5 3

	per cwt. s.d. s.d.
Blacklands	4 0- 4 9
Lincolns	4 3- 4 9

Remarks.—As there are very few arrivals on account of the wet weather, the prices have advanced. The country is very badly flooded throughout the Fens, and a large area of Potato land is under water. *Edward J. Newborn, Covent Garden and St. Pancras, August 28, 1912.*

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending August 24, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather.*—The general condition was again extremely unsettled over the kingdom as a whole, but in some localities in Scotland, Ireland, and the north-east of England rain was less common than elsewhere. Thunderstorms occurred in many parts of England during the earlier half of the week, especially in the eastern half of the country.

The *temperature* continued below the normal, the deficit exceeding 3° in most districts. The highest of the maxima occurred at most stations early in the week, and ranged from 70° in England S.W. to 63° in Ireland N. At many places in the north-west and north the maxima were below 60° on several successive days. The lowest of the minima, which were mainly recorded between the 21st and 23rd, varied from 32° in Scotland E., 35° in Scotland N., and 37° in Ireland, to 45° in England E. and to 52° in the English Channel. The lowest grass readings were 27° at Crathes, 28° at Balmoral, 30° at Marlborough, and 31° at Cheadle and Markree Castle. Throughout the whole kingdom the thermometer, at 1 foot below the surface of the soil and also at 4 feet, was below the normal.

The *rainfall* was more than the mean in all districts except Scotland W., the excess being large generally. Over a considerable portion of England more than twice, and in England S.W. nearly three times as much as the average quantity was registered. Measurements of an inch and above for a period of 24 hours were numerous, the largest amounts being 1·30 in. at Glencarron on the 20th, 1·48 in. at Manchester, and 1·52 in. at Arlington (North Devon) on the 23rd, 1·55 in. at Foynes on the 22nd, and 1·63 in. at Over Court (Bristol) on the 19th.

The *bright sunshine* was everywhere much in defect. In England S.W. the mean daily duration was less than 2 hours, and in England S.E., where it was highest, it was no more than 3·3 hours. In the latter district the percentage of the possible duration was 23, in the English Channel 22, and in England E. 21. In England S.W. and Scotland E. it was only 13.

THE WEATHER IN WEST HERTS.

Week ending August 28.

Cold, excessively wet, and exceptionally gloomy.—For more than a month there has not occurred a single unseasonably warm day, while the nights during the same period have been mostly cold for the time of year. On the coldest day of the past week (the 26th) the temperature in the thermometer screen never rose higher than 56°, which is about 12° colder than is usual at the end of August. On the last night of the week the exposed thermometer registered 2° of frost, making this the coldest night I have recorded here in August since 1886—or for 26 years. At 2 feet deep the ground is still 3° colder, and at 1 foot deep 4° colder, than is seasonable. Rain fell on each of the 13 days ending the 26th, and to the aggregate depth of 2½ inches, which is exactly the average quantity for the whole of August, and equivalent to 12 gallons on each square yard of surface in my garden. On the 26th rain began falling at 3.30 a.m., and continued almost without intermission until 9.30 p.m.—or for 18 hours, the total fall amounting to over three-quarters of an inch. Of the 12 gallons of rainwater mentioned above 8 gallons has passed through the percolation gauge on which short grass is growing, and 8½ gallons through the bare soil gauge. This proved another remarkably gloomy week, the average record of bright sunshine being less than three hours a day, which is only about half the usual duration for this period in August. On three days no sunshine at all was recorded. The winds were rather high at the beginning of the week, but in no hour did the mean velocity exceed 15 miles. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by as much as 11 per cent. *E. M., Berkhamsted, August 28, 1912.*

GARDENING APPOINTMENTS.

Mr. A. Mitchison, Foreman at Elvetham Park, Winchfield, Hampshire, as Gardener to Colonel Duncombe, Waresley Park, Sandy, Bedfordshire.

Mr. John Hay, of the Royal Gardens, Windsor, and previously of Welbeck Abbey and Ruyton Park, as Gardener to Madame Ephrassi, Ile de France, St. Jean, Cap Ferrat, Alpes Maritimes, France.

Mr. F. J. Foster, for the past 5 years Gardener to Mr. J. F. H. Harter, Cranfield Court and Biddlesden Park, previously for 5 years General Foreman at Petworth House Gardens, as Gardener to the Earl of Ancaster, Grimsthorpe, Castle Bourne.

Mr. A. Hather, for the past 2 years Gardener to Miss Butler, Ashlands, Billesdon, Leicester, as Gardener to Colonel Denison, Eaton Hall, Retford, Nottinghamshire.

Mr. J. Vawdrey, for the past 9 years Foreman at Jodrell Gardens, and previously at Powis Castle Gardens, as Gardener to T. E. Tatton, Esq., Wythenshawe Hall, Northenden, Cheshire.

Mr. W. H. Jenkins, for 9 years Gardener at Wythenshawe Hall Gardens, Northenden, Cheshire, as Superintendent of Parks and Recreation Grounds, Beckenham, Kent.

Mr. Geo. Robarts, late of Winchmore Hill, London, N., as Gardener to Paul E. Schweder, Esq., Courtlands, Goring-by-Sea, Sussex.

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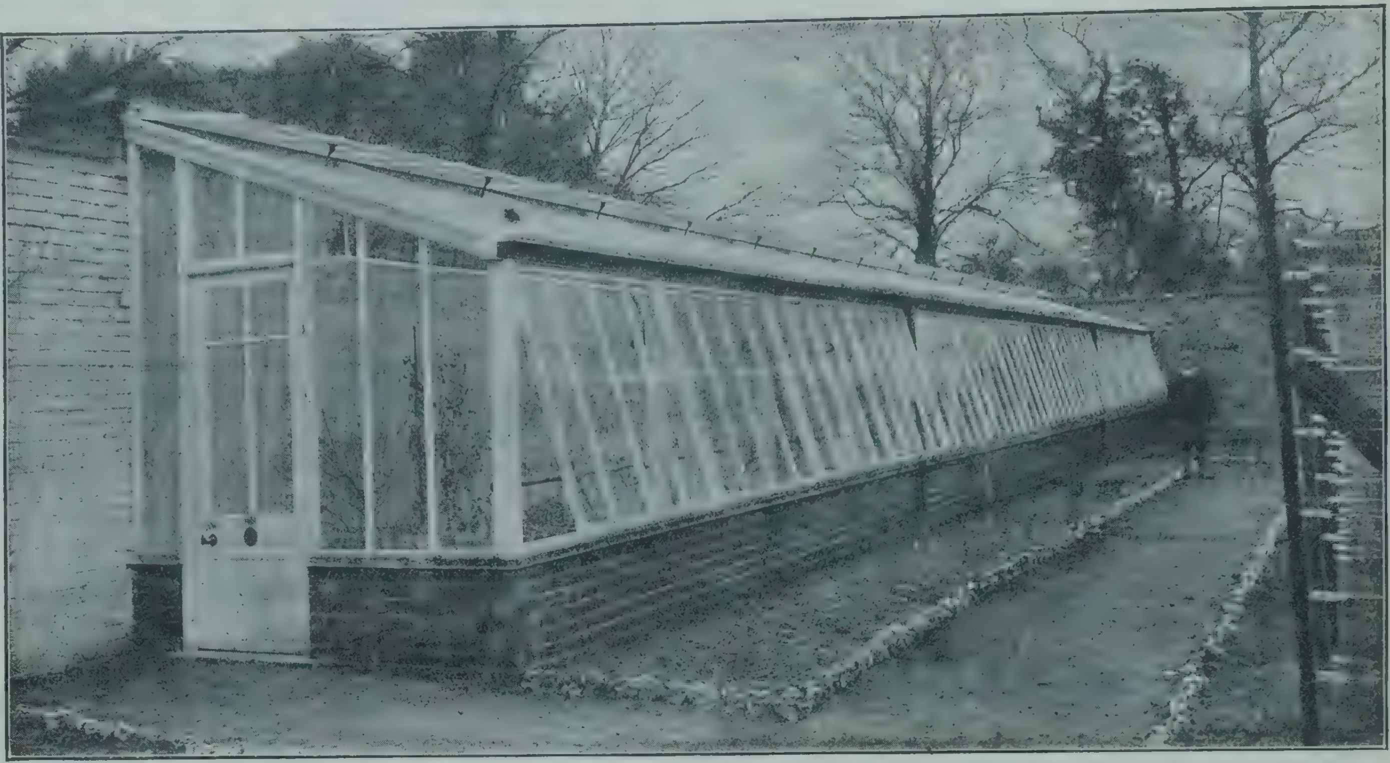

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THE Popularity of "XL ALL" Specialities increases every year. All gardeners proclaim that nothing equals these celebrated preparations. "XL ALL" NICOTINE VAPORISING COMPOUND, the gardeners' favourite Fumigant, both Liquid and Cake. "XL ALL" NICOTINE INSECTICIDE WASH for Syringing, Dipping and Dressing Fruit Trees and Plants; Mealy Bug, Scale, etc., cannot exist where this is used. "XL ALL" INSECTICIDE WASH B (*sine* Nicotine), best non-poisonous Wash on the Market. No licence required to sell this. Other preparations of great renown are:—"XL ALL" WEED KILLER, "XL ALL" FERTILISER, "XL ALL" ROSE MANURE. Richards' GREEN SUNSHADE, finest powder shading on the market, 1s. packet, does 100 feet of glass. Don't forget to ask your Nurseryman or Seedsman for my small pink list.—G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.

HARRISON'S "RELIABLE" WEED KILLER.—Best and cheapest. See p. vii. this issue.

White Flowers at Christmas.

SUTTON'S WHITE ROMAN HYACINTHS.
Extra large bulbs, doz., 3s. 0d.; 100, 21s. 0d.
Selected bulbs „ 2s. 0d.; „ 14s. 0d.
Fine bulbs „ 1s. 6d.; „ 10s. 6d.

SUTTON'S PAPER WHITE NARCISSI.
Paper White, doz., 1s. 0d.; 100, 7s. 0d.
Large-flowered, pure white, doz., 1s. 6d.; 100, 10s. 6d.

SUTTON'S BULB CATALOGUE for 1912
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Roses and Herbaceous Plants.

UP-TO-DATE collections of each. 30 acres under cultivation of these flowers. Awarded first honours at the principal shows. For lists, apply:—
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CHRISTOPHER BOURNE, Bulb Grower, Bletchley.

WM. DUNCAN TUCKER & SONS, Ltd., 27, Cannon Street, London, E.C.; Works, Tottenham. Conservatories, Winter Gardens, Vineries, Peach-houses, Portable Buildings, etc. Catalogue gratis.

AUTO SHREDS FUMIGANT kills Leaf-mining maggot, insects in greenhouses, frames. For 1,000 cubic feet, 6d.; 10,000, 3s. 6d. No apparatus.
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DICKSONS, Bulb Growers, Chester.

ALPINES & HERBACEOUS PLANTS,—Himalayan and other rare Rhododendrons, rare Shrubs, Construction of Rockeries. Catalogues ready.
G. REUTHE, Keston, Kent.

OSMUNDA for Orchids.—Consignments arrive fortnightly. 2s. 6d. per bushel; per bag, 8s. 6d.
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CARTWRIGHT & GOODWIN, LTD.—The finest varieties of DAFFODILS, TULIPS, HYACINTHS, Etc. Lowest prices, best quality only. Bulbs for forcing, and Fibre a speciality. Our New Illustrated Catalogue is now ready, and will be sent post free on application to:—CARTWRIGHT & GOODWIN, Ltd., The Premier House for Daffodils, KIDDERMINSTER.

GISHURST COMPOUND is harmless in use; its soluble Sulphur, &c., has for 40 years cured Blights and Fungus on Plants, and is good for washing unhealthy dogs. Gishurstine keeps boots dry in all weathers; they will polish. Good for Harness.
Wholesale from—
PRICE'S PATENT CANDLE CO. LTD., London.

To the Trade.

COOPER, TABER & CO., Ltd., 90 & 92, Southwark Street, London, have posted their WHOLESALE BULB CATALOGUE to all their customers. If not received another copy will be sent on application.

GREENHOUSE PAINTING & GLAZING "Vitrolite," superior to White Lead Paint, 9/- per gall. "Plastine" supersedes Putty, 16/- per cwt. Full particulars from W. CARSON & SONS, Grove Works, Battersea.
Agents throughout the country.

For Advertisement Charges see page v.

IT IS WORTH WHILE TO PLANT A PERENNIAL GARDEN. It will be a saving in pocket and a PERENNIAL DELIGHT as one season succeeds the other. It is a garden of which you can make a *hobby*, which can hardly be said of the bedding system. Plant it with Kelway Artistic Colour Borders. Now is the time to *plan* them. Kelway's will save you all the trouble connected with them if you will send particulars as to area, position, soil, etc., to
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HUTS FOR THE GARDEN.—Fruit Rooms, Potting Sheds, Workshops, Cycle Houses, Boot Rooms, Servants' Mess Rooms, Children's Playrooms, &c. Send for Illustrated Catalogue, free.
BOULTON & PAUL, Ltd., Norwich.

HOME-GROWN BULBS.—New Illustrated Catalogue of the finest Narcissi, Hyacinths, Tulips, etc., as supplied to the Royal Parks and Gardens, is now ready, and will be sent post free on application.
(Dept. A), R. H. BATH, Ltd., The Floral Farms, Wisbech.

BATH'S CARNATIONS, ROSES AND PEONIES.—New Illustrated Catalogue containing full cultural notes of the best new and standard varieties, is now ready, and will be sent on application.
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CROSS'S CLUBICIDE kills Eelworm, Wireworm, Slugs, Maggot, and all Disease Germs. Pint flasks, 1s.; ½-gall., 4s.; 1 gall., 7s. 6d.

CROSS'S BALLIKINRAIN ANT DESTROYER.—The only certain remedy for the Ant Pest. As used in Royal Gardens, Windsor. Bottles, 2s. 6d. and 3s. 6d. each.

CROSS'S GARDEN FERTILISER.—The first and best of all Horticultural Manures. For Vines, Pot Plants, Fruits and Vegetables. In tins, 6d., 1s., 2s. 6d. each; per cwt., 18s., carriage paid.

CROSS'S INSECTICIDE and MILDEW DESTROYER, Cross's Nicotine Vaporiser, Cross's Special Chrysanthemum Manures (Lunt's Formula), &c., &c.
From all Seedsmen. Full particulars on application.
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IN all the most brilliant shades of colour. Specimen blooms and lists on application. Awarded Silver Cups at Olympia and International Exhibition.
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RIVERS' FRUIT-TREES, ROSES, VINES, FIGS, ORANGES, & ORCHARD-HOUSE TREES. A large and select stock always on view. Illustrated and descriptive Catalogue, post free, 3d.—THOMAS RIVERS AND SON, Sawbridgeworth, Herts.
Station: Harlow, G.E.R.

NARCISSI and DAFFODILS, HYACINTHS and TULIPS, &c.; Bulbs of the very finest flowering qualities; price list post free.—T. G. BROWN, Bulb Gardens, Tresco, Scilly Isles.

LIGHTING FOR COUNTRY HOUSES, Churches, Village Halls, etc., by Electricity or Air Gas; economical, and efficient installations complete at low cost; advice free; price lists on application.
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HORTICULTURAL AUCTIONEERS and VALUERS,

Central Auction Rooms & Estate Offices, 67-68, Cheapside, E.C.

Catalogues for all Auctions sent Free by Post upon Application.

The Nurseries, Chingford, Essex.

A few minutes from Chingford Railway Station.

Twenty-seventh Great Annual Trade Sale of

POT PLANTS,

consisting of large quantities of TEA and other ROSES, all the newest and best varieties.

BEGONIAS Gloire de Lorraine, Mrs. Leo Rothschild, Turnford Hall, Agatha, and others.

FERNS.—Many thousands in various sizes, including all the newest varieties of Nephrolepis, &c.

ZONAL GERANIUMS.

PALMS in great variety, including large quantities of KENTIAS.

AMERICAN TREE CARNATIONS, best winter-flowering varieties.

Large quantities of Asparagus plumosus nanus, Crotons, Dracænas, Bouvardias, Cyclamen, Solanums, Aralias, Araucarias, Aspidistras, Ficus elastica, Genistas, Hydrangeas, Ampelopsis, Lapagerias, Clematis, Ivies, Veronicas, Cinerarias, and Stove Plants in great variety.

MESSRS. PROTHEROE & MORRIS are instructed by Messrs. H. B. May & Sons to SELL the above by AUCTION at The Nurseries, Chingford, Essex, on MONDAY NEXT, SEPTEMBER 9th, at 11 o'Clock.

May be viewed any day prior to Sale. Catalogues had on premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE.

By order of Messrs. B. Maller & Sons.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION at the Burnt Ash Road Nurseries, Lee (adjoining Lee Railway Station), on TUESDAY NEXT, SEPTEMBER 10th, at 11 o'Clock, a remarkably well-grown stock of

WINTER-BLOOMING HEATHS

and other stove and greenhouse plants, consisting of 23,600 Erica hyemalis, gracilis, Cavendishii, gracilis nivalis, ventricosæ, and persoluta alba, all well set with bloom buds

1,000 Ampelopsis Veitchii.
1,500 Epacris (to name).
1,200 Boronia megastigma, &c.
600 Grevillea robusta.
4,000 Solanum capsicastrum (well berried).
6,000 Genistas.
300 New Zonal Geraniums Salmon Paul Crampel.
1,000 Lomaria gibba.
4,000 Adiantum cuneatum.
600 Tea Roses (in pots).
2,000 Aralia Sieboldii.
2,000 Begonias of sorts.
6,000 Kentias.
1,000 Asparagus of sorts.
200 Acacias.
300 Lapagerias.
300 Araucaria excelsa.
200 Bouvardias of sorts.

Four pairs specimen KENTIAS, 6 to 8 ft.

A fine lot of Dracæna indivisa, Crotons, Hydrangeas, Gardenias, new Zonal Geraniums, Poinsettias, Tacsonias, Plumbagos, Double Furze, Passifloras, Jasmine, Clematis, new Marguerites, Ceanothus, Myrtles, Oleanders, and Bougainvilleas, a large quantity of young Ericas, Genistas, Kentias, Asparagus, Adiantums, &c., in 60's for growing on.

May be viewed. Catalogues had on premises, at 61, High Street, Lewisham, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—The stock is in exceptionally fine condition, and will repay a visit from intending purchasers.

Wednesday Next, September 11th, at 1 o'Clock.

TRADE SALE of 150,000 Narcissus, Polyanthus, and others, 9,000 Chionodoxas, 4,100 Watsonia Ardernei, thousands of Crocus, Snowdrops, Tulips, Hyacinths, Crown Imperials, English Iris, and hardy Lilies in variety, Amaryllis Belladonna in cases, L. longiflorum, 10,000 Roman Hyacinths, French grown bulbs, retarded Lily of Valley, &c.

At FOUR O'CLOCK.

Ornamental and decorative Palms and plants, Standard and Pyramidal Bays, &c., received direct from the Continent.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

Friday Next, September 13th, at 12.45 o'Clock.

400 lots of choice, established, cool, intermediate and hothouse Orchids in variety from various sources, 350 Disa grandiflora tubers. Consignments received direct, comprising 350 Lycaste Skinneri, 160 Broughtonia sanguinea, 450 Cypripedium species, 260 C. niveum, 1,250 Phalænopsis Esmeralda and antenifera, 550 Calanthe rubens, 42 Angræcum Leonis and others, Cœlogynes in variety, Orchids in flower and bud.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

The Nurseries, South Woodford, Essex.

(George Lane Station, G.E.R.)

Expiration of Lease.

THE FINAL ANNUAL TRADE SALE BY AUCTION OF

9,000 Erica hyemalis.
3,000 „ gracilis and nivalis.
300 Erica Cavendishii.
5,500 Genista fragrans.
2,000 Ampelopsis Veitchii.
2,000 Cyclamen persicum (Fraser's superb strain)
2,500 Zonal Geraniums (strong stock plants).
3,500 Variegated and other Ivies.
500 Tea-scented Roses in pots.
4,000 Clematis Jackmannii and other best-named sorts.
1,700 Marechal Niel and other climbing Roses in pots.
1,000 Araucaria excelsa.
3,000 Bouvardias, including all the best sorts for cutting.
1,000 Hydrangeas.
1,500 Solanums.
750 Double Hollyhocks.
240 Grape vines (strong fruiting canes).

Together with considerable quantities of Magnolia grandiflora (Exmouth var.), Loniceras of sorts, Figs (strong fruiting plants), Ficus elastica, white Jasmines, Passion Flowers, Ceanothus, Lobelia fulgens Queen Victoria, Begonias, Aspleniums, Jasminum primulinum, Cratægus Lelandii, and many other plants, will take place on WEDNESDAY and THURSDAY NEXT, SEPTEMBER 11th and 12th, at 11 o'Clock each day.

This annual Sale has now been held for over 40 years, and it will be noticed that two days will be occupied on this occasion, as

MESSRS. PROTHEROE & MORRIS have been instructed by Mr. John Fraser to sell the WHOLE OF THIS CLASS OF PLANTS.

The out-door stock of fruit trees, evergreen and deciduous Shrubs, Roses, &c., will be offered during the ensuing season.

Catalogues will be obtainable at the Nurseries, or of the Auctioneers, 67 and 68, Cheapside, E.C.

Sidcup, Kent, S.E.

THIRTY-FIRST GREAT ANNUAL TRADE SALE

By order of Messrs. H. Evans & Sons.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION at the Longlands Nursery, Sidcup, S.E. (10 minutes walk from New Eltham Station, S.E.R.), on THURSDAY NEXT, SEPTEMBER 12th, at 11 o'Clock,

50,000 WINTER-FLOWERING HEATHS and FERNS, comprising

4,000 Erica gracilis nivalis (Award of Merit R.H.S., 1903, First-class Certificate, N.C.S., 1903).
3,000 Erica hyemalis.
3,000 „ gracilis.
1,000 „ Cavendishii.
1,000 „ persoluta alba.
2,000 „ Wilmoreana.
2,000 „ candidissima.
1,000 Erica magnifica.
1,000 „ perspicua erecta.
1,000 Genistas.
1,000 Pteris major in 32's.
1,000 Pteris tremula in 32's.
1,000 Cyrtomiums in 32's.
1,000 Salvias "Pride of Zurich" in 60's.

15,000 Small Heaths in 60's to flower this winter.

All the stock is in first-class condition, and inspection is invited. Catalogues may be had on the premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Leamington.

Sale of the whole of the stock of Specimen, Exhibition, Stove and Greenhouse Plants, comprising Crotons, Bougainvilleas, Dracænas, Stephanotis, Ericas, &c., also Cyperus, Phryniums, and Ixoras, in variety, 50 Anthurium Wardii and Scherzerianum, a few specimen Palms, Ferns, Aspidistras, Geraniums, and other stock, 400 Orchids in variety.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at The Nurseries, Leamington (opposite Milverton Station, L. & N.W.R.), on WEDNESDAY, SEPTEMBER 18th, at 12 o'Clock, by order of Mr. W. Vause. May be viewed. Catalogues had on premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

East Dulwich, S.E.

Clearance Sale of the whole of the stock of exceptionally clean and well-grown PALMS, comprising 1,000 Kentias, 350 Corypha australis, 100 Geonoma gracilis, 300 Cocos Weddelliana, 40 Raphis, &c., 300 foliage plants in variety, 100 large Euonymus, and a florist's box van.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at 17, Tyrrell Road, East Dulwich, S.E., on THURSDAY, SEPTEMBER 19th, at 12 o'Clock, by order of Mr. T. S. Boulton. May be viewed. Catalogues had on premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

DUTCH BULBS.

SALES EVERY DAY (Excepting Saturdays) at 10.30 o'Clock.

10,000 LOTS Sold Weekly of Hyacinths, Tulips, Crocus, Narcissus, and others received direct from Holland, at PROTHEROE & MORRIS'S Central Sale Rooms, 67 and 68, Cheapside, London, E.C. Established 80 years. Commissions executed; lots packed and forwarded to all parts. Catalogues free.

SALES BY AUCTION.

DUTCH BULBS.

Mr. J. C. STEVENS begs to announce that his

Sales by Auction

are held

MONDAY, WEDNESDAY & THURSDAY, at 12.30.

Catalogues post free.

Lots purchased, packed, and forwarded to all parts.

STEVENS' AUCTION ROOMS

(Established 150 Years),

38, King St., Covent Garden, London, W.C.

BUSINESSES FOR SALE, &c.

KENILWORTH.—FREEHOLD MARKET NURSERY, well stocked, consisting of four acres of land, 24,000 square feet of glasshouses; ample water supply; office, store room, packing shed, boiler house, hot and cold frames, &c.; also seven-roomed dwelling house; all modern built to Architect's designs.—Address, F., 144, Masonic Buildings, Coventry.

FREEHOLD NURSERY FOR SALE at seaside; Grapes, Tomatos, and Chrysanthemums; over 800 ft. run of glass (heated); 2¾ acres ground; water-mill, packing shed, &c.; freehold £1,400. —L. R., Box 2, 41, Wellington Street, Covent Garden, W.C.

TO MARKET GARDENERS AND OTHERS.—To be Sold by private treaty a Freehold NURSERY of 3¼ acres, with 13 greenhouses and frames, now used for growing Cucumbers and Chrysanthemums; good position; expenses low and large profits.—For particulars, apply to

WINTERTON & SONS, Auctioneers, Lichfield.

TO BE DISPOSED of immediately, owing to sudden illness, NURSERY, SEED and FLORIST'S BUSINESS on long lease, with six acres of ground, 10 greenhouses, good dwelling-house with shop combined; situated short distance from London in centre of thriving town; bargain to immediate purchaser.—L., Box 26, 41, Wellington Street, Covent Garden, W.C.

FOR SALE, small compact NURSERY, one acre and glasshouses, well stocked and in good working order; long lease; low rent; present hands 26 years; eight miles from Covent Garden.—Apply, GREEN & SON, Auctioneers, 72, King Street, Hammersmith, W.

FOR SALE.—Nursery, Florist and Jobbing Garden BUSINESS in large Lancashire town; no opposition; rent £26 clear.—W. G., Box 10, 41, Wellington Street, Covent Garden, W.C.

NURSERY and JOBBING GARDENER'S BUSINESS in high-class district for SALE as going concern, owing to ill-health; established about 20 years; four large Houses 60-70 feet; long forcing house and frames in excellent order; speciality in Tomatos and Chrysanthemums and Bedding-out Plants; price all at and including freehold land £1,000, or might be let; splendid chance for smart man.—Full particulars from sole agents, MARTEN & CARNABY, Auctioneers, Dulwich, S.E. 'Phone, Sydenham 430.

A VERY attractive FREEHOLD FRUIT GARDEN of five acres, within three miles of Oxford City, planted with standard and bush fruits in full bearing; 150 ft. run of glass; dwelling-house, sheds, store-rooms; in good repair; excellent water supply, and situate on good road.—Apply, WENN & ELSOM, 55, Cornmarket Street, Oxford.

COMPACT LEASEHOLD NURSERY, Freehold House adjoining; established 23 years by present owner who is retiring; 350 ft. run of glass; shop; jobbing and retail trade.—SHEAHAN, Hartfield Road Nursery, Wimbledon.

SMALL FREEHOLD NURSERY near Southend; 300 ft. run glass (mostly heated); near good market; moderate price or let.—H., 5, Kilburn Priory, London, N.W.

NURSERYMAN, GARDENER, FLORIST and SEEDSMAN'S BUSINESS; nicely situated in Middlesex; price £320, including all utensils, stock, horse, van, and cart; takings £600 to £700 year; all retail trade and from Tomatos, Cucumbers, Chrysanthemums, and Bedding Plants; four heated greenhouses and a number of frames.—Call, FRANK EDWARDS, 43, Moorgate Street, E.C.

PRELIMINARY.

THE NURSERIES, SOUTH WOODFORD.

EXPIRATION OF LEASE.

SIX DAYS SALE. FIRST PORTION.

By order of Mr. John Fraser.

The extensive stock of Evergreen and Flowering Shrubs; Hollies, Standard Ornamental Trees for Parks, Avenue and Street Planting, Fruit Trees.

15,000 Standard, Dwarf and Climbing Roses,

Up-to-date varieties; and a fine collection of Rhododendrons. The whole carefully prepared for removal.
The Nurseriès cover nearly 80 acres, and contain no overgrown stock.
Every facility will be afforded to those wishing to inspect the lots prior to the Sale.

Dates of Sale: October 14th, 15th, 16th, 17th, 18th and 19th,

at Eleven Thirty o'Clock each Day.

The Nurseries are a few minutes walk from George Lane Station, Great Eastern Railway.

PROTHEROE & MORRIS, Auctioneers, 67 & 68, Cheapside, London.

FOR SALE as a going concern.
COMPACT FREEHOLD NURSERY

1½ acres garden ground, glass (465 ft. run) and meadow Capital 8-roomed flint-built house, stable, carthouse, pigsties. Abundant water supply, own well, oil pumping engine. Apply—

B. C., c/o E. B. WANNOP, Esq., Solicitor, CHICHESTER.

Over 100 Nurseries, Market Gardens, Florist & Seed
BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE and MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained gratis at—
67 and 68, Cheapside, London E.C.

BUSINESSES TO LET.

TO LET, Beaconsfield, Bucks.—Gardeners and others commencing; unrivalled position; exceptional locality; lucrative JOBBING and LANDSCAPE BUSINESS; small depot; partially stocked; at valuation.—HORTUS, Box 2, 41, Wellington Street, Covent Garden, W.C.

BUSINESS CARDS.

J. BATHURST TRESEDER, F.R.H.S., Garden Architect, Nurseryman and Seedsman, 22, Briarwood Road, Clapham Park, London, S.W. Specialities: Undulating Gardening, Rock and Alpine Gardening, Rose Gardens, Water and Bog Gardening, Seaside Gardening; exporting to all countries; advice on all gardening matters; plans prepared; estimates given.

R.H.S. EXAM. — CORRESPONDENCE CLASSES for GARDENERS; first-class results.—Full particulars from the HEAD GARDENER, Heath End House, Baughurst, Basingstoke.

COACHING by Correspondence Class for the R.H.S. Exam.—Write for prospectus, with brilliant successes, MEDALLIST, Pightle, Letheringsett, Norfolk.

TENDERS.

Royal Parks.—Grass Seeds.

THE COMMISSIONERS of H.M. Works and Public Buildings are prepared to receive Tenders for the supply of Grass Seeds for use in the Royal Parks, &c., during the year 1913. Forms of tender, conditions of contract, and all particulars may be obtained on application to the Principal Clerk, Contracts Branch, at the undermentioned address. The Commissioners do not bind themselves to accept the lowest or any tender. Tenders must be delivered before 11 a.m. on Friday, the 27th September, 1912, addressed to the SECRETARY, H.M. Office of Works, &c., Storey's Gate, London, S.W., and endorsed "Tender for Grass Seeds."

H.M. Office of Works, &c.,
4th July, 1912.

EXHIBITIONS.

National Chrysanthemum Society.

The Exhibition of EARLY CHRYSANTHEMUMS
will be held at the
CRYSTAL PALACE on OCTOBER 2nd & 3rd, 1912.

Write for Schedule and particulars, post free, to the Secretary, RICHARD A. WITTY, 72, Savernake Road, Gospel Oak, London, N.W.

NOTICES.

Llandudno Urban District Council.
LANDSCAPE GARDENING.

THE COUNCIL invite Designs for laying out land adjoining the Happy Valley, Llandudno, about 20 acres in extent. Printed particulars and conditions may be obtained from the undersigned, and a ground plan of the site may be inspected at the office of the Surveyor to the Council in the Town Hall, Llandudno. A premium of 50 guineas will be awarded to the author of the design which may be considered the most suitable. Competition closes 31st October, 1912.

ALFRED CONOLLY,
Clerk to the Council.

Town Hall, Llandudno.
30th August, 1912.

ADVERTISER, wishful to lay out quaint old English Garden in Harrogate, about ¾ acre square and flat, asks for designs; ten guineas given accepted design.—SPOFFORTH, Wath-on-Dearne, Yorks.

PLANTS, &c., WANTED.

WANTED, large Kentia Fosteriana Palms, from 5 feet to 25 feet in height; large, well-coloured Dracænas and Crotons, also Aspidistras; for cash or exchange.—ROBERT GREEN (1911), LTD., 28, Crawford Street, London, W.

WANTED, quantity of PAUL CRAMPEL Stools and Cuttings; also Box Edging. —Lowest price to MAPLECROFT, Norwood Green, Southall.

WANTED, GERANIUM CUTTINGS, Paul Crampel, pink and single whites; large or small quantities; prompt cash.—REDMAN & SON, The Nurseries, St. Neots, Huntingdon.

WANTED, GENTIANA ACAULIS in quantity.—Write, P. M., Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED, good GERANIUM CUTTINGS of sorts, true to name; list and price will oblige.—W. SAYERS, Nurseryman, Blackmore Road, Malvern.

WANTED, 5,000 kilos. English RAYGRAS.—Offers with samples to be sent to KARL & MAX FREY, Wholesale Dealers in Seeds, Wald, Rhineland.

PLANTS, &c., FOR SALE.

CUTHBERT'S SPECIALITE MUSHROOM SPAWN.—NEW SPAWN NOW READY. We continue to receive the most gratifying testimonials as to the productiveness and good quality of our Spawn. Per bushel, 5s.—R. & G. CUTHBERT, Seed and Bulb Merchants, Southgate, Middlesex.

EARLY-FLOWERING BULBS, Roman Hyacinths, five inches round, 12s. 100; Freesias, about 2½ inches round, 5s. 100; paper-white Double Roman Narciss, 4s., 6s. 100; special offer early-flowering bulbs and autumn seed now ready.—ELLISON, 45, West Bromwich.

100,000 WALLFLOWERS, Blood Red and Cranford Beauty (yellow); Seed direct from Carter's; grand plants.—FELGATE & SONS, Burhill Nursery, Walton-on-Thames

A GRAND strain of Hybrid DELPHINIUMS, strong seedlings, 2s. 100, 8s. 6d. for 500; Wallflowers, blood-red, strong, 1s. 6d. 100, 10s. 6d. 1,000; White Wallflowers, 2s. 100, 15s. 1,000; Iceland Poppies, 1s. 100, 7s. 6d. 1,000; Rose Campion, 2s. 100; Lychnis chalcedonica, 2s. 6d. 100; all carriage paid.—COLLIER, Headley, Epsom.

GOLDEN PRINCEPS NARCISSUS, very fine large bulbs, ready for boxes or pots for Christmas flowering, price 10s. per 1,000, 3,000 for 28s.; carriage paid, for cash; 50,000 to sell.—J. HANDSCOMBE, F.R.H.S., The Nurseries, Feltham, Middlesex.

PINKS (for edging), Her Majesty, large quantity of rooted pipings, cheap to clear; write for sample.—C. A., Box 1, 41, Wellington Street, Covent Garden, W.C.

P. DE JAGER & SONS, Bulb Growers and Exporters, Heiloo. near Haarlem, Holland; large cultures of Dutch Bulbs and Flower Roots. Catalogues free on application.

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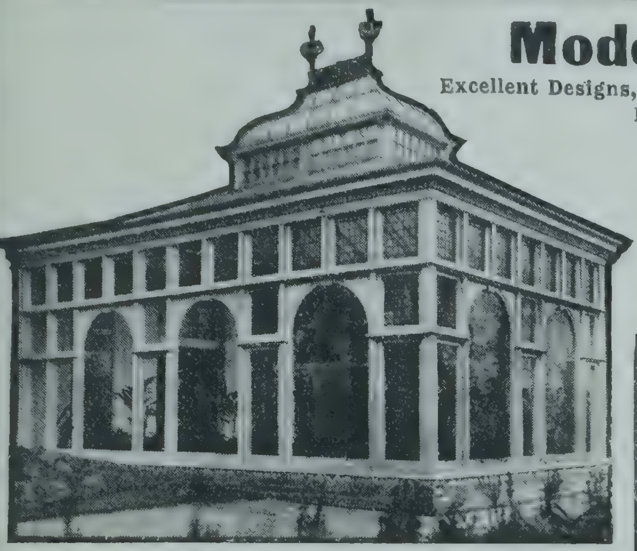

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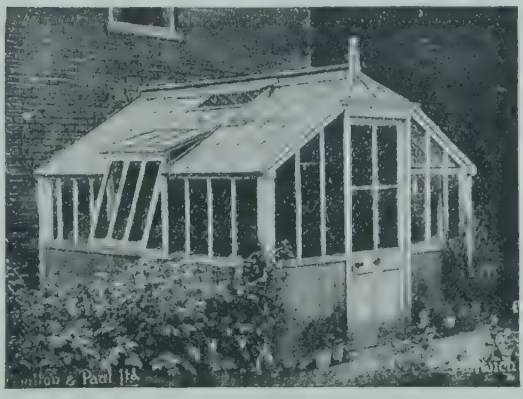

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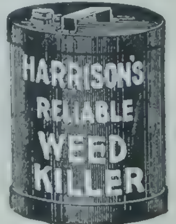

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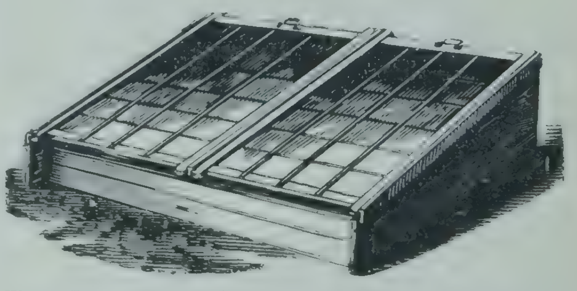

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Carters Royal Parks Scarlet	10 ,,	**10/-**	**1/6**
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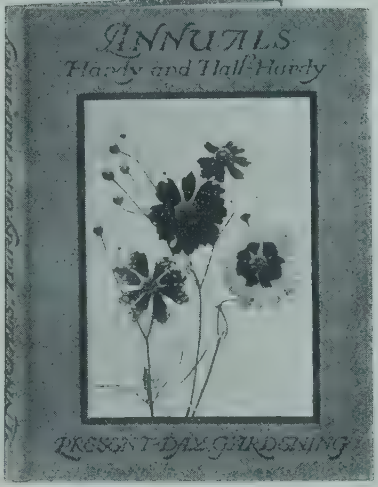

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GARDENER (Head Working or good Single-handed); 21 years practical experience, 9½ as Head; age 34; married, 1 child; well recommended.—
H. ATKINS, 5, Yorke Road, Croxley Green, Herts.

MRS. GREGORY is anxious to recommend her GARDENER; has been here as Head 12 years; leaving through death; married; life experience in all branches.—A. HAMMOND, Rectory Gardens, Much Hadham, Herts.

H. DE LA RUE, Esq., Six Mile Bottom, wishes to recommend W. SCOTT, GARDENER (Head Working, where two or more are kept); experienced Inside and Out; middle age; married, no family; disengaged.—Apply, SCOTT, Bulwick, Wansford.

GARDENER (HEAD WORKING).—Wanted a Situation where one or two others are kept; 13 years' experience in both Inside and Out; age 35; married; first-class references can be obtained.—Apply, C. FLACK, Cholmondeley Castle Gardens, Malpas.

GARDENER (HEAD WORKING of two or good SINGLE-HANDED).—P. F. WARNER, Esq., wishes to recommend JAMES PAICE very highly to any Lady or Gentleman desiring a Gardener; thoroughly trustworthy; age 29; married, no family; member B.G.A.—JAMES PAICE, Caring Cottage, Leeds, Maidstone.

GARDENER (HEAD WORKING) seeks Re-engagement with Lady or Gentleman requiring a thorough experienced man, both Inside and Out; six years as Head in present situation; 5½ previous as Foreman; disengaged when suited.—W. QUENNELL, Kings Road, Sunninghill, Berks.

GARDENER (HEAD WORKING, where three are kept); life experience Inside and Out; 12 years' good references; age 32; single.—H. WARD, Woodrising Hall Gardens, Hingham, Norfolk.

GARDENER (HEAD WORKING).—Mrs. MACLEAN recommends H. MITCHELL as above; life experience; age 30; married, one child.—Cottlewell Cottage, Otford, Kent.

GARDENER (HEAD WORKING or good SINGLE-HANDED); 19 years' experience in all branches; excellent references; age 30; married, no family.—PERRY, Brookfield Cottage, Highgate, N.

GARDENER (HEAD WORKING).—H. L. PIGOTT, Esq., Beckett Estate Office, Shrivenham, Berks., highly recommends WALKER as above; thoroughly experienced [illegible]l branches; age 40; married, one boy, age four.

SIR GEORGE YOUNG highly recommends his GARDENER (Head Working, where two or three under kept); thorough practical man in all branches, Inside and Out; age 41.—HAUGHTON, The Gardens, Formosa Place, Cookham, Berks.

GARDENER (HEAD WORKING, where several are kept); 17 years' good practical experience all branches; five years Head last place; highest references as to capabilities; age 34; married.—A. SPRINGHAM, Henbury, Bristol.

GARDENER (HEAD WORKING, where two are kept); life experience; 22 years good reference; age 43; married, one girl.—C. WILLETT, Naboth Cottage, Alderbourne Manor, Gerrards Cross, Bucks.

GARDENER (HEAD WORKING) thoroughly experienced in all branches, Inside and Out; age 47; married, no family; excellent testimonials.—WILLIAM SMITH, 60, Albion Road, Tunbridge Wells.

GARDENER (HEAD WORKING, where five or six and upwards are kept); 25 years' practical experience in all branches, Inside and Out; thoroughly reliable; highly recommended; married, without encumbrance.—F. WOODHOUSE, Blackboys, Uckfield, Sussex.

GARDENER (HEAD WORKING); age 28; life experience in good establishments, Inside and Out; knowledge of Vines, Peaches, Stove and Greenhouse Plants, Kitchen Garden Crops, &c.—J. HILL, Malquoits Gardens, Ewhurst, Guildf[illegible]d, Surrey.

GARDENER (HEAD WORKING, where several are kept); life experience in good establishments; accustomed to producing Plants, Cut Flowers, Fruits and Vegetables in large quantities; 4½ years Head here; age 39; married.—A. SMITH, Tidenham House Gardens, near Chepstow.

GARDENER (HEAD WORKING, where one or two are kept, or good SINGLE-HANDED with help; life experience in all branches; with 20 years previous; highest references; left through death and over two present place.—GIFFORD, Redwood Cottage, Kenley, Surrey.

GARDENER (HEAD WORKING, where three or more kept).—Mr. THRUSH can highly recommend his Foreman to any Lady or Gentleman requiring the same; a good all-round man; life experience gained in good establishments.—H. HURST, Sunnyside Gardens, Holmwood, Surrey.

GARDENER (HEAD WORKING); 16 years' experience in all branches of gardening; electric light if required; age 33; married, no family.—KELLY, Foxcombe Hill, Oxford.

GARDENER (HEAD WORKING or good SINGLE-HANDED); life experience, Inside and Out; good references; three years as Head; age 26; single.—H. MANNERS, Wallhill Farm, Corley, Coventry, Warwickshire.

GARDENER (HEAD WORKING or good SECOND); age 25; experienced in all branches, gained in first-class establishments; good references.—Particulars, A. PRUCE, The Lodge, Hyde Lane, Gloucester.

GARDENER (HEAD WORKING or SINGLE-HANDED); life experience in all branches; good reference; age 38; married, no family.—J. BUCKWELL, New Lodge, Duddleswell, near Uckfield, Sussex.

GARDENER (HEAD WORKING, where three or four are kept); thoroughly experienced in all branches; four years and four months present place; five years previous; understands Stock and Poultry; good references; age 39; married, no family.—W. PRINCE, Childown, near Chertsey, Surrey.

GARDENER (HEAD WORKING).—Mrs. MACLEAN recommends H. MITCHELL as above; life experience; age 30; married, one child.—Cottlewell Cottage, Otford, Kent.

GARDENER (HEAD WORKING, where two or more are kept); life experience, Inside and Out; married; no family; abstainer.—J. E. WALDEN, Tamworth Lodge, Mitcham. (No circulars.)

GARDENER (HEAD WORKING); practical experience in all branches; age 42; married, no family; 6 and 10 years' highest references.—GARDENER, 207, Preston Road, Brighton.

GARDENER (HEAD WORKING); life experience in all branches, Inside and out; married, two children, ages 9 and 7; five years present place; excellent references.—TROWBRIDGE, The Cottage, Mead House, Southend, near Reading, Berks.

GARDENER (HEAD WORKING); 18 years' experience in all branches; excellent references; age 33; married, two children, ages 7 and 4 years.—TILLY, Headley Court, Epsom, Surrey.

GARDENER (HEAD WORKING).—Mr. BANKS, Landguard Manor, highly recommends W. HUGHES, where two or more are kept; life experience Inside and Out; Vines, Peaches, Melons, Cucumbers; age 33; married when suited; excellent references.—W. HUGHES, The Gardens, Landguard Manor, Shanklin, Isle of Wight.

GARDENER (OUTSIDE and IN); life experience in all branches; good references from recent situations; age 30; single; Bothy preferred.—W. MILLER, Blakesley, Wimbledon, Surrey.

GARDENER (OUTSIDE, or INSIDE and OUT); three years present situation; will do his best to oblige; excellent references; Bothy preferred; abstainer; age 20 years.—L. A., Box 18, 41, Wellington Street, Covent Garden, W.C.

GARDENER, age 30, desires Situation; life experience Inside and Out; seven years in present situation.—E. COX, Bilton Hill, Rugby.

LADY GARDENER, three years' exceptional experience amongst Hardy Fruits in large private garden, desires similar post, to work under Head; thorough hard worker; understands mixing washes, spraying, diseases, pests, planting, pruning, root-pruning, training, gathering; excellent references.—Miss E. MALDEN, Little Houghton, Northampton.

GARDENER (SINGLE-HANDED), age 24, single, seeks Situation; experienced in Inside and Outside work; good references and well recommended.—Apply, J. BRAVERY, Stone Street, Ockley, Dorking, Surrey.

GARDENER (SINGLE-HANDED or SECOND of three); life experience in large Pleasure Grounds, Flower and Kitchen Garden; good character; highly recommended by Mrs. Shipley; married place preferred.—Apply, S. DAY, Twyford Moors, near Winchester, Hants.

GARDENER (SINGLE-HANDED); age 32; 15 years' experience; good references.—G. GRANT, The Plain, Epping, Essex.

GARDENER (SINGLE-HANDED or SECOND); life experience gained in good establishments; Inside and Out; age 28; married; excellent references.—DAY, Little Chesterford Park Gardens, Saffron Walden, Essex.

GARDENER seeks Situation the end of September; good Single-handed or with help; Kitchen, Flower, and Greenhouse.—Apply, C. J., 119, Munster Road, Teddington, Middlesex.

GARDENER (SINGLE-HANDED or with help); used to Vegetable and Flower Growing; good N[illegible]sery experience of Forcing and Growing under Glass; married; 10 years present situation.—W., 144, Castlemain Road, Stourfield Park, Bournemouth.

GARDENER (SINGLE-HANDED or with help); life experience in all branches; age 30; married, no family; good references; disengaged.—GARDENER, 8, Cumberland Street, Hythe Road, Staines.

EDGAR TAYLOR, Esq., wishes to recommend G. HENBEST as GARDENER (Single-handed); 13 years' experience; eight years present place.—Apply, HENBEST, Colney Park Gardens, near St. Albans, Herts.

GARDENER (good SINGLE-HANDED or with help); age 40; two children, 8 and 11; leaving estate sold; 5½ years present situation.—WM. MORRISH, Bovey Tracey, Devon.

HEAD GARDENER highly recommends E. PENFOLD as SECOND or good Single-handed; leaving through death; 4½ years present situation.—E. PENFOLD, 5, Old Road, Lee, S.E.

GARDENER (SECOND).—Mr. F. FRANCIS will be pleased to recommend J. BRISTOW; good experience Inside and Out; Second of five present place; age 26.—J. BRISTOW, Lainston Gardens, near Winchester, Hants.

GARDENER (SECOND) seeks Situation; used to Vines, Peaches, &c., Stove and Greenhouse Stuff, Carnations, &c.; single (27); Bothy preferred.—MARSHALL, The Lodge, Great Finborough, Stowmarket, Suffolk.

GARDENER (SECOND, INSIDE and OUT, four or five kept); 10 years' experience; good references.—Address, A. THORPE, Stratton Audley Park, Bicester, Oxfordshire.

GARDENER (SECOND of four or five); 10 years' experience Inside and Out; two years nine months here; age 25.—F. ATKINS, Woodcote House Gardens, Epsom, Surrey.

GARDENER (SECOND or SINGLE-HANDED); age 24; married; well experienced in Gardening; experience gained in good places; can be well recommended by present employer.—F. PRAGNELL, 6, Rushes Road, Petersfield.

GARDENER (SECOND, chiefly OUTSIDE, where two or three are kept); five years present situation; age 23.—L. LEACH, Hertfordshire Cottage, Amersham, Bucks.

GARDENER (SECOND) or FOREMAN; lifelong experience; excellent references as to character and ability; age 29.—H. S., Box 11, 41, Wellington Street, Covent Garden, W.C.

GARDENER (SECOND) or JOURNEYMAN; 13 years' experience in Herbaceous Borders, Kitchen Garden, and Inside work; good references; age 28, single.—E. SLOSS, Kingsbury, The Hyde, N.W.

GARDENER (UNDER) in Private or Nursery; 11 years' experience; age 27; good references; well recommended.—Apply, G. COLES, Tidworth House Gardens, Tidworth, Andover.

MR. W. FOREMAN, Stoke Park Gardens, Guildford, would like to recommend his Foreman to any Head Gardener requiring the services of same or Second; has a good general knowledge of Indoor work; personal character good; leaving through reduction of staff.—Address as above.

FOREMAN (GENERAL).—Mr. HIGGINS, Glynllivon Park Gardens, Carnarvon, will be pleased to recommend J. WOOD; 3½ years Foreman (Inside) here; good experience; Orchids, Fruit, Plants, Carnations, Decorating; age 28.

MR. T. JONES, The Gardens, Loddington Hall, Kettering, wishes to highly recommend H. STYLES, age 27, as FOREMAN or GARDENER (Second, Inside or Inside and Out); good experience in both Fruit and Plant Houses, also House Decorations; excellent references; abstainer; married when suited.

FOREMAN (INSIDE), age 24, seeks Situation; good references, including Broughton Hall, Bidston Court, and Adare Manor; 12 months as Foreman.—F. BONEHAM, Espley Hall, Morpeth.

FOREMAN (INSIDE); good practical experience in Fruit and Plants, House and Table Decorations; well recommended; three years present situation.—A. KILHAM, Petworth Park Gardens, Sussex.

FOREMAN or SECOND (INSIDE), age 27.—W. BRUCKSHAW, Pell Wall Gardens, Market Drayton, Salop, can highly recommend H. WALLACE as above; three years present situation; good Carnation grower; excellent references.

FOREMAN (OUTSIDE) seeks Re-engagement; good Fruit and Vegetable Grower; understands Early Forcing and French Gardening; used to growing large quantities.—HUNT, Ibstone House Gardens, Stokenchurch, Bucks.

FOREMAN (INSIDE) seeks Situation; 13 years' experience in Fruit, Plants, and Decorating; excellent references from first-class establishments, including Highnam Court, Waddesdon Manor, and Warren House; age 27; disengaged.—H. BALDWIN, Wilderness Gardens, Mitcheldean, Gloucestershire.

FOREMAN (INSIDE); age 28; good experience in the growing of Fruits and Plants, House and Table Decorations; disengaged; good references.—BELL, Victoria Drive, Ilkley, Yorks.

FOREMAN (INSIDE); age 28; well up in Vines, Peaches, Carnations, House and Table Decorations, and the general routine of a private establishment.—W. S., Box 12, 41, Wellington Street, Covent Garden, W.C.

FOREMAN (INSIDE), age 23; thorough practical experience in Vines, Peaches, Carnations, Chrysanthemums, House and Table Decorations; disengaged.—Apply, T. YARWOOD, Pyon House Gardens, Hereford.

MR. W. A. COOK, Head Gardener to Sir Edmund G. Loder, Bart., Leonardslee, will be pleased to recommend his Foreman to any Lady or Gentleman requiring a competent Gardener; age 31; experienced in raising and growing rare plants, Rhododendrons, &c., and the usual Fruit and Plants, Kitchen and Hardy work.

FOREMAN on Pleasure Grounds age 27; single; good experience in first-class places; well recommended; Bothy preferred.—SCOTT, Debden Hall Gardens, Loughton.

COLONEL WARDE, M.P., Barham Court, Maidstone, highly recommends his Foreman to any Lady or Gentleman wanting a good all-round man; 13 years' practical knowledge, Inside and Out, including House and Table Decorations; age 28; married when suited.

FOREMAN, age 28; good general experience in Fruit and Plant Houses; can be well recommended; disengaged.—H. STEVENS, 14, Rupert Road, Guildford.

FOREMAN or SECOND (Inside) requires Situation; good experience in Fruit and Plants, Carnations, and Chrysanthemums, and Floral work; good references.—BRIND, Riddings House Gardens, Derby.

JOURNEYMAN (First).—Mr. BACON confidently recommends J. Farrar; experienced Fruit and Plants; two years here.—Address, Mote Park Gardens, Maidstone, Kent.

JOURNEYMAN (First, Inside), age 24, seeks Situation; 8½ years' experience; well recommended; 2½ years present situation.—W. SANSOM, Taplow Court Gardens, Taplow, Bucks.

JOURNEYMAN (First, Inside).—Mr. J. E. PARKER, Staunton Harold Gardens, Ashby-de-la-Zouch, wishes to highly recommend F. Swanwick as above; 8½ years' good all-round experience; age 24.

JOURNEYMAN (Second, Inside or Third); age 19; three years' experience; W. S. BARRELL, Coombe Cottage, Kingston Hill, will be pleased to recommend G. King.

JOURNEYMAN (Second, Inside) seeks Situation; 4½ years' experience in Fruit and Plant Houses; age 20; good references; abstainer; Bothy preferred.—A. TYLER, "Fouchers," Great Warley, Brentwood, Essex.

JOURNEYMAN seeks Situation Inside or SECOND, where four or five are kept; age 23; eight years' experience; two years present situation; south of England preferred; well recommended.—A. BURGESS, Moor Park Gardens, Farnham, Surrey.

JOURNEYMAN (Inside).—Mr. SIMMONS, Tandridge Court Gardens, wishes to recommend S. Pitts as above; age 25; eight years' experience.—PITTS, 73, Beaufort Road, Reigate.

JOURNEYMAN, age 21, seeks Situation Inside or Inside and Out; seven years' experience, mostly Inside; good reference.—E. SOLLARS, Wain Blis, Pontrhydyrun, Newport, Mon.

HEAD GARDENER can thoroughly recommend JOURNEYMAN (Inside and Out); 2½ years present situation; good knowledge Herbaceous Borders; age 21.—H. SPARKES, 31, Cleveland Road, Chichester, Sussex.

MR. CHAPMAN would be pleased to recommend E. Bailey as JOURNEYMAN (Inside and Out); seven years' experience; 2½ years in present place; age 21.—Stratton Chase, Chalfont St. Giles, Bucks.

MR. FINLAYSON, The Gardens, Nevill Court, Tunbridge Wells, can with confidence recommend F. Mepham as JOURNEYMAN (Inside or Inside and Out); three years here; age 22; Bothy preferred.

JOURNEYMAN (Inside or Inside and Out), age 23, seeks Situation; 7½ years' experience; two years three months previous place; well recommended.—F. SIGLEY, 33, Osbourne Street, Leek, Staffs.

J. D. ATKINSON, The Gardens, Attingham Park, near Shrewsbury, wishes to recommend Albert Pugh as JOURNEYMAN (Inside and Out); age 21; 2½ years present situation.

JOURNEYMAN seeks Situation where three or four are kept in Bothy under good Foreman; age 22 years.—J HORSLEY, Market Place, Kineton, Warwickshire.

JOURNEYMAN (22) seeks Situation Inside and Out; eight years' experience; Bothy preferred; well recommended.—Apply, D. W., Arlington View, Stockcross, near Newbury, Berks.

JOURNEYMAN (23) seeks Situation under Glass; 7½ years' experience Inside, including one year and eight months at Blithefield Hall, Rugeley; good references.—A. GRATION, Glynllivon Gardens, Carnarvon.

JOURNEYMAN (Inside, First or good Second); age 24; nine years' experience; good references.—H. HUTCHINGS, Sudbury, Derby.

JOURNEYMAN (Inside) seeks Situation in Fruit and Plant Houses; eight years' experience; age 22; good references.—W. HUGHES, Swinesherd, near Worcester.

JOURNEYMAN for Pleasure Grounds; age 23; good experience; excellent references.—T. WRIGHT, Grendon Hall Gardens, Aylesbury, Bucks.

MR. F. L. THURSTON, Telham Court Gardens, Battle, wishes to recommend F. Boxall, age 19, where he can gain further experience Inside under a Foreman; 3½ years here.

G. S. EVANS, "Carnation Specialist," Bexley Heath, strongly recommends Young Man for Inside and Out; age 21; six years' experience; highest references from previous private situations; Hants preferred.

YOUNG MAN seeks Situation in Kitchen Garden and Lawns; 3½ years' good character; can milk.—A. B., 2a, Park Place, Clapham Park Road, S.W.

YOUNG MAN (20) seeks Situation Inside or Inside and Out; under Foreman preferred; 5½ years' experience.—E. COOMBER, 4, The Terrace, Shoreham, Kent.

YOUNG MAN (27), married, seeks Situation; Pleasure Grounds, Kitchen Garden; willing, industrious; excellent references.—S. BALDOCK, Hermitage Gardens, Walton-on-the-Hill, Surrey.

YOUNG MAN seeks Situation in Kitchen Garden or Pleasure Grounds or Inside and Out; age 22.—L. WEBBE, 47, Little Gaddesden, near Berkhamstead, Herts.

YOUNG MAN seeks Situation in Kitchen Garden or Pleasure Grounds; nine years' experience; good references; age 25.—Apply, G. SCALES, Pinkney, near Malmesbury, Wilts.

YOUNG MAN seeks Situation as GARDENER (Second, Inside and Out); age 23; Bothy preferred.—W. HAYTER, 35, Medfield Street, Roehampton, Surrey.

YOUNG MAN seeks Situation in Kitchen Garden and Pleasure Ground; age 22; four years' experience; good references.—G. YOUNG, Moor Park Gardens, Farnham, Surrey.

YOUNG MAN, age 19, seeks Situation as GARDENER (Under, Outside and In); five years' good reference.—B. BARRETT, Brandon Creek Bridge, near Downham, Norfolk.

A YOUNG MAN seeks Situation as JOURNEYMAN (Inside or Outside); good references; age 21; disengaged.—Apply, R. NEWPORT, Claybrooke Parva, Lutterworth.

MR. HOLDER, Adair Place, will be pleased to recommend a Young Man for Inside or Inside and Out; age 18.—JOHN WHITE, Rowna Oak, Englefield Green.

YOUNG MAN seeks a Situation as IMPROVER (Inside or Inside and Out); good references; abstainer.—ALBERT HOUSE, 29, Rowley Road, Reading, Berks.

MR. W. GREGORY, Morton Hall, Norwich, highly recommends Young Man, age 19, as IMPROVER (Inside or Out); 4½ years' experience; strong and healthy. (No circulars.)

IMPROVER, age 18, seeks Situation in Private Garden; five years' experience; excellent references; Bothy preferred.—P. WAY, George Green, Slough, Bucks.

IMPROVER, age 17½, seeks Situation in good establishment (Inside); good references; Bothy preferred.—Apply, P. HARVEY, Knole Park Gardens, Sevenoaks, Kent.

IMPROVER (18) seeks Situation in Gentleman's Garden or Nursery; 12 months' experience; willing to make himself useful; good references; South preferred.—A. S., Mayçlair, Pelton Avenue, Sutton, Surrey.

LAD, age 16½ years, seeks Situation as IMPROVER; 2½ years present place; Bothy preferred.—Apply, F. KNIGHT, Holly Bush Cottage, Windsor Great Park.

JOINER (26 years of age), abstainer, seeks permanent work on Estate; 10 years with well-known greenhouse builders and three years on property.—P. A., Box 8, 41, Wellington Street, Covent Garden, W.C.

SITUATION required to take charge of electric plant; willing to make himself useful in Gardens or on Estate; disengaged when suited.—H. HORNE, Milton Ernest, Beds.

TRADE.

MANAGER or MANAGING FOREMAN; 26 years' experience; Market and Retail Nurseries; Cucumbers, Tomatos, Ferns, Palms, Bedding and Soft-wooded Stuff, Chrysanthemums, Decorative Plants, &c., Bulb Forcing, also Floral work; married; abstainer; disengaged when suited.—ENERGETIC, Box 17, 41, Wellington Street, Covent Garden, W.C.

MANAGER; life experience in all-round trade, Inside and Out; Flowers, Fruits, Vegetables, Pot Plants, Nursery Stock, &c., also Farm Crops; age 38; married.—PRACTICAL, Box 13, 41, Wellington Street, Covent Garden, W.C.

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anthemums, Bulbs, Routine For
references.—Ivy Cottage, Leighs,

FOREMAN; life experience in
work; six years in previous situation as Foreman; Stove and Greenhouse Stuff, Ferns, Chrysanthemums, Bulbs and Valley Forcing, Cucumbers and Tomatos; age 31.—C. P., "Rosedene," Witley, Surrey.

FOREMAN (40); life experience in Market work; Grapes, Cucumbers, Tomatos, Cut Stuff; Inside and Out.—C. S., 3, Connaught Road, Eastwood Road, Rayleigh, Essex.

PROPAGATOR and GROWER of Roses, Clematis, &c., seeks Situation in good Trade Nursery; life experience with first-class firms; thorough knowledge of exhibiting; disengaged when suited.—T. GILHAM, 13, Bath Avenue, Dereham, Norfolk.

PROPAGATOR, Herbaceous and Alpines, or take charge of that Department in good Nursery; first-class references; at present in that department at the Royal Botanic Gardens, Kew.—T. SARGEANT, 60, Selwyn Avenue, Richmond, Surrey.

GROWER requires Situation (Nursery); thoroughly experienced under Glass; used to take charge or otherwise; energetic and reliable; good reference.—KING, 90, St. Mary's Road, Bearwood, Birmingham.

MAN seeks Situation in Nursery (Inside) as GROWER; Cucumbers, Tomatos, Bedding Stuff, small Ferns, Bulbs, &c.—S., 7, Orchard Villas, Farnborough, near Orpington.

MARKET NURSERY.—Situation required by Advertiser as Chrysanthemum and Mushroom GROWER; thoroughly competent; good all-round experience; married; total abstainer.—C. WALSH. Ulting, Woodham Walter, Maldon, Essex.

GARDENER; Landscape; well up in Rose Garden, Herbaceous Borders, Rockeries, Lawns, &c.; draw own plans to scale; age 37; married, family; life abstainer; excellent references; state wages; disengaged.—HASTINGS, 62, Wordsworth Street, Hove, Sussex.

GARDENER (single); work in return for home; small wage; understands Grapes, Melons, Cucumbers, Tomatos, Bedding Plants, Fruit, Market Gardening.—GARDENER, Hope Nursery, Victoria, New Barnet.

MAN seeks Situation in Nursery or on Estate, to do General Repairs, and fill up time in Nursery or Garden; six years' reference from last employer.—W. MINCHINGTON, 60, Darfield Road, Brockley, S.E.

YOUNG MAN, educated, slight experience, seeks Situation with Nurseryman; give services one month; salary required after; excellent character.—E., care of Bessell, 24b, High Street, Sutton, Surrey.

YOUNG MAN seeks Situation in General Nursery; Palm, Fern, Bedding Stuff, &c.; life experience.—W. H., 69, Gladstone Road, Wimbledon, S.W.

YOUNG MAN (21) seeks Situation in Retail Nursery; eight years' experience in Chrysanthemums, Carnations, Roses, Cucumbers, Tomatos, and Bedding Stuff.—"MUM," Box 9, 41, Wellington Street, Covent Garden, W.C.

YOUNG GENTLEMAN, several years' experience, wishes for place as IMPROVER on Market or general Nursery for low wage.—A. B. C., Box 16, 41, Wellington Street, Covent Garden, W.C.

HEAD SHOPMAN or MANAGER; over 20 years' experience; open for Engagement; Seeds, Bulbs, Sundries, &c.—A. C., Box 4, 41, Wellington Street, Covent Garden, W.C.

HEAD SHOPMAN or TRAVELLER seeks Situation; 25 years' experience in all branches; highest references.—Apply, "DOMINANT," Box 15, 41, Wellington Street, Covent Garden, W.C.

MANAGING CLERK (29); 14 years' experience Farm and Garden Seed Trades; expert book-keeper and correspondent; able to undertake complete audit of books; has done some effective travelling; excellent testimonials.—G. A., Box 20, 41, Wellington Street, Covent Garden, W.C.

ADVERTISER seeks Situation as SHOPMAN or CLERK; 12 years' experience in Seeds, &c., also Book-keeping; good references; age 27.—J. COLE, 78, Lincoln Road East, Peterborough.

FLORIST.—Young Lady desires engagement; two years' experience; Counter, Making-up, and Shop Decorating; good references.—Address, Miss N. STEVENS, 12, Gladstone Road, Croydon.

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MACKENZIE & MONCUR, Ltd.,

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The Right Hon. **LORD DERWENT,** Hackness Hall, Scarborough.
The Right Hon. **LORD HOWARD DE WALDEN,** Chirk Castle, N. Wales.
The Right Hon. **LORD St. OSWALD,** Appleby House, Appleby, Lincolnshire.
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Sir **STEPHEN H. GATTY,** Lochbuie, Isle of Mull.
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Mrs. **HEAD,** Inverailort, Lochailort.
R. W. HERBERT, Esq., Ashville, Sunderland.
Lt.-Col. **MILNE HOME,** Paxton House, Berwick-on-Tweed.
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L. JIRGENSEN, Esq., Furze Down, Stockbridge, Hants.
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CHAS. LIDDELL, Esq., Warwick Hall, Carlisle.
Mrs. **LYON,** Foxwood, Dumfriesshire.
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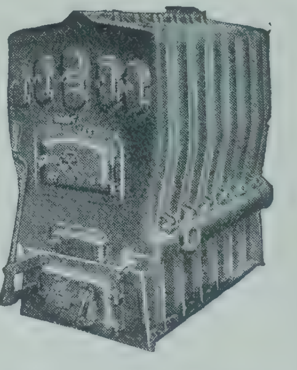

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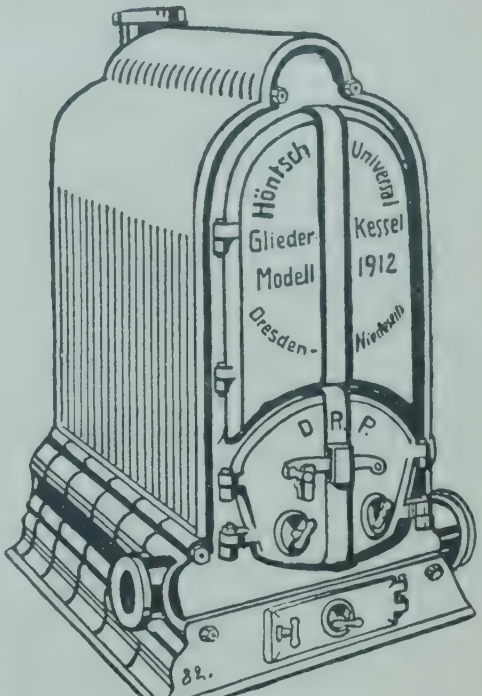

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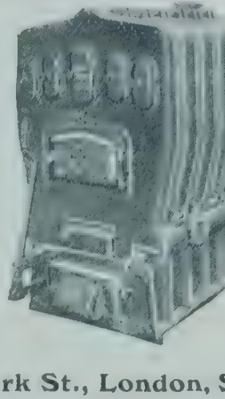

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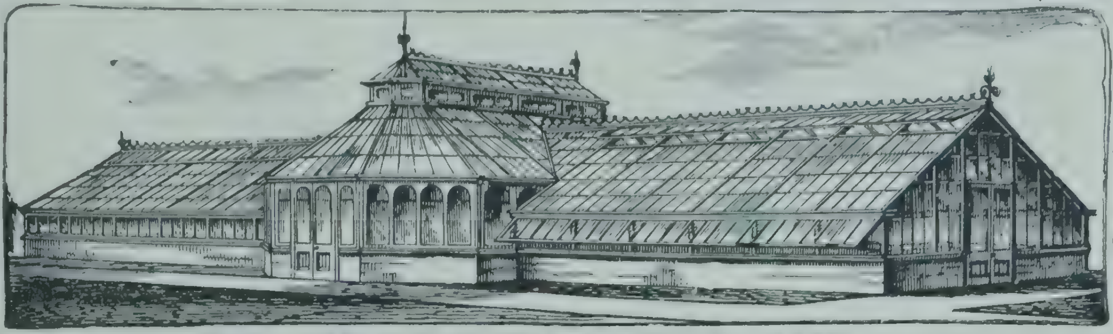

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VINE, PLANT AND VEGETABLE MANURE.—1 cwt., **20/-**; ½ cwt., **10/-**; ¼ cwt., **6/-**; 14 lbs., **3/6**; 7 lbs., **2/6**; Tins, **2/6, 1/-** & **6d.** Car. paid on 1 cwt. anywhere.

SPECIAL TOP-DRESSING MANURE.—½ cwt., **20/-**; ¼ cwt., **11/-**; 14 lbs., **6/-**; 7 lbs., **3/6**; Tins, **1/-** Carriage paid on ½ cwt. anywhere.

Also Thomson's Book on the Vine.
Thomson's Styptic.

Sold by Nurserymen & Seedsmen everywhere.

Write for Pamphlets, Price List, etc., to Sole Makers.

In consequence of the increase in the circulation, and also of the earlier despatch of the morning trains from London, the hour of going to press has been again advanced, and in future Advertisements received after 5 p.m. on WEDNESDAY will be held over till the following week. On no consideration whatever will any exception be made to this rule.

MARKETS.

COVENT GARDEN, September 11.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Alstroemeria ...	3 0- 4 0
Arums (Richardias)	2 0- 3 0
Asters, white ...	1 6- 2 6
— coloured, per doz. bunches...	1 6- 3 0
— single, mixed	2 0- 3 0
Bouvardia, per dz. bunches ...	6 0- 7 0
Carnations, p. doz. blooms, best American var.	1 6- 2 6
— smaller, per doz. blooms ...	0 8-0 10
— Carola (crimson), extra large	2 0- 3 0
— Malmaisons, p. doz. blooms:	
— — pink ...	8 0-15 0
Centaurea (Sweet Sultan) mauve and white, per doz. bunches...	2 0- 3 0
— yellow	1 0 —
Chrysanthemums, per dozen:	
— white	1 0- 3 0
— pink	1 0- 2 6
— yellow	1 0- 2 6
— bronze	1 0- 2 0
— white, per doz. bunches ...	4 0- 6 0
— coloured ...	4 0- 6 0
— maximum, per doz. bunches ..	0 9- 1 0
Coreopsis, per doz. bunches ...	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per doz.	2 0- 2 6
Gaillardia, per doz. bunches ...	0 6 -0 9
Gardenias, per box of 15 and 18 blooms... ...	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	2 0- 2 6
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
Lapagerias, white, per dozen ...	2 0- 2 6
Lilium auratum, per bunch ...	2 6- 3 0
— longiflorum, per doz., long	2 0- 2 6
— — short ...	2 0- 2 6
— lanciforium alba, long ...	2 0 —
— — short ...	1 6- 2 0

	s.d. s.d
Lilium speciosum rubrum, p. dz.,	
— long	1 6- 2 0
— short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0–18 0
— special... ...	10 0–12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches...	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	12 0–15 0
— Cattleya Harrisonæ, pr. doz.	6 0 —
— Odontoglossum crispum ...	3 0- 4 0
Pancratiums, p. dz. spikes	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 6
— C. Mermet ...	0 9- 1 6
— Frau Karl Druschki ...	0 9- 1 0
— General Jacqueminot ...	0 9 —
— Liberty ...	1 6- 2 0
— Madame A. Chateney ...	1 0- 2 6
— Niphetos ...	1 0- 1 6
— Richmond ...	1 0- 2 6
— Sunburst ...	1 6- 2 0
— Sunrise ..	0 6- 0 9
— President Carnot	1 6- 2 0
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 6
— Franz Deegen	1 0- 1 6
— Kaiserine ...	0 9- 1 6
Scabiosa caucasica, per doz. bnchs.	2 0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, per dozen bunches:	
— mauve, ...	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	2 0- 2 6
Stock, p. d. bnchs:	
— white	4 0- 5 0
Tuberose, p. doz. blooms, long...	0 6- 0 8
— — short ...	0 5- 0 6
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches ...	1 6- 3 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0-18 0
— Sprengeri ...	10 0-12 0
Carnation foliage, doz. bunches...	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, per gross bunches ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	0 9- 1 0

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, p.dz.	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated ...	30 0-60 0
Asters, per dozen	4 0- 5 0
— various colours, per dozen ...	6 0-12 0
Campanula, blue and white ...	8 0-10 0
Chrysanthemums, 48's	6 0-12 0

	s.d. s.d.
Croton, per dozen	18 0-30 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ...	2 6-10 6
Cyclamens, 48's ...	10 0-12 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0-12 0
Erica nivalis ...	15 0-18 0
— — 60's ...	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's ...	12 0-15 0

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, doz. ...	6 0 —
— choicer sorts per doz. ..	8 0-12 0
— in 32's, per dz.	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen ...	15 0-18 0

	s.d. s.d.
Lilium lancifolium alba. in pots, per dozen ...	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Mignonette, 48's, per dozen ...	6 0- 8 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's ..	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 3 0
— Cooking, bshl.	3 0- 4 0
— Tasmanian per case ...	13 6-16 6
Bananas, bunch:	
— Doubles ...	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured...	5 6- 6 6
— Jamaica Giants, per ton ...	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Blackberries, peck	2 0- 2 6
— chip	1 6 —
Figs (Guernsey), per dozen ...	1 6- 2 0
— English ...	1 6- 2 0
— (Italian), boxes	1 6- 2 0
Cranberries, per case	11 0-13 0
Damsons, ½ bushel	2 0- 2 6
Grape Fruit, case:	
— 96's	21 0-26 0
— 80's	
— 64's	
— 54's	
— per dozen ...	6 0 —
Grapes (English), per lb.:	
— Hamburgh ...	0 9- 1 6
— Canon Hall ...	1 6- 5 0
— Muscats ...	1 0- 1 3
— Gros Colmar...	1 2- 1 6
— Black Alicante	0 8- 1 6
— Madresfield Court	1 6- 2 0
— Gros Maroc ...	1 0- 1 6

	s.d. s.d.
Greengages (English), ½ bushel...	5 0- 6 0
Lemons, per case:	
— Messina ...	8 6-16 6
— ordinary ...	6 0- 7 0
— Naples ...	18 0-28 0
Limes, per case ...	2 6 —
Melons (Guernsey)	1 0- 2 0
— (English) ...	0 9- 2 0
— Canteloupe ...	2 0- 4 6
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 2½-0 3
— Filberts, per lb.	0 2-0 2½
— Walnuts (French), p. lb.	0 4- 0 6
Oranges:	
— Italian per case	12 0-18 0
— Cape, per case	12 0-17 6
— Naartjees, per box	3 0- 3 6
Peaches	
— English, dozen	
— selected ...	12 0-18 0
— best ...	4 0- 6 0
— seconds	
Pears:	
— French, pr. box	3 0 —
— — per crate ...	6 0- 8 0
— English, ½ bus.	2 6- 4 0
Pineapples, St. Michael ...	2 6- 5 0
Plums:	
— English, ½ sieve	2 6- 3 0
— (Californian), crate	8 6-12 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen ...	2 6 —
— English ...	2 0 —
— ground, ½ bus.	4 0 —
Aubergines, per dozen... ...	2 0 —
Beans:	
— French, ½ bshl.	3 0 —
— Scarlet Runners, per bushl.	1 6 —
— — per bag ...	2 6- 3 0
Beetroot, per bushel ...	2 0 —
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	4 0 —
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun....	1 6- 2 6
— per bag ...	3 6 —
— bushel ..	3 0 —
Cauliflowers, per dozen	2 6 —
— tally	6 0 —
Celery, per dozen	1 6 —
— dirty	1 0 —
Cucumbers, per flat	4 6- 6 0
Endive, per dozen	1 6 —
Greens, p. bushel	1 0 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles ...	15 0-18 0
Leeks, per doz. ...	2 0 —
Lettuce (English), Cos, per box ...	1 0 —
Cabbage, per box	1 0 —

	s.d. s.d.
Marrows, per tally	3 6 —
Mint, per dozen bunches ...	2 0 —
Mushrooms, cultivated, per lb.	0 10- 1 0
— field, per peck	3 0 —
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bushel ...	2 6 —
— (Spring), per doz. bunches	3 0 —
— (Spanish), case	4 0- 6 0
Parsley, ½ sieve ...	2 0- 3 0
— per doz. bun.	2 0 —
Parsnips, per bushel ...	2 0 —
— per bag ...	4 0 -
Peas (English), per bushel	3 6- 5 0
— bags	9 0 —
— shelled, per quart ...	1 0- 1 6
Radishes (English) per dozen ...	0 6- 1 0
Sage, per dozen ...	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel...	2 6 —
Tomatos, per doz. lbs.:	
— (Guernsey), ...	1 6- 1 9
— (English) ...	1 6- 2 0
— seconds ...	0 6- 0 9
— (French), crates	2 6 —
Turnips (English), per dz. bunches	1 6- 2 6
— per bag	3 0 —
Watercress, p. dz. bunches ...	0 5- 0 7

REMARKS.—Very large supplies of both dessert and cooking Apples continue to arrive, and their prices are low. The first shipment of Apples arrived from Wenatchee Valley, Washington State, U.S.A., this week; those of the variety Gravenstein were packed in boxes which contained about 10 dozen fruits each. The consignment also included a few cases of very fine fruits of Williams's Bon Chrétien Pears. France and California are also contributing large supplies of Pears in addition to fruit from Kent and Middlesex. Consignments of English Plums are fewer. Some good samples of Californian Plums are obtainable packed in trays and boxes. It is anticipated that the supplies of Apples from Canada and America will be much larger than in any previous season. The first shipments are due to arrive next week. Damsons have met a good market at the prices quoted last week. Blackberries continue a good supply. Grapes have shown a slight improvement in demand in spite of the fact that supplies are still large. Figs and Melons still remain scarce and there is a slight increase in their value. Peaches are a limited supply. Cobnuts and Filberts are very plentiful. There are fairly large quantities of French Walnuts. The market is heavily supplied with Tomatos, both home grown and continental, there being a further decrease in their prices. The Vegetable trade this week shows a slight improvement; the market is well supplied with vegetables. *E. H. R., Covent Garden, September 11, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per cwt. s.d. s.d.
Bedfords	4 0- 4 6	Blacklands ...	3 9- 4 3
Kents	4 3- 5 0	Lincolns	4 0- 4 6

REMARKS.—Prices are the same as last week, and the condition of trade remains unaltered. *Edward J. Newborn, Covent Garden and St. Pancras, September 11, 1912.*

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending September 7, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather*.—As a whole, the conditions were much drier than of late, and also less cloudy, but rain fell on most days in the north. In the south and south-east of England the greater part of the week was dry. A thunderstorm occurred at Geldeston on the 6th.

The *rainfall* was below the average in Ireland and in all parts of England except the north-west, but in Scotland there was a large excess. Nearly all stations in Scotland W., as well as West Linton, experienced more than an inch on the 3rd, the largest amounts being 1·5 inch at Glasgow, 1·6 inch at Rothesay, 1·8 inch at Cally, Gatehouse, 2·1 inches at Fort William, and 2·4 inches at Poltalloch. At this last station 1·1 inch fell on the 7th. At several places in the Midlands and south-east of England rain fell on one day only.

The *bright sunshine* was below the average in all districts. In Ireland and the north and east of Scotland the mean daily duration was less than 3 hours, but in England N.E., E. and S.E. it was more than 4½ hours. The percentage of the possible duration ranged from 37 in England E. and 36 in England S.E., to 16 in Scotland N. and to 15 in Ireland N.

THE WEATHER IN WEST HERTS.

Week ending September 11.

The sixth cold and sunless week in succession.—There has not been a single unseasonably warm day during the whole of the last six weeks, while most of the nights have also been cold for the time of year. Of those six weeks the past week was much the coldest. On one day the temperature in the thermometer screen did not rise higher than 51°, which is 14° below the average maximum reading for the month. On two nights the exposed thermometer registered respectively 1° and 2° of frost. At 2 feet deep the ground is at the present time 3° colder, and at 1 foot deep 6° colder, than is seasonable. Some rain fell on three days, but the total measurement for the week only amounted to about one-tenth of an inch. No measureable quantity of rain-water has now passed through either of the percolation gauges for eight days. The sun shone on an average for 4½ hours a day, which is three-quarters of an hour a day short of the usual duration for the beginning of September. The winds proved as a rule rather high, but in no hour did the mean velocity exceed 14 miles. Since the present month began the winds have come mostly from some northerly point of the compass. The mean amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by seven per cent.

AUGUST.

The coldest, wettest, and most sunless August for at least 26 years.—This was the coldest August during the 26 years over which my records at Berkhamsted extend. Both the days and nights were also as a rule colder than any previously experienced here, but the nights were not nearly as exceptionally cold for the time of year as the days—the mean maximum temperature being as much as 7° colder, while the mean minimum was only about 2° colder, than their respective averages for August. The extreme maximum temperature was also equally exceptional, the highest reading in the thermometer screen at no time exceeding 68°. The extreme minimum temperature on the grass, 30°, was also very nearly as exceptional. Rain fell on as many as 26 days, or nearly twice the average number for the month. The total measurement was nearly 5 inches, or 2½ inches in excess of the average for the month—making this the wettest August since 1881, or for 31 years. The sun shone on an average for only 3½ hours a-day, which is 2¾ hours a-day short of the average duration for the month. In no previous August during the past 26 years have I recorded so little sunshine. The winds were, as a rule, high, but in no hour did the mean velocity exceed 15 miles—direction west. The average amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by as much as 9 per cent. In only two of the previous 26 years has the air in August at that hour been as humid.

THE SUMMER.

A very cold and wet and remarkably sunless summer.—June and July were of about average temperature, while August proved the coldest I have yet recorded here. June was rather wet, July rather dry, and August exceptionally wet. In June there was an average duration of sunshine, while July was very sunless, and August remarkably sunless. Taking this season as a whole we have to go back to 1888, or for 24 years, to find a summer with as little sunshine. *E. M., Berkhamsted, September 11, 1912.*

CATALOGUES RECEIVED.

BULBS.

BROWN & WILSON, 10, Market Place, Manchester.
JNO. JEFFERIES & SON, LTD., Market Place, Cirencester.
SUTTON & SONS, Reading.
ALBERT FREDERICK UPSTONE, Church Street, Rotherham.
FISHER, SON & SIBRAY, LTD., Handsworth, Sheffield.
WILLIAM LAING, Sutton, Surrey.
E. P. DIXON & SONS, Paragon Square, Hull.
DICKSONS, Chester.
ROBERT SYDENHAM LIMITED, Tenby Street, Birmingham.
WM. PAUL & SON, Waltham Cross, Hertfordshire.
S. MCGREDY & SON, Portadown, Ireland.
H. CANNELL & SONS, Swanley, Kent.
JAMES VEITCH & SONS, LTD., King's Road, Chelsea, London.
MORLE & CO., LTD., 156, Finchley Road, London.
TILLEY BROTHERS, 133, London Road, Brighton.
THOMAS S. WARE, LTD., Feltham, Middlesex.
R. H. BATH, LTD., Wisbech.
JOHN MCKERCHAR, 35, Gresbach Road, Upper Holloway, London.
EDMONSON BROTHERS, 10, Dame Street, Dublin.
D. G. PURDIE, 6, Waterloo Street, Glasgow.
BARR & SONS, King Street, Covent Garden, London.
WILLS & SEAGER, Onslow Crescent, South Kensington, London.
CHARLES TURNER, Slough.
JAMES MURRAY & SONS, 457, New Cross Road, London.
W. DRUMMOND & SONS, LTD., 57, Dawson Street, Dublin.
JOHN K. KING & SONS, Coggeshall, Essex.
BEES LIMITED, Mill Street, Liverpool.

MISCELLANEOUS.

DICKSON & ROBINSON, Cathedral Street, Manchester—Bulbs and Roses.
WM. FELLS & SON, Hitchin, Hertfordshire.—Alpine and Hardy Plants.
J. OLIVER WALTER, West Moors, Dorsetshire—New Zealand Plants.
THOMAS S. WARE, LTD., Feltham, Middlesex — Hardy Plants, Roses, Fruit Trees.
HALLAMS, Moseley, Birmingham—Carnations.
R. H. BATH, LTD., Wisbech—Roses, Pæonies, Carnations, and Fruit Trees.
Sir JAMES W. MACKEY, LTD., 23, Upper Sackville Street, Dublin—Bulbs and Nursery Stock.
WM. BARRON & SON, LTD., Elvaston Nurseries, Borrowash, Derby — Trees and Shrubs, Roses, Herbaceous and Rock-garden Plants, Climbers, and Fruit Trees.
WM. DUNCAN TUCKER & SONS, LTD., 27, Cannon Street, London—Horticultural Buildings, Boilers, &c.
DANIELS BROS., LTD., Norwich—Bulbs, Flower Roots and Nursery Stock.
GEORGE COOLING & SONS, Bath—Bulbs and Plants.

COLONIAL.

GILBERT ERREY, Hazeldene, Victoria, Australia—Liliums.

FOREIGN.

E. H. KRELAGE & SON, Haarlem, Holland—Bulbs.
C. G. OLIE, Boskoop, Holland—Trees and Shrubs.
J. M. THORBURN & CO., New York, U.S.A.—Trees and Shrubs.
VILMORIN ANDRIEUX ET CIE., 4, Quai de la Megisserie, Paris—Bulbs and Fruit Trees, Autumn Seeds.
CONYERS B. FLEU, JR., Germantown, Philadelphia, U.S.A. —American Trees and Shrubs.
ANT. ROOZEN & SON, Overveen, near Haarlem, Holland—Dutch and Cape Bulbs. General agents for Great Britain: Messrs. MERTENS & CO., 3, Cross Lane, St. Mary-at-Hill, London.
L. FERARD, 15, Rue de L'arcade, Paris—Nursery Stock.
GEORG ARENDS, Ronsdorf, Rheinland, Nursery Stock.

GARDENING APPOINTMENTS.

Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. F. SNELL, for the past 10 years Gardener at Wistaston Hall, Nantwich, Cheshire, as Gardener to Mrs. VERNON CARTER, St. George's Lodge, Weybridge, Surrey.

Mr. A. F. SPOLTON, for the past 4 years Foreman at Hampworth Lodge, Salisbury, and previously at Walcot Park, Shropshire, as Gardener to A. F. FYNN, Esq., Harefield House, Romsey, Hampshire.

Mr. F. C. WARD, for the past 11 years Gardener to Captain LEVETT, Milford Lodge, Stafford, as Gardener to Colonel HICKMAN, M.P., Wergs Hall, Wolverhampton.

MR. A. A. GORDON, late of Dundas Castle, South Queensferry, West Lothian, and Grimsthorpe Castle, Bourne, Lincolnshire, as gardener to The Rt. Hon. Lord NORTHCLIFFE, Elmwood, St. Peter's, Broadstairs, Kent. (Thanks for donation of 1s. 6d. for the R.G.O.F. box.—EDS.)

SCHEDULES RECEIVED.

Birmingham and Midland Counties.—The Chrysanthemum, Fruit and Vegetable Exhibition of this society will be held in the Bingley Hall, Birmingham, on Tuesday, Wednesday, and Thursday, November 5, 6 and 7. Secretary, Mr. Alfred Noaks, 148, Bristol Street, Birmingham.

Royal Botanical and Horticultural Society of Manchester.—The Chrysanthemum Show of this society will be held in the Town Hall, Manchester, on November 12, 13 and 14. Secretary, Mr. P. Weathers, Botanical Gardens, Old Trafford, Manchester.

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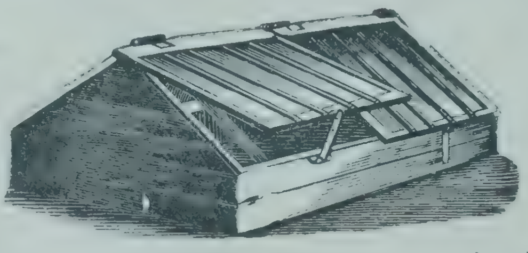

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6 feet ,, 4 feet ,,		2	5	0
6 feet ,, 5 feet ,,		2	15	0
12 feet ,, 4 feet ,,		4	0	0
12 feet ,, 5 feet ,,		4	15	0
12 feet ,, 6 feet ,,		5	12	6

Larger Sizes at Proportionate Prices.

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ROYAL HORTICULTURAL WORKS,
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By Appointments to His Majesty KING GEORGE.
H.M. Queen Alexandra and the late KING EDWARD.
SANKEY'S *famous* GARDEN POTS
THE BEST AND CHEAPEST.
SPECIAL POTS for Chrysanthemums, Roses, Vines, Clematis, Orchids, etc.
ARTISTIC FERN PANS & BULB BOWLS
at slightly more than ordinary pots.
State quantity of each size required and have **carriage paid** quotation (carriage is sometimes as much as 50 % of value of pots), or write for Price List, free.
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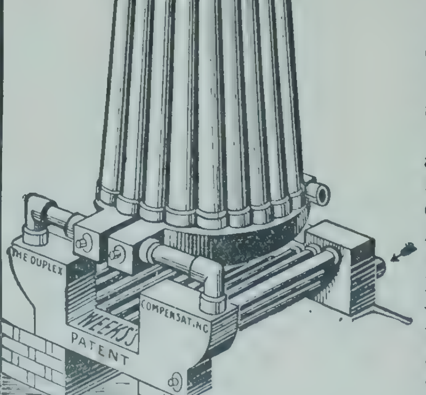

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WANTED, GARDENER.—Can any Head Gardener conscientiously recommend m a good all-round Man (single) as HEAD, where two ar kept, that thoroughly understands Kitchen Garder Herbaceous Bordering, Chrysanthemums, Inside Roses Carnations, Malmaison, Vineries, Begonias, Cucumbers Tomatos and Melon growing, and is tidy and clea in his work; also taste for Table Decorations; wage 16s. live in, 28s. live out.—Apply, with full particulars age, &c., PRATT, Dolphin Hotel, Cleethorpes.

WANTED, GARDENER, one who is about 30 to 35 years of age; an energetic, re spectable man, who understands the work in all it branches; Grapes, Peaches, &c.; Flowers.—Apply, Mrs BREEDS, The Hollies, Elphinstone Road, Hastings.

WANTED, for Michaelmas, GAR DENER (SINGLE-HANDED), hard-working, wit good knowledge of Herbaceous Plants and Vegetables two Glasshouses, Lodge for married man, no family wife assist in house if required.—Apply, stating age an references, L. W., Hawthorndene, Hayes, Kent.

WANTED, GARDENER (UNDER INSIDE and OUT); must have good experienc and reference.—Apply, W. B., Fernside, Child's Hil N.W.

COUNTY ASYLUM, Rainhill, nea Liverpool. ASSISTANT GARDENER.—Wante a Young Man as Assistant Gardener, who has been ac customed to Glass and is a good Grower and Propaga tor; wages to commence at 25s. per week and no emolu ments (subject to 3 per cent. deduction for pension).— Apply, stating age, height, and full particulars, to th MEDICAL SUPERINTENDENT.

WANTED, capable, active, marrie man (under Head Gardener); principally fo Lawns and Flower Garden; Wife to undertake laundr work; good cottage provided; must have thoroughl good personal character.—State full particulars, als age and wages expected, F. CUBITT, Hasketo Woodbridge, Suffolk.

WANTED, good hard-working GAR DENER (Single-handed) for Vegetable Garde and Tomato Houses; must be strictly sober, hones and reliable; single; about 25 years of age; good re ferences indispensable.—Apply by letter in first place t M. DASSIE, Morning Dawn, Bures, Suffolk.

WANTED, GARDENER (SINGLE HANDED); young married man, with good refe ences and with knowledge of Vegetables and Flower In and Out; boots and windows; an industrious ma willing to be useful; wages, 26s. to commence.—Fu particulars to C. WALLINGTON, Cranford, Sidcup.

WANTED, FOREMAN; chiefly In side; good all-round with Plants and Fru culture; £1 per week with room.—GEO. DYKE, Ga ston Manor Gardens, Watford.

WANTED at once, FOREMA (Pleasure Grounds); smart, active man; ag 25 to 30; good knowledge of Herbaceous Plants an Roses, Propagating of all Bedding Stuff; assist Hous Decorations; wages 18s. to 20s. per week, Bothy an vegetables.—Apply, with copies of testimonials (sta height), to F. MALTBY, Leighton Hall Garden Welshpool.

WANTED at once, FOREMA (INSIDE); thorough knowledge of Fruit an Plant Culture; good character; wages 22s. per week, Bothy.—Apply, H. RALPH, Bay House, Alverstok Hants

WANTED, smart JOURNEYMA (Fruit, Inside and Out); 16s. and Bothy; state use scythe, if abstainer, age, height, where and ho long previous places, to HEAD GARDENER, Chev Park, Wakefield.

WANTED, JOURNEYMAN, ag about 22, for the Fruit and Plants; Bothy.— Apply, with full particulars, to T. A. AYRES, Tham Park Gardens, Thame, Oxon.

WANTED, a JOURNEYMAN, t assist General Foreman (Inside and Out); especial good with Herbaceous Plants and Wall Fruits.—Appl with references, stating age and wages required (wi Bothy), to Mr. FRANK BIBLE, Estate Manager, Beac borough Park, Shorncliffe.

WANTED, strong, active, JOUR NEYMAN, with good experience, for Pla Houses; wages 19s. per week with pay for Sunday dut —Apply, in own handwriting, with testimonials.— W. G. BAKER, Botanic Gardens, Oxford.

WANTED.—Can any Gardener re commend a good Man to take charge of fai sized Garden; age about 30; Roses a speciality, Co servatory, Vines, Peach-houses; take management co and electric plant.—Apply, J. M. PYKE-NOTT, Esta Offices, Dumbleton, near Evesham.

WANTED at once, smart, active YOUNG MAN, age not under 22, for Hardy Fruit; must have experience in training and pruning of wall trees; wages 15s. per week, Bothy and vegetables. —Apply, with copies of testimonials (state height), to F. MALTBY, Leighton Hall Gardens, Welshpool.

WANTED, Young Married MAN for Houses; must be experienced in Vines, Carnations, &c.; wages 21s., house and light; Wife to attend gate; no family.—Apply by letter only, with all particulars, GARDENER, Boston House, Brentford.

WANTED, YOUNG MAN for Houses; one with some knowledge of Orchids preferred; 18s. per week, no Bothy.—State age and full particulars to J. SMALES, The Gardens, Franche Hall, Kidderminster.

WANTED. a smart, active YOUNG Man for the Houses; 16s. and room; Duty alternate weeks.—Full particulars and testimonials to H. C. PEARCE Duncote Hall Gardens, Towcester.

WANTED, Man and Wife (no children) to act as CARETAKER to block of flats with private ground; must have good knowledge of general Garden work.—Apply by letter, stating past experience, to M. M., Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED, Young Man as GARDENER-ATTENDANT; wages commence at £30, with board, lodging, and washing; no uniform.—Applications, stating age, height, gardening experience, with testimonials or references, to DR. RICHARDSON, Lunatic Asylum, Isle of Man.

WANTED, strong YOUTH (Inside and Out); able to take duty; 11s. week, Bothy, milk, &c.—GARDENER, Burntwood Hall, Barnsley, Yorks.

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WANTED, FOR AUSTRALIA.—A leading house has an exceptional opening for a Gentleman of good address and character, well educated, and with a first-class experience of the Trade in all its branches; one who has had charge of a business preferred; age about 30; interview required; passage paid, and good salary and engagement given.—Apply in own handwriting, AUSTRALIA, Box 24, 41, Wellington Street, Covent Garden, W.C.

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WANTED, GLASSHOUSE HAND; experienced Market Growing, Grapes, Chrysanthemums, &c.—State age, height, wages (copy of references), Mr. BULLEN, Hengleton Nurseries, Goring, near Worthing.

WANTED, a smart YOUNG MAN to take charge of Herbaceous and Alpine department.—Say age, experience, and wages expected to ALPINE, Box 14, 41, Wellington Street, Covent Garden, W.C.

WANTED, for a trade establishment, a YOUNG MAN who has had some experience in Orchid growing.—Apply, with full particulars, GROWER, Box 19, 41, Wellington Street, Covent Garden, W.C.

WANTED, WORKING PUPIL for Gardening, with view to taking management; excellent opening for active young girl.—Write to-day, PROPRIETRESS, Springhall Farm, Sawbridgeworth, Herts.

AGENTS WANTED ON COMMISSION to represent large Scotch Nursery and Seed Firm in Scotland, England, Wales, and Ireland, principally for the sale of Forest Trees, Ornamental Trees, Fruit Trees, Roses and Climbing Plants, also Garden Seeds and Bulbs, amongst Landed Proprietors, Land Agents, Foresters, Gardeners and others interested in Horticulture and Arboriculture; must be able to do a good turnover; liberal commission and no risk, and no samples to carry. — Apply in first instance, with copies of certificates, to No. 1,234, Box 10, 41, Wellington Street, Covent Garden, W.C.

WANTED, MARRIED MAN to pack Cucumbers and Tomatos for Covent Garden, Propagate same in winter; must be energetic, reliable, and have good character; wages 25s. per week; permanent situation.—KINGSFIELD NURSERY CO., Chingford, Essex.

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WANTED, SHOPMAN for Nursery, Seed and Florist Business; good salesman; West of England; full particulars as to reference, wages, age, &c.—R. P., Box 5, 41, Wellington Street, Covent Garden, W.C.

WANTED, JUNIOR SHOPMAN; able to take charge; with a general knowledge of Seeds, Bulbs and Nursery stuff; state age, wages and references. B. LADHAMS, LTD., The Shirley Nurseries, Southampton.

WANTED, a few good PACKING SHED HANDS; good wages, with bonuses, for careful and smart packing; permanent situations for suitable men.—BEES, LTD., Sealand Nurseries, Chester.

WANTED, NURSERY CLERK for books and invoicing, &c., with good general knowledge of Nursery Stocks; permanent and progressive to a suitable man. Also smart JUNIOR CLERK for invoicing, correspondence, &c., preferably with some knowledge of shorthand.—Apply, stating age and experience, with wages required, to W. FROMOW & SONS, Windlesham Nurseries, Surrey.

WANTED, CLERK, also LADY TYPIST, for an office in Lancashire.—State age, wages, and experience to B. J., Box 22, 41, Wellington Street, Covent Garden, W.C.

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E. MILLER MUNDY, Esq., Shipley Hall, Derby, highly recommends A. Harris as GARDENER (Head) in good establishment; six years as General Foreman; experienced in all branches, Inside and Outside.—A. HARRIS, Shipley Hall, Derby.

GARDENER (Head); 23 years' good, practical experience, Inside and Out; good character; teetotaller; age 37.—RANSLEY, care of Mr. Dann, Coney Weston, Bury St. Edmunds, Suffolk.

GARDENER (Head), Scotch, is desirous of a change; at present in charge of a large establishment; thorough all-round experience in the upkeep of a large establishment; age 40; married, three children. Apply, J. S., care of Sutton & Sons, Reading. (No circulars.)

CAPTAIN W. PEPYS wishes to recommend his GARDENER (Head, where two or more are kept); thoroughly experienced in all branches, Inside and Out; married, no family.—Apply,
G. BURROWS, Barford, Warwick.

GARDENER (Head with one or two under); life experience Glass and Outside; highest credentials; employer recommends with confidence; age 33; married.—TURNER, 10, Clinton Terrace, Dormans Land.

GARDENER (Head, where four or more are kept); 18 years' thorough practical experience; three years here as Head; age 35; highly recommended.—JAMES FISHER, The Gardens, Templecombe House, Templecombe, Somerset.

GARDENER (Head of two or more); thoroughly experienced in all branches Inside and Out; excellent references, gained from large establishments; highly recommended from present situation; age 30; married when suited; disengaged October 28th; good experience with Poultry (La Bresse strain), rearing, &c.—Apply, J. NIBBS, Kidmore House Gardens, Kidmore End, Reading, Berks.

GARDENER, age 27, seeks Situation as HEAD, where two more are kept; experienced with Vines, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, Kitchen Garden, Flower Garden, and Pleasure Grounds.—F. ATKINSON, Montreal Gardens, Riverhead, Sevenoaks.

GARDENER (Head or good Single-handed); thoroughly experienced in all branches; married (aged 31); good references; disengaged.—G. B., 145, Queen's Road, West Croydon.

GARDENER (Head or good Single-handed); experienced in Fruit, Flowers, Kitchen Garden, Plant Houses; married, no family; wife as caretaker; good character.—E. LUKER, 60, Lyford Road, Wandsworth Common.

GARDENER (Head or good Single-handed); nine years' experience in good establishments; excellent references; age 26, married when suited.—G. SALMON, Wavendon House Gardens, Woburn Sands, Beds.

GARDENER (Head Working); 30 years' experience; thoroughly competent in all branches; nine years present employer; understand electric light; married (girl 15).—RUDDLE, Cuttens, East Grinstead, Sussex.

GARDENER (Head Working, three or four kept); 22 years' practical experience in all branches; age 38 years; married, no family; life abstainer; excellent references.—Address, J. SIMMONS, Potbridge, Winchfield, Hants.

GARDENER (Head Working, where several are kept); 17 years' good practical experience all branches; five years Head last place; highest references as to capabilities; age 34; married.—A. SPRINGHAM, Henbury, Bristol.

GARDENER (Head Working, where two or three are kept); life experience both Inside and Out; six years as Head in present situation; 5½ previous; highly recommended; disengaged when suited; married.—W. QUENNELL, King's Road, Sunninghill, Berks.

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GARDENER (Head Working); age 40, married, no family; advertiser begs to offer his services to any Lady or Gentleman requiring a thoroughly competent and trustworthy Man as above.—WHITE, care of Mr. Croft, Stonehill, near Chertsey.

GARDENER (Head Working or GARDENER AND BAILIFF if required, where five or six and upwards are kept); 25 years' practical experience in all branches, Inside and Out, and laying out; thoroughly reliable; highly recommended; married, without encumbrance.—F. WOODHOUSE, Blackboys, Uckfield, Sussex.

GARDENER (Head Working); experienced Plants, Fruit, Vegetables; good references; abstainer; age 35; clergyman recommends as thoroughly trustworthy and reliable; disengaged.—HOBBS, 78, Southwood Road, Rusthall, Tunbridge Wells.

GARDENER (Head Working); life experience, Inside and Out, in good establishments; age 38; married; good references.—GARDENER, 49, Spencer Road, Stoke Newington, N. (No circulars.)

GARDENER (Head Working); life experience in all branches, Inside and Out; married, two children, ages nine and seven years; five years present place; excellent references.—TROWBRIDGE, The Cottage, Mead House, Southend, near Reading, Berks.

GARDENER (Head Working); thoroughly experienced in all branches; four years and four months present place; good reference; understands stock and poultry; age 39; married, no family; disengaged September 21st.—W. PRINCE, The Gardens, Childown, near Chertsey, Surrey.

GARDENER (Head Working, where several are kept); life experience in all branches of the profession, both Inside and Out; especially well up in Hardy and Herbaceous Plants, Bog and Water Gardens; excellent references; married, no family.—A. T., 70, Peel Road, North Wembley, Middlesex.

GARDENER (Head Working); thorough knowledge Plants and Fruit under Glass; Carnations speciality; also Pleasure Garden; highest references.—KNIGHT, The Gardens, Digswell House, Welwyn, Herts.

GARDENER (Head Working, where two or more are kept); life experience, Inside and Out; married, no family; abstainer.—J. E. WALDEN, Tamworth Lodge, Mitcham. (No circulars.)

H. DE LA RUE, Esq., Six-Mile Bottom, wishes to recommend W. Scott, GARDENER (Head Working, where two or more are kept); experienced Inside and Out; middle age; married, no family; disengaged.—Apply, SCOTT, Bulwick, Wansford.

GARDENER (Head Working or good Single-handed); life experience Inside and Out; good references; three years as Head; age 26; single.—H. MANNERS, Wallhill Farm, Corley, Coventry, Warwickshire.

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GARDENER (Head Working of two); age 30; life experience in all branches, gained in good establishments both Inside and Out; well recommended.—J. H., Box 26, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head Working); life experience Inside and Out; Early and Late Forcing, also experience in Landscaping; wife laundress if required; good experiences.—AUSTIN, The Gardens, Adbury, Windlesham, Surrey.

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GARDENER (Second, chiefly Inside); eight years' experience, Inside and Out; used to Vines, Peaches, Figs, &c.; Greenhouse Stuff, Carnations, Chrysanthemums, &c., and general Outside work; good references; age 25; Bothy preferred.—W. FREEMAN, The Green, Sandon, Chelmsford, Essex.

GARDENER (Second).—Mr. F. FRANCIS wishes to recommend his GARDENER (Second); good experience Inside and Out; good references; age 26.—J. BRISTOW, Lainston Gardens, near Winchester, Hants.

GARDENER (Second, where several are kept); life experience; thoroughly competent Inside and Outside; age 26; excellent references; disengaged.—G. TOZER, Bedford Road, Horrabridge, Devon.

GARDENER (Second); experienced Inside and Out; as FOREMAN (Outside) or LEADING HAND (Outside); good Propagator, Alpines, &c.; disengaged when suited; 12 years' experience; age 26; single; highly recommended.—W. Y., Box 21, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Second, Inside or Inside and Out); life experience in all branches; good knowledge of Fruit and Plant Growing; age 28; single.—G. REED, The Gardens, Holmbush, Faygate, Sussex. (No circulars.)

GARDENER (Second, Inside and Out, four or five kept); 10 years' experience; good references.—Address, A. THORPE, Stratton Audley Park, Bicester, Oxfordshire.

GARDENER (Second, Inside); 11 years' experience; good references; two years last place; good Plant Grower; Vines, Peaches, &c.; Decorating; abstainer.—H. BROWN, North Lodge, Hesslewood, Hessle, near Hull.

GARDENER (Second, Inside); thorough experience; excellent references as to character and ability; age 28.—H. S., Box 27, 41, Wellington Street, Covent Garden, W.C.

GARDENER.—Good general hand seeks Situation as UNDER or SINGLE; anywhere.—U. K., Box 16, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Under) seeks Situation; good references; Bothy preferred.—GEORGE MEREDITH, 25, Fox Street, Runcorn.

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GENTLEMAN wishes to recommend his Gardener (Under); 19; three years' experience.—W. ALDERMAN, 23, Roxeth Hill, Harrow, Middlesex.

MR. T. JONES, The Gardens, Loddington Hall, Kettering, wishes to highly recommend H. Styles, age 27, as FOREMAN or GARDENER (Second, Inside or Inside and Out); good experience in both Fruit and Plant Houses; also House Decorations; excellent references; abstainer; married when suited.

FOREMAN or SECOND (Inside).—Mr. HALL wishes to recommend A. Freeman; five years present place; good experience in Plants and Fruit; age 24.—A. FREEMAN, The Gardens, Harewood, Leeds.

FOREMAN (Inside), age 23; thorough practical experience in Vines, Peaches, Carnations, Chrysanthemums, House and Table Decorations; disengaged.—Apply, T. YARWOOD, Pyon House Gardens, Hereford.

FOREMAN (Inside); age 26; good general experience in Fruit and Plant Houses; Decorating; two years present place; good references.—BEESON, The Gardens, Nonsuch Park, Cheam, Surrey.

FOREMAN (Inside) seeks Situation; 13 years' experience in Fruit, Plants, and Decorating; excellent references from first-class establishments, including Highnam Court, Waddesdon Manor, and Warren House; age 27; disengaged.—H. BALDWIN, Wilderness Gardens, Mitcheldean, Gloucestershire.

FOREMAN (Inside).—Mr. H. MARKHAM, Wrotham Park Gardens, Barnet, Herts., wishes to recommend C. Braybrook to a good establishment; two years here; age 25.

FOREMAN (Inside); age 28; good experience in the growing of Fruits and Plants, House and Table Decorations; disengaged; good references.—BELL, Victoria Drive, Ilkley, Yorks.

FOREMAN (General).—Mr. HIGGINS, Glynllivon Park Gardens, Carnarvon, will be pleased to recommend J. Wood; 3½ years Foreman (Inside) here; good experience Orchids, Fruit, Plants, Carnations, Chrysanthemums, and Decorating; age 28.

MR. W. FOREMAN, Stoke Park Gardens, Guildford, would like to recommend his Foreman to any Head Gardener requiring the services of same or Second; has a good general knowledge of Indoor work; personal character good; leaving through reduction of staff.—Address as above.

COLONEL WARDE, M.P., highly recommends his FOREMAN, A. Whibly, to any Lady or Gentleman wanting a good, all-round Man; 15 years' experience in all branches; House and Table Decorations; age 28; married when suited.—Barham Court, Maidstone.

FOREMAN (Outside) seeks Re-engagement; good Fruit and Vegetable Grower; understands Early Forcing and French Gardening; used to growing large quantities.—HUNT, Ibstone House Gardens, Stokenchurch, Bucks.

JOURNEYMAN (First, Inside), age 25, seeks Situation in good establishment; well up in Fruit and Plants; good references; well recommended.—H. PRIOR, Busbridge Gardens, Godalming, Surrey.

JOURNEYMAN (First, Inside).—Mr. J. E. PARKER, Staunton Harold Gardens, Ashby-de-la-Zouch, wishes to highly recommend F. Swanwick as above; 8½ years' good all-round experience; age 24.

JOURNEYMAN (First).—Mr. BACON confidently recommends J. Farrar; experienced Fruit and Plants; two years here.—Address, Mote Park Gardens, Maidstone, Kent.

JOURNEYMAN (Inside), age 23, seeks Situation; eight years' experience; well recommended; two years present situation.—A. BURGESS, Moor Park Gardens, Farnham, Surrey.

THOMAS BIRKINSHAW, Hatley Park Gardens, Sandy, Beds., can with every confidence recommend a good, intelligent Journeyman for Inside; age 19½; quick at his work.

R. HUBBARD, Head Gardener to Capt. Innes, Roffey Park, Horsham, will be pleased to recommend Frank Tidy as JOURNEYMAN (Inside); six years' experience Fruit and Plants.

JOURNEYMAN (Inside and Out), age 19.—J. A. HALL, Shiplake Court Gardens, Henley-on-Thames, confidently recommends Young Man as above; abstainer; good character; five years' experience; Bothy.

JOURNEYMAN (Inside or Inside and Out), age 23, seeks Situation; 7½ years' experience; two years three months previous place; well recommended.—F. SIGLEY, 33, Osbourne Street, Leek, Staffs.

JOURNEYMAN; 22 (Inside and Out); eight years' experience; Bothy preferred; well recommended.—Apply, D. WINTER, Arlington View, Stockcross, near Newbury, Berks.

JOURNEYMAN (20) for Pleasure Grounds, or Inside and Out; 5½ years' experience, mostly Outside; total abstainer; good reference.—T. WILTSHIRE, Woodcote House Gardens, Epsom, Surrey.

JOURNEYMAN, age 21, seeks Situation Inside or Inside and Out; seven years' experience, mostly Inside; good reference.—E. SOLLARS, Wain Blis, Pontrhydyrun, Newport, Mon.

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MR. CHAPMAN would be pleased to recommend E. Bailey as JOURNEYMAN (Second, Inside and Out); seven years' experience; 2½ years in present place; age 21.—Stratton Chase, Chalfont St. Giles, Bucks.

JOURNEYMAN (Second or Third, Inside); age 19; three years' experience in Plants, Fruit.—W. S. BARRELL, Coombe Cottage, Kingston Hill, will be pleased to recommend G. King.

YOUNG MAN, age 18, requires Situation in Garden; three years' experience; good references; Bothy preferred.—A. CLIFTON, Brook Dairy, East Bergholt.

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YOUNG MAN, age 19, seeks Situation as GARDENER (Under, Outside and In); five years' good reference.—B. BARRETT, Brandon Creek Bridge, near Downham, Norfolk.

YOUNG MAN, age 21, seeks Situation as GARDENER (Under, Inside and Out or Outside); good references; five years' experience in good places.—C. WINGROVE, The Lodge, Firfield, Addlestone, Surrey.

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The firm have been most successful exhibitors at all the important Horticultural Shows.

Particulars may be had at the Mart, of Messrs. Stones, Morris & Stone, Solicitors, 5, Finsbury Circus, E.C., of Messrs. T. P. Child & Son, C.A., 8, Fredericks Place, E.C., or of the Auctioneers, 67 and 68, Cheapside, E.C.

Important Sale of MEXICAN LÆLIAS, comprising in all about 750 plants, from the "Rosefield" collection of Orchids formed by De B. Crawshay, Esq., during the last 30 years.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY, OCTOBER 25th. Further details will appear later.

DUTCH BULBS.

Mr. J. C. STEVENS **begs to announce that his**

Sales by Auction

are held

MONDAY, WEDNESDAY & THURSDAY, at 12.30.

Catalogues post free.

Lots purchased, packed, and forwarded to all parts.

STEVENS' AUCTION ROOMS

(Established 150 Years),

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Cornwall. Parish of St. Clement, near Truro.

Thursday, September 26th, 1912.

Valuable Freehold Property for Sale, comprising the pleasantly-situated Residence known as "Park," containing drawing-room, dining-room, breakfast-room, eight bedrooms, kitchen, dairy and other offices, large kitchen garden and extensive and numerous outbuildings; the well-known Park Fruit Farm containing 168 acres 0 roods 39 poles of land, planted with approved sorts of choice Apple, Pear, Plum, and Cherry Trees, Strawberries, Black and Red Currants, and other small fruits, Vinery and Peach House, three gardeners' cottages, eight attractive holdings of pasture land, a dwelling-house, garden and orchard, market garden; a dwelling-house, quay, and boat-sheds, and ground rents with reversions in fee and other privileges. The whole, including Park Fruit Farm, containing 262 acres 0 roods 14 poles, which will be offered for Sale by

MR. J. H. SAMPSON, at the Royal Hotel, Truro, on THURSDAY, 26th SEPTEMBER, 1912, at 3 o'Clock in the afternoon.

Cards to view may be obtained of Mr. J. E. Holmes, Park, Truro, the Receiver and Manager of the Park Estate, and printed particulars, with plan and conditions of sale, may be had of the Auctioneer, 2, Green Street, Truro, or of J. Messer Bennetts, Solicitor, 7, Prince's Street, Truro.

Dated Truro, 31st August, 1912.

NURSERY GARDEN HOLDING to be Sold. SIDLESHAM, near CHICHESTER, SUSSEX. To be Sold by Auction by Messrs. WYATT & SON, on Wednesday, September 25th, 1912, at the Property Sale Room, East Street, Chichester, at 3 o'clock precisely (unless previously disposed of by private treaty), the valuable long leasehold, compact NURSERY GARDEN HOLDING, situate at Sidlesham, between Chichester and Silsey, comprising about two acres of cultivated ground, meadow of about one acre, the DWELLING HOUSE of seven rooms, with garden, glazed outbuilding stable, and other buildings, SEVEN GLASSHOUSES (heated), 100 ft. run of cold pits and packing shed, the whole forming a compact holding of about THREE ACRES, near Chalder Station, and about 3½ miles from the market town of Chichester. The property is in excellent repair, and a good trade is being done. The property is well supplied with water by windmill power. The property can be viewed on application to Mr. DARBYSHIRE, "The Homestead," Sidlesham, Chichester, and particulars, with conditions of sale, can be obtained of E. B. WANNOP, Esq., Solicitor, North Pallant, Chichester, and of Messrs. WYATT & SON, Auctioneers, Valuers, and Estate Agents, East Street, Chichester, and 14, West Street, Havant.

FRYETT, WHITE & CO., The Moorgate Auction Rooms, 23-5, Moorfields, E.C., beg to announce that their sales of DUTCH BULBS AND HORTICULTURAL PRODUCE are held every Tuesday, Wednesday and Friday. Catalogues free on application.

BUSINESSES FOR SALE, &c.

TO BE DISPOSED of immediately, owing to sudden illness, NURSERY, SEED and FLORIST'S BUSINESS on long lease, with six acres of ground, 10 greenhouses, good dwelling-house with shop combined; situated short distance from London in centre of thriving town; bargain to immediate purchaser.—L., Box 26, 41, Wellington Street, Covent Garden, W.C.

£2,000 will secure a well-equipped MARKET and RETAIL NURSERY and FLORIST BUSINESS complete; near London; well stocked; in good going order; same hands 30 years; tuition or partnership may be arranged; write at once.—T. G., Box 21, 41, Wellington Street, Covent Garden, W.C.

FOR SALE, as a going concern, compact FREEHOLD NURSERY; 1½ acres garden ground, glass (465 ft. run), and meadow; capital eight-roomed flint-built house, stable, cart-house, &c.; abundant water supply; own well; oil pumping engine. —Apply, B. C., 12, North Pallant, Chichester.

NURSERY FOR SALE; five large greenhouses, lights (heated), and large outbuildings; cheap.—NASH, St. Mark's Road, Mitcham.

FREEHOLD NURSERY FOR SALE at seaside; Grapes, Tomatos, and Chrysanthemums; over 800 ft. run of glass (heated); 2¾ acres ground; water-mill, packing shed, &c.; freehold £1,400. —L. R., Box 2, 41, Wellington Street, Covent Garden, W.C.

NEAR BRISTOL.—For Sale, GENUINE WHOLESALE NURSERY BUSINESS with excellent freehold premises, comprising modern seven-roomed house, about ¾ acre of Nursery garden (well stocked), up-to-date glasshouses, &c.; price moderate; rare opportunity.—Reasons for disposal and full particulars of WEEKS, 40, Whiteladies Road, Bristol.

MARKET NURSERY for SALE or to LET; four acres; 13 excellent modern glasshouses, up-to-date heating; capital dwelling-house.—WARRINGTON BENNETT, Kenilworth.

WILLIAM AUBREY & CO., Nurserymen's Agents, 10, Duke Street, Charing Cross, London, offer sound, progressive NURSERY, FLORIST'S and SEEDSMAN'S BUSINESS, Worcestershire; doing over £900 yearly; about six acres land, glasshouses, frames, dwelling-house, outbuildings, &c.; price only £75; stock at valuation about £600.

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MESSRS. PROTHEROE & MORRIS Horticultural Auctioneers, 67 and 68, Cheapside, London, E.C., will be pleased to forward particulars of either of the following properties:—

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OLD-ESTABLISHED NURSERY and FLORIST'S BUSINESS; 12 greenhouses; area 7¼ acres; commodious shop on main road and eight-roomed dwelling-house; moderate rent; price £1,150.

TO be SOLD, near Bristol, compact FREEHOLD NURSERY, area three acres, with 12 glasshouses, outbuildings; good dwelling-house; capital trade done; price £1,600; **half on mortgage if desired.**

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FREEHOLD MARKET NURSERY for Sale, within easy reach of Covent Garden, and close to Brentford and Kew Markets; area two acres; seven greenhouses, each 130 ft. long; the land has an important main road frontage; price freehold, including stock and crops, £2,000; part could remain on mortgage if desired.

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WANTED to rent about two or three acres of Pasture Land suitable for Nursery and Market Garden; Midlands preferred.—R. A. W., Box 4, 41, Wellington Street, Covent Garden, W.C.

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15,000 Standard, Dwarf and Climbing Roses,

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PROTHEROE AND MORRIS, HORTICULTURAL, MARKET GARDEN, and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

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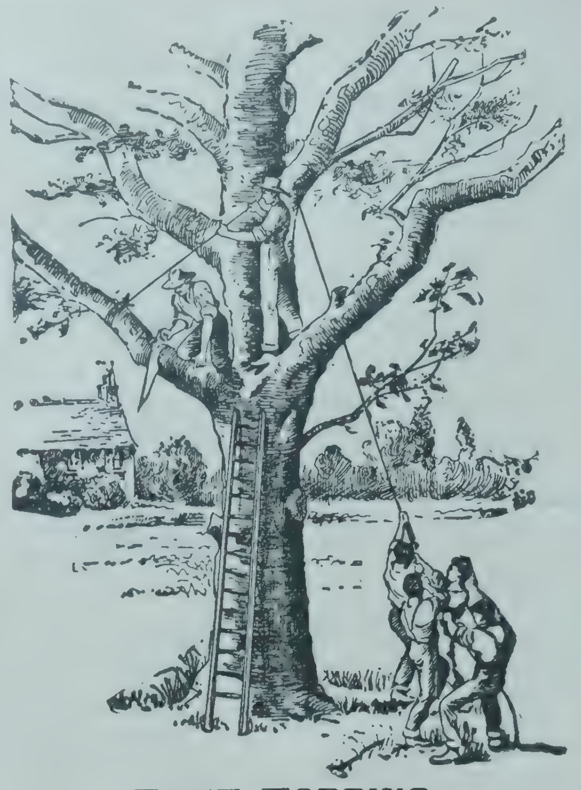

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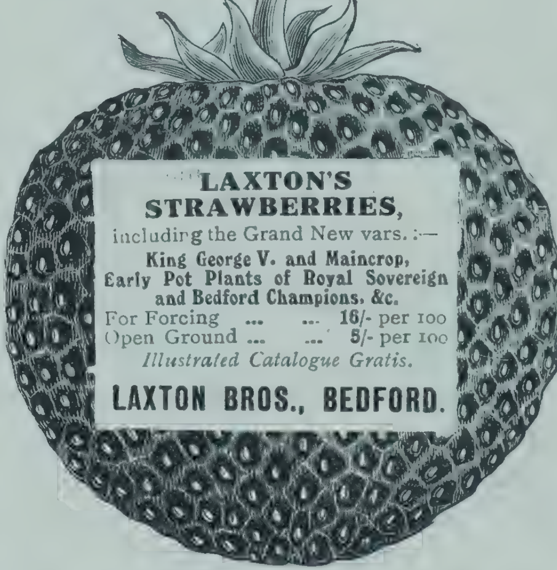

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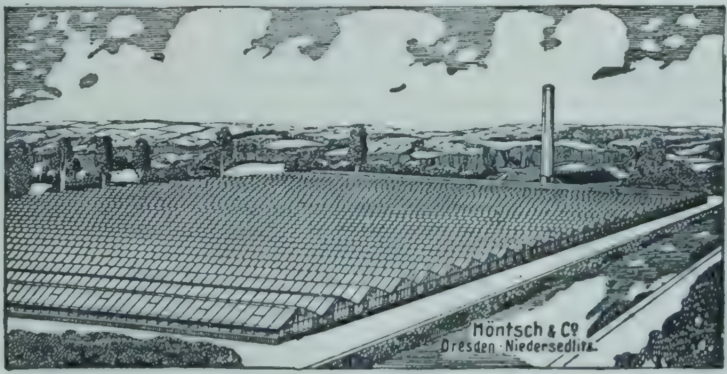

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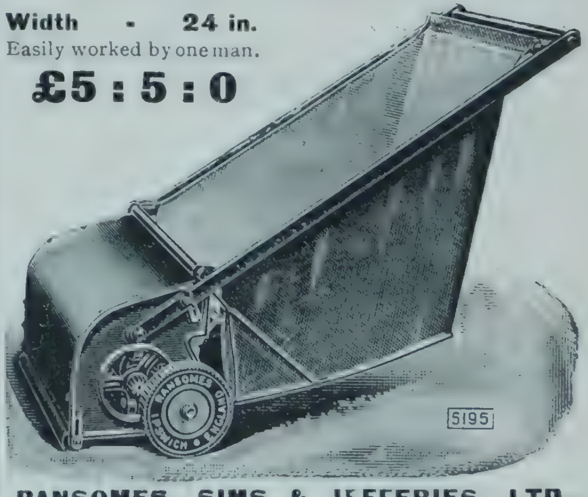

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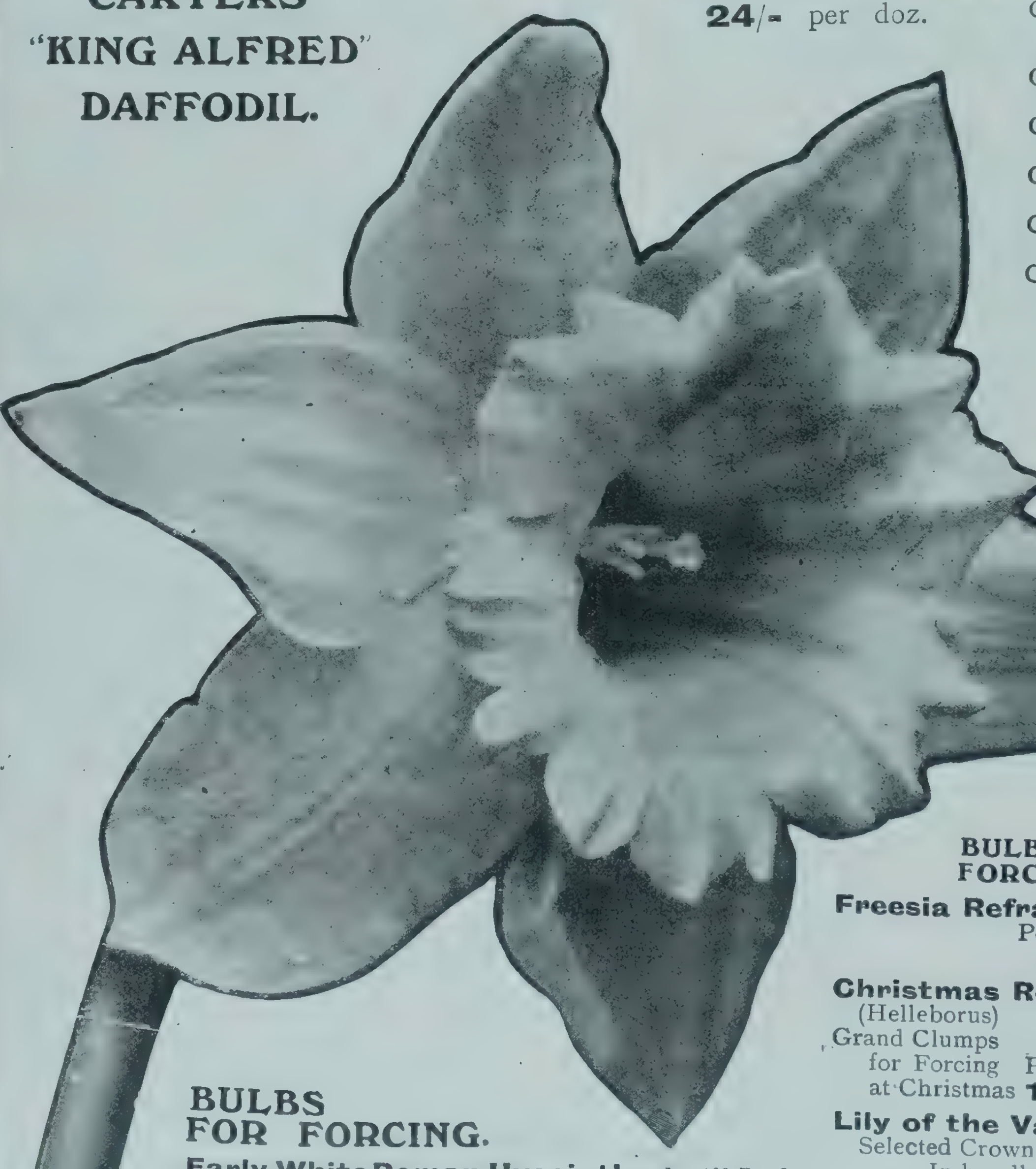

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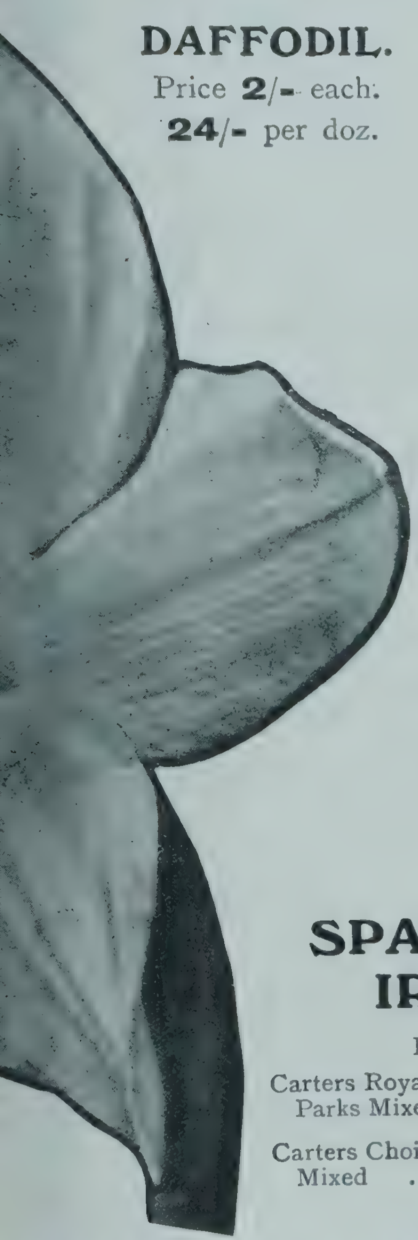

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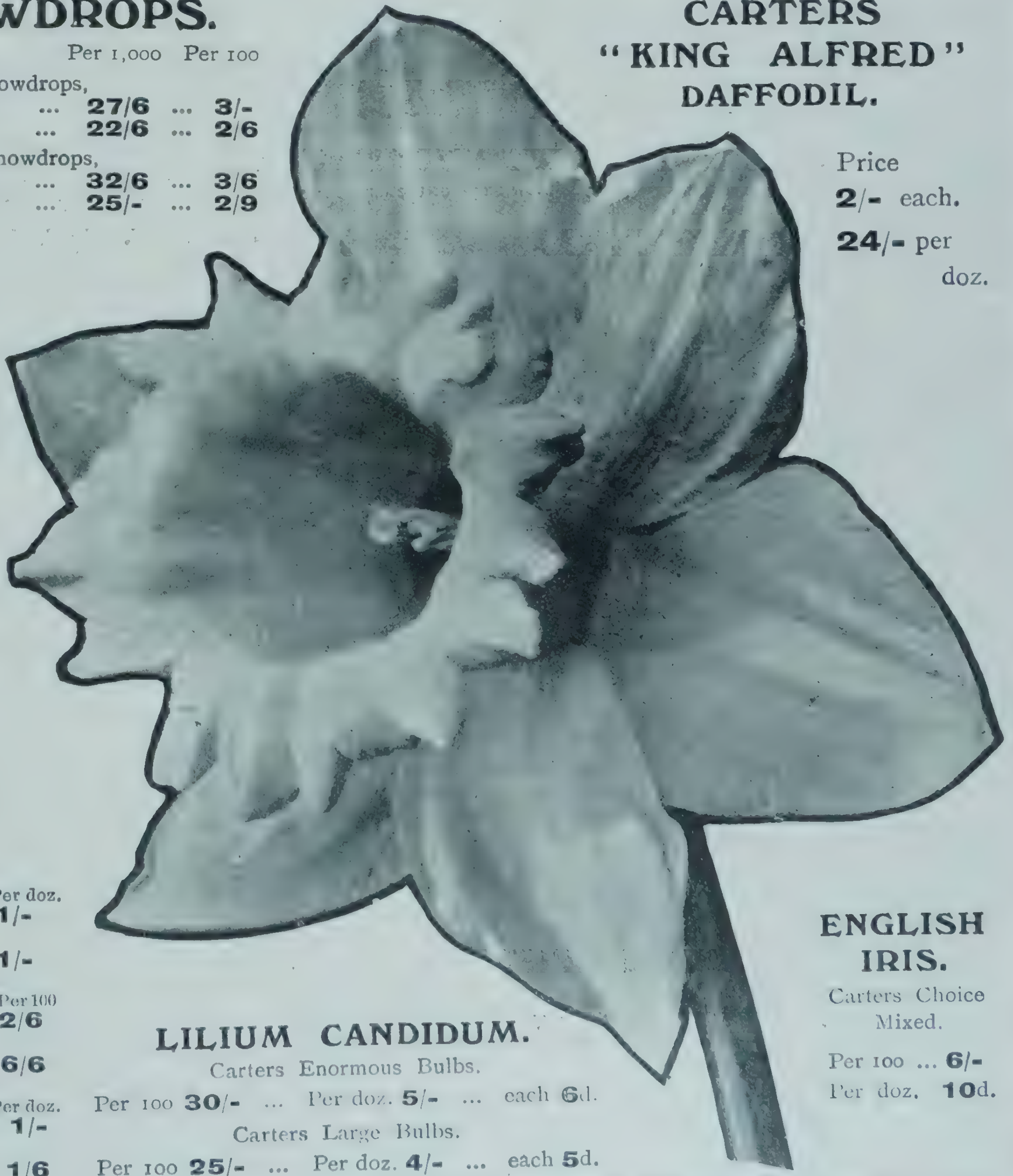

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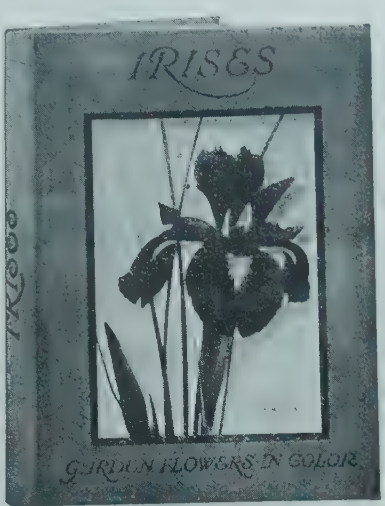

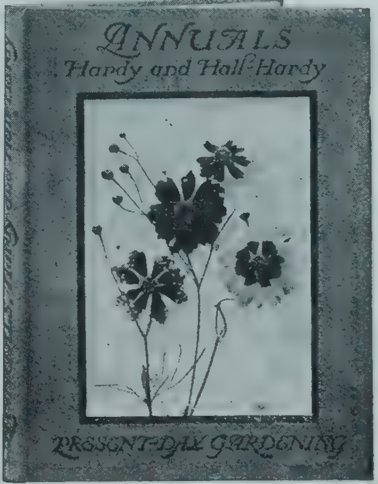

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ROOT AND STEM VEGETABLES. By Alexander Dean, V.M.H., Chairman of the National Vegetable Society.

"The book is admirably arranged, and will be a valuable companion to growers of vegetables for home use or for sale, and even for exhibition, a branch which has a chapter specially devoted to it."
—*Field.*

APPLES AND PEARS. By George Bunyard, V.M.H., Chairman of Fruit and Vegetable Committee of the Royal Horticultural Society.

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MARKETS.

COVENT GARDEN, September 18.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	2 0- 3 0
Asters, white	1 6- 2 0
— coloured, per doz. bunches...	1 6- 2 0
— single, mixed	2 0- 3 0
Bouvardia, per dz. bunches	6 0- 7 0
Carnations, p. doz. blooms, best American var.	1 6- 2 6
— smaller, per doz. blooms	0 8-0 10
— Carola (crimson), extra large	2 0- 3 0
— Malmaisons, p. doz. blooms:	
— — pink	8 0-15 0
Centaurea (Sweet Sultan) mauve and white, per doz. bunches...	2 0- 3 0
— yellow	1 0 —
Chrysanthemums, per dozen:	
— white	1 0- 2 6
— pink	1 0- 2 6
— yellow	1 0- 2 0
— bronze	1 0- 2 6
— white, per doz. bunches	3 0- 4 0
— coloured	3 0- 4 0
— maximum, per doz. bunches...	0 9- 1 0
Coreopsis, per doz. bunches	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink	0 9- 1 0
— white	0 9- 1 0
— blue	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue	4 0- 6 0
Eucharis, per dozen	2 0- 2 6
Gaillardia, per doz. bunches	0 6 -0 9
Gardenias, per box of 15 and 18 blooms...	2 6- 3 0
Gladiolus:	
— Brenchleyensis per doz. spikes	2 0- 2 6
— Hybrids, p. dz. spikes	3 0- 4 0
Gypsophila, p. dz. bunches:	
— white	2 0- 3 0
Lapagerias, white, per dozen	2 0- 2 6
Lilium auratum, per bunch	2 6- 3 0
— longiflorum, per doz., long	1 6- 2 0
— — short	2 0- 2 6
— lanciforium alba, long	1 6- 2 0
— — short	1 3- 1 6
Lilium speciosum rubrum, p. dz.,	
— long	1 6- 2 0
— short	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special...	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches...	4 0- 5 0
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	12 0-15 0
— Cattleya Harrisonæ, pr. doz.	6 0 —
— Odontoglossum crispum	3 0- 4 0
Pancratiums, p. dz. spikes	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 6
— C. Mermet	0 9- 1 6
— Frau Karl Druschki	0 9- 1 0
— General Jacqueminot	— —
— Liberty	1 6- 2 0
— Madame A. Chateney	1 0- 2 6
— Niphetos	1 0- 1 6
— Richmond	1 0- 2 6
— Sunburst	1 6- 2 0
— Sunrise	0 6- 0 9
— President Carnot	1 6- 2 0
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	0 9- 1 0
— Franz Deegen	1 0- 1 6
— Kaiserine	0 9- 1 6
Scabiosa caucasica, per doz. bnchs.	2 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve,	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	2 6- 3 0
Stock, p. d. bnchs:	
— white	4 0- 5 0
Tuberose, p. doz. blooms, long...	0 8- 0 9
— — short	0 6- 0 7
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches	1 6- 4 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Carnation foliage, doz. bunches...	4 0 —
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross bunches	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen...	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Asters, per dozen	4 0- 5 0
Chrysanthemums, 48's	6 0-12 0
Croton, per dozen	18 0-30 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0

Plants in Pots, &c.: Average Wholesale Prices (Cont'd.).

	s.d. s.d.
Ferns, in thumbs, per 100...	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, per dozen	6 0 —
— choicer sorts per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0 18 0
— lancifolium alba. in pots, per dozen	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 3 0
— Cooking, bshl.	3 0- 4 0
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured...	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Blackberries, peck	2 0- 2 6
— chip	1 6 —
Figs (Guernsey), per dozen	1 6- 3 0
— English	1 6- 3 0
— (Italian), boxes	1 0- 1 3
Cranberries, per case	11 0-13 0
Damsons, ½ bushel	3 0- 3 6
Grape Fruit, case:	
— 96's — 80's — 64's — 54's	24 0-26 0
— per dozen	6 0 —
Grapes (English), per lb.:	
— Hamburgh	0 9- 1 6
— Canon Hall	1 6- 5 0
— Muscats	1 0- 1 3
— Gros Colmar...	1 2- 1 6
— Black Alicante	0 8- 1 6
— Madresfield Court	1 6- 2 6
— Gros Maroc	1 0- 1 6
Greengages (English), ½ bushel...	5 0- 6 0
Lemons, per case:	
— Messina	8 6-16 6
— ordinary	6 0- 7 0
— Naples	18 0-28 0
Limes, per case	2 6 —
Melons (Guernsey)	1 0- 2 0
— (English)	0 9- 2 0
— Canteloupe	2 0- 4 6
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb....	0 2½-0 3
— Filberts, per lb.	0 2-0 2½
— Walnuts (French), p. lb.	0 4- 0 6
Oranges:	
— Italian per case	12 0-18 0
— Cape, per case	12 0-17 6
— Naartjees, per box	3 0- 3 6
Peaches	
— English, dozen,	
— selected	12 0-18 0
— best — seconds	4 0- 6 0
Pears:	
— French, pr. box	3 0 —
— — per crate	6 0- 8 0
— English, ½ bus.	2 6- 3 0
Pineapples, St. Michael	2 6- 5 0
Plums:	
— English, ½ sieve	2 6- 3 0
— (Californian), crate	8 6-12 0
— Switzers, ½ sieve	2 6- 3 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen	2 6 —
— English	2 0 —
— ground, ½ bus.	4 0 —
Aubergines, per dozen...	2 0 —
Beans:	
— French, ½ bshl.	3 0 —
— Scarlet Runners, per bushl.	1 6 —
— — per bag	2 6- 3 0
Beetroot, per bushel	2 0 —
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	4 0 —
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun....	1 6- 2 6
— per bag	3 6 —
— bushel	3 0 —
Cauliflowers, per dozen	2 6 —
— tally	6 0 —
Celery, per dozen	1 6 —
— dirty	1 0 —
Cucumbers, per flat	4 6- 6 0
Endive, per dozen	1 6 —
Greens, p. bushel	1 0 —
Herbs (sweet), packets, per gross	7 0 —
Horseradish, 12 bundles	15 0-18 0
Leeks, per doz.	2 0 —
Lettuce (English), Cos, per box	1 6 —
Cabbage, per box	1 0 —
Marrows, per tally	4 0 —
Mint, per dozen bunches	2 0 —
Mushrooms, cultivated, per lb.	0 8- 1 3
— field, per peck	3 0 —
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bushel	2 6 —
— (Spring), per doz. bunches	3 0 —
— (Spanish), case	4 0- 6 0
Parsley, ½ sieve	2 0- 3 0
— per doz. bun.	2 0 —
Parsnips, per bushel	2 0 —
— per bag	4 0 —
Peas (English), per bushel..	3 6- 5 0
— bags	6 0 —
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen	0 6- 1 0
Sage, per dozen	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel...	2 6- 3 0
Tomatos, per doz. lbs.:	
— (Guernsey),	1 9- 2 3
— (English)	2 6- 3 0
— seconds	1 0 —
— (French), crates	2 6 —
Turnips (English), per dz. bunches	1 6- 2 6
— per bag..	3 0 —
Watercress, p. dz. bunches	0 5- 0 7

Remarks.—Apples are arriving in large quantities from all sources; the Colonial output is anticipated to be the largest on record. A consignment of Pears of the variety Beurré Superfin, packed in boxes, arrived this week from Oregon in a very satisfactory condition. The market is also well supplied with very fine fruits of French and Californian Pears of the variety Doyenné du Comice. Home growers are contributing some very large fruits of such varieties as Marguerite Marillat, Pitmaston Duchess and Souvenir du Congrès. English Plums are almost finished, but a good supply of Prune Plums is arriving principally from Bedfordshire. There are also some good samples of Californian Plums sent in trays and boxes. Damsons are a limited supply. Sloes are a very heavy crop this year and Blackberries are especially plentiful. There continues a very heavy supply of English Grapes, for which there is a moderate demand. Supplies of English and Channel Island Figs are decreasing; Italian consignments, however, seem to be very plentiful. The first consignments of Peaches from Ontario came to hand this week. English Peaches still continue to arrive in limited quantities. The supplies of Melons are shorter, and higher prices are being obtained for good fruits. English and French Walnuts are plentiful. There is also a heavy supply of Cobnuts, which are cheap. The English supplies of Tomatos have not been quite so heavy during the past week, consequently their prices have advanced; there has also been a falling off in the Continental supplies of this fruit. The vegetable trade has shown a slight improvement during the week, with no apparent falling off in supplies. *E. H. R., Covent Garden, September 18, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per cwt. s.d. s.d.
Bedfords	4 0- 4 6	Blacklands	3 9- 4 3
Kents	4 3- 5 0	Lincolns	4 0- 4 6

Remarks.—Disease is very prevalent among the cheaper sorts of Potatos. *Edward J. Newborn, Covent Garden and St. Pancras, September 18, 1912.*

GARDENING APPOINTMENTS.

[Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. J. Mayne, for 7 years Foreman to F. S. Low, Esq., Kiftsgate Court, Campden, Glos., and at Rookery Park, Yoxford, Suffolk, as Gardener to E. Spyer, Esq., Woodlea, St. John's Wood, London. (Thanks for donation of 1s. for R.G.O.F. box.—Eds.)

Mr. Thomas Timson, until recently for 5½ years Foreman at Hall Place, Tonbridge, Kent, and previously for 2 years at Theobalds Park, Waltham Cross, as Gardener to Guy Halpeave, Esq., Shinfield Lodge, Reading, Berks.

Mr. Ernest Markham, for the past 5 years Gardener to Lord Marcus Beresford, Bishopsgate, Englefield Green, Surrey, as Gardener to W. Robinson, Esq., F.L.S., Gravetye Manor, East Grinstead, Sussex.

Mr. H. Bristow, late Foreman at Headley Park, Epsom, also Knightshayes, Tiverton, and Castle Hill, Devon, as Gardener to G. B. Batchelor, Esq., Coombe Florey House, Taunton, Somerset.

CATALOGUES RECEIVED.

BULBS.

G. H. Plant & Co., Bank Buildings, The Eastgate, Chester.

MISCELLANEOUS.

W. Watson & Sons, Ltd., Clontarf Nurseries, Dublin—Carnations.

The Wargrave Plant Farm, 10, The Arcade, Liverpool Street, London—Nursery Stock.

G. F. Letts, 45, Hadleigh, Suffolk - Nursery Stock.

D. M'Omish, Crieff—General Stock.

A. Perry, Enfield, Middlesex—Bulbs and Tubers; Delphiniums.

Wm. Paul & Son, Waltham Cross, Hertfordshire—Roses.

FOREIGN.

Haage & Schmidt, Erfurt, Germany—Novelties of Seeds for 1913.

Vilmorin-Andrieux et Cie, 4, Quai de la Mégisserie, Paris—Seeds.

Ernst Benary, Erfurt, Germany—Novelties in Plants.

Fratelli Rovelli, Lago Maggiore, Pallanza, Italy—Trees and Shrubs.

Soupert & Notting, Luxemburg (Grand-Duchy)—Roses.

P. Bernaix Fils, Villeurbanne, near Lyons, France—Roses.

SCHEDULES RECEIVED.

The Highgate and District Chrysanthemum Society.—The twenty-eighth annual exhibition of this society will be held at the Alexandra Palace, Muswell Hill, N., on Wednesday and Thursday, November 6 and 7. Secretary, Mr. E. J. Fenwick.

DEBATING SOCIETIES.

CROYDON & DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT.—The usual fortnightly meeting of this society took place on the 3rd inst., at the Sunflower Temperance Hotel, George Street. Mr. C. H. Dyke presided over a good attendance of members, and Mr. E. Burge, The Lodge, Oakwood, Beckenham, delivered a discourse on the United Horticultural Benefit and Provident Society.

NEW INVENTION.

MOSS AND WEED DESTROYER.

Mr. E. J. Wootten, Fairoak, Eastleigh, has sent us a small two-ended hoe, specially designed for removing Moss and weeds from the surface of flower pots. The tool is 8 inches in length and weighs only 4 ounces. The ends are shaped like diminutive hoes, and are of two sizes, for use in large and small pots.

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending September 14, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather*—Over the kingdom generally the weather was mostly dry, although seldom bright, but in the north-east and east of Great Britain rain was again experienced early in the week.

The *temperature* continued below the average, the divergence being 4° or more in all districts, and as much as 6° in England S.E. The highest of the maxima were mostly recorded either on the 8th or 13th, and ranged from 69° in Scotland E. and 68° in England N.E. to 63° in England N.W. and Ireland N. On the 9th and 10th maximum readings below 55° were recorded over a large portion of Great Britain; at some stations in the north of Scotland the thermometer did not reach 50°. The lowest of the minima which occurred on various dates, ranged from 29° in Scotland W. and 30° in Scotland E., to 41° in England E. and to 43° in the Channel district. The lowest grass readings reported were 25° at Newton Rigg, 26° at Glasgow, and 27° at Burnley, Aspatria and Southport. The temperature of the soil continued below the normal at a depth of 1 foot and also at 4 feet.

The *mean temperature of the sea* was very generally below the normal, and also lower than during the corresponding week of last year. The values ranged from 59° at Newquay and 57° at several other places in the south-west, south and south-east to 49° at Kirkwall and Burnmouth.

The *rainfall* exceeded the normal in Scotland E. and England E., but was below it elsewhere, the fall generally being very slight. At many stations in the west, south and south-east the week was rainless.

The *bright sunshine* was a little above the average in Ireland and Scotland N. and W., much below it elsewhere. In all parts of England except the south-west the mean daily duration was less than 3 hours, and in the north-east, east and south-east districts, it was less than half the average. The percentage of the possible duration ranged from 38 in Scotland W., 37 in Ireland S. to 19 in England E. and the Midland Counties, and to 16 in England N.E.

THE WEATHER IN WEST HERTS.

Week ending September 18.

The seventh cold and sunless week in succession.—Another cold week. In fact, during the last seven weeks there has not been a single unseasonably warm day, although the nights have been occasionally above the average in temperature. During the past week there occurred only one such night, and on three nights the exposed thermometer fell to within 2° of the freezing point. The ground is now 3° colder than is seasonable both at 1 foot and 2 feet deep. A little rain fell on the first day of the week (the 11th), but since then no measureable quantity has fallen. Since the present month began the total rainfall has amounted to less than a quarter of an inch—making these 18 days the longest and driest period since April, or for over four months. No measureable quantity of rain-water has come through either of the percolation gauges for over a fortnight. The sun shone on an average for only 51 minutes a day during the week, which is four hours a day short of the average duration for the middle of September. Light airs and calms have alone prevailed, and these light airs have come almost exclusively from the north-west. The mean amount of moisture in the air at 3 p.m. exceeded a seasonable quantity for that hour by eight per cent. *E. M., Berkhamsted, September 18, 1912.*

TRADE NOTICE.

MESSRS. WM. WATSON & SONS, LTD.

THIS firm has purchased the interest in the lands of Kilbogget Farm, Killiney (consisting of 148 acres, opposite Killiney Golf Links), for the development of their nursery business, but communications should continue to be addressed to the head office at Clontarf. The firm will continue under the management of the joint proprietors, Messrs. James and John Matchett Watson.

GARDENING CHARITIES.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

GEO. J. INGRAM, Sec.,
92, Victoria Street, S.W.
Telephone—Victoria 5142.

ROYAL GARDENERS' ORPHAN FUND

B. WYNNE, Sec.,
19, Bedford Chambers, Covent Garden, London, W.C.

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SITUATIONS VACANT.

Four Lines 3s. (Head-line counted as Two), 6d. for each succeeding line.

PRIVATE.

WANTED, GARDENER (HEAD), for country club close to London; must be thoroughly experienced horticulturist and energetic worker; complete knowledge of every branch of Gardening, both under glass and in the open indispensable. —Copies of references, experience, age, and full particulars to J. R., Box 1, 41, Wellington Street, Covent Garden, W.C.

WANTED, early October, GARDENER (HEAD, three kept); good experience in Herbaceous Borders, Vegetables, Vines, and general Inside and Outside work.—Apply, stating age, references and wages expected, to Mrs. R. P. MORGAN, Brynhyfryd, Neath, S. Wales.

WANTED, experienced GARDENER (SINGLE-HANDED); wages about 18s, with cottage; good references.—CRUM, "St. Fillan's," East Grinstead.

WANTED, GARDENER (SECOND, INSIDE); married; thorough knowledge of Fruit and Plant culture; good character; wages 18s. per week and cottage.—A. TAYLOR, Chesterford Park, Saffron Walden.

WANTED, GARDENER (SECOND); must have excellent references and be thoroughly experienced Inside and Outside work, Herbaceous Border, Chrysanthemums, Carnations, &c.; married man preferred; Protestant; not over 30 years of age.—Apply, Mr. GREEN, The Gardens, Kingstone Lisle Park, Wantage.

WANTED, experienced KITCHEN GARDENER; single; duty every third Sunday. —State wages and experience, J. FRANCIS, Stokesay Court Gardens, Onibury, Shropshire.

WANTED, GARDENER (SECOND of two); chiefly Outside; good character; married; wages 15s., cottage and vegetables.—G. SMITH, Tyrell Cottages, Boreham, Chelmsford.

WANTED, FOREMAN for Houses, do Decorating, &c.; £1 per week and Bothy; also man for Herbaceous Borders and Outside Gardening generally; take turns at fire and Sunday duty; 18s. and Bothy; only those interested in their work need apply, stating experience; copies of character only.—GEO. W. KENT, Brocket Gardens, Hatfield, Herts.

WANTED, end of October, FOREMAN (INSIDE); smart, active man, with good knowledge of Fruit and Plant culture; especially well up in Carnations, Chrysanthemums, Lilium and Bulb growing; age about 28; abstainer preferred; Bothy, milk, and vegetables.—Apply by letter to H. W. DUDMAN, The Gardens, Norman Court, Salisbury.

WANTED, FOREMAN for the Houses, with thorough knowledge of Fruit and Plant culture; not under 26; £1 per week, Bothy, &c.; state full particulars.—W. PROWTING, Reigate Priory Gardens, Reigate.

WANTED, FOREMAN (OUTSIDE); experienced; well up in Herbaceous and Alpine Plants; 20s., Bothy, &c.—All particulars to STEWART & CO., 13, South St. Andrew Street, Edinburgh.

WANTED, FOREMAN (OUTSIDE); experienced Pleasure Grounds, Hardy Fruits; wages 18s., Bothy, &c.—Full particulars to LEWIS, Road Manor Gardens, Bath.

WANTED, FOREMAN (INSIDE); good Decorator essential; one been through London season preferred; well up in Plants and Fruit; wages 23s., Bothy.—W. J. GARDNER, Trent Park Gardens, New Barnet, Herts.

JOURNEYMEN, First-class (OUTSIDE) requiring Situations should write, enclosing copies of references, the SECRETARY, British Gardeners' Association, Ulysses, Fortune Green, N.W.

WANTED, JOURNEYMAN (INSIDE); abstainer and Nonconformist; age 20-21; state height, particulars as to character, experience; wages 16s., Bothy, &c.—H. G., Box 8, 41, Wellington Street, Covent Garden, W.C.

WANTED for Derbyshire, two energetic, well-conducted JOURNEYMEN; one must be a good all-round Plant Grower and a quick potter; wages 18s.; the other experienced in Hardy Fruits and Pleasure Ground work; capable of taking duty; wages 16s. per week, Bothy, milk, and vegetables; abstainer preferred.—Apply, stating age, height, and full particulars, to HEAD, Box 11, 41, Wellington Street, Covent Garden, W.C.

WANTED, JOURNEYMAN (FIRST); age 24; good knowledge of Carnations, Orchids Greenhouse Plants, House Decorating; duty alternat weeks; wages required with Bothy, &c.; send par ticulars.—MOLES, Heathlands, Wokingham, Berks.

WANTED at once, smart JOURNEY-MAN for Fruit and Plant Houses under Fore man, about 23 to 25, to assist in growing first-class stuff good character; abstainer preferred; Bothy, milk, and vegetables.—Apply to H. W. DUDMAN, The Gardens Norman Court, Salisbury.

WANTED, JOURNEYMAN; experienced for Inside and Out; 16s. per week, wit lodging found. — HEAD GARDENER, Pontryffydd Trefnant, N. Wales.

WANTED, active JOURNEYMAN for Houses; wages 18s.; duty every thir week, 3s. extra.—Particulars to A. COBB, Duffryn Gar dens, near Cardiff.

WANTED, JOURNEYMAN for Pleasure Grounds; wages 18s., Bothy, &c. Sunday duty and overtime paid extra; preference ma be given to good cricketer.—State height, experience, an all particulars, to H. R. W., care of Ware's Nursery Feltham, Middlesex.

WANTED, married MAN (35 to 40) for Hardy and Wall Fruits; Wife to take th Bothy work; without young children and abstainer preferred; good character.—Apply to H. W. DUDMAN The Gardens, Norman Court, Salisbury.

WANTED, energetic, single MAN, age 24, to take the Lead on the Pleasur Grounds and Kitchen Garden and take duty.—Stat wages and experience (no Bothy), A. J. SMITH, Sud bury House Gardens, Harrow-on-the-Hill, Middlesex.

WANTED, strong, active MAN for Pleasure Grounds; about 23.—State experience wages required, with Bothy, &c. (send copies references) E. KINTLAND, The Hermitage Gardens, Walton-on the-Hill.

WANTED, YOUNG MAN for Kitchen Garden and Pleasure Ground; ag about 24; wages 17s., Bothy, &c.—Apply, A. SMITH The Gardens, Oldbury Hall, Atherstone.

WANTED at once, YOUNG MAN for Pleasure Grounds; duty one week in three 16s., Bothy, milk and vegetables, &c.—Particulars t MERWOOD, Tatchbury Mount, Tatton, Hants.

WANTED.—Can any Gardener recommend strong, active Young Man to tak charge of Fruit and Plant Houses; must be capabl and experienced; wages 17s., Bothy, and vegetables age not under 22.—J. MUDDELL, Sedgwick Park Gar dens, Horsham.

WANTED.—Can any Gardener thoroughly recommend a Young Man for House and Kitchen Garden, with knowledge of Vines, Tre Carnations, Potting, &c.; must be quick, strong, an hard-working; state age, height; abstainer.— HEAD GARDENER, Bloomfield, Upper Norwood, S.E

WANTED, YOUNG MAN, about 22, for Outside work; 18s. per week.—Apply, wit testimonials, to W. SELLIFANT, Aldon, Yeovil.

WANTED, good all-round GAR-DEN-LABOURER; good character and abl to use Scythe; wages £1.—Apply, BUNGAY, Hardwick Sedgefield, Ferryhill.

WANTED, single YOUNG MAN for STOKER and help Inside; Lincolnshire.—Par ticulars, age, wages, and references, to J. L., Box 1 41, Wellington Street, Covent Garden, W.C.

WANTED, married MAN for smal herd, Jerseys; good, clean milker; house, gar den, and milk; wages 15s.; state age, experience, refer ences.—Mr. MAJOR, Swalcliffe, Banbury.

TRADE.

WANTED, FOR AUSTRALIA.— leading house has an exceptional opening for Gentleman of good address and character, well ed cated, and with a first-class experience of the Trade all its branches; one who has had charge of a bus ness preferred; age about 30; interview required; pa sage paid, and good salary and engagement given. Apply in own handwriting, AUSTRALIA, Box 24, Wellington Street, Covent Garden, W.C.

WANTED, GARDENER (HEA WORKING) for Kingswood Reformatory for B near Bristol; thoroughly experienced in Vegetab Fruit, and Flowers for Market; good disciplinarian. For particulars apply, with stamped addressed envelo to the SUPERINTENDENT

WANTED, by firm of Contractors, a LANDSCAPE FOREMAN (Working), with experience in every branch of Gardening, including Rock Gardening; preference would be given to those having good contractors' references.—N. B. W., Box 16, 41, Wellington Street, Covent Garden, W.C.

WANTED, for North of England, LEADING HAND for Rockery building; must have had good experience; state where gained and wages expected, also enclose two recent testimonials.—B. K., Box 4, 41, Wellington Street, Covent Garden, W.C.

WANTED, by Frank Grace, Nurseryman, Berlin, Cape Colony, an experienced BUDDER for general Nursery work, Rose and Fruit Trees; age about 18 to 25 years; £4 per month, with board, lodging, and washing, increasing yearly.—Apply, in first instance, to W. BENTLEY, 2, Barlby Road, St. Quintin Park, North Kensington, W.

WANTED, an all-round GARDENER (Jobbing), with thorough knowledge of furnishing indispensable; abstainer preferred; permanency to a suitable man.—E. R. S., Box 18, 41, Wellington Street, Covent Garden, W.C.

WANTED, MAN for Nursery who understands lifting and planting, also Landscape work; must be steady and reliable.—State age, experience and wages expected, with references, to FISHER, SON & SIBRAY, LTD., Royal Nurseries, Handsworth, Sheffield.

WANTED, at once, for range of Houses, expert GROWER; experienced with Florist Flowers and Catch Crops; full particulars, with wages, asked.—KING'S ACRE NURSERIES, Hereford.

WANTED, an Active MAN to take charge of our Outdoor Department of Hardy Climbing Plants, &c.; execute and pack orders, &c.—Reply, stating experience, references, and wages required, to GEO. JACKMAN & SON, Woking Nurseries, Surrey.

WANTED, experienced MAN as SECOND HAND, to take charge in Foreman's absence; used to Sales; also UNDER HAND, for Bulbs, Chrysanthemums, Bedding, Ferns, &c.—State experience, references, age, and wages required, to FOREMAN, St. Ann's Nursery, Kirkstall, Leeds.

WANTED, YOUNG MAN with good all-round experience as FOREMAN in small Market Garden; able to take charge of Fruit and Plant Houses; attend to Propagating, &c.; wages 21s., Bothy, &c.—HARVEY, Palermo, Bray, Ireland.

WANTED, YOUNG MAN for Garden Work; age 20; Inside and Outside; must be keen and quick; good character essential; gentleman's Nursery garden.—State wages and particulars to WOOTTEN, Fairoak, Eastleigh.

WANTED, YOUNG MAN with knowledge of Tree Carnations and general indoor Nursery work; state wages required, &c.—J. LEWIS & SON, Nurserymen, Malvern.

WANTED, a YOUNG MAN for Outside Nursery, with some experience in Budding, Grafting, &c.—Apply, giving full information as to previous experience and stating wages expected, to COWAN'S, LTD., Gateacre Nurseries, Gateacre, near Liverpool.

WANTED, near Manchester, Young Man about 20; must have good experience in cutting, bunching, and packing Valley, Tulips, &c., for the Market.—N. C., Box 3, 41, Wellington Street, Covent Garden, W.C.

WANTED, experienced TRAVELLER for Manchester House to call upon Gardeners, and to take occasional journeys amongst Market Growers; one who has had previous experience preferred.—Apply, giving full particulars as to age, wages, and experience, D. D., Box 10, 41, Wellington Street, Covent Garden, W.C.

SEED TRADE.—Wanted, for Midlands, smart JUNIOR ASSISTANT; used to counter trade; fill in spare time soliciting orders; state fully experience, age, height, wages, references; permanency if suited.—SEEDSMEN, Box 2, 41, Wellington Street, Covent Garden, W.C.

WANTED, NURSERY CLERK for books and invoicing, &c., with good general knowledge of Nursery Stocks; permanent and progressive to a suitable man. Also smart JUNIOR CLERK for invoicing, correspondence, &c., preferably with some knowledge of shorthand.—Apply, stating age and experience, with wages required, to W. FROMOW & SONS, Windlesham Nurseries, Surrey.

WANTED, SHORTHAND TYPIST, with experience in Nursery business; full particulars, with wages, asked.—
KING'S ACRE NURSERIES, Hereford.

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CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

LADY GEORGIANA MURE wishes to recommend Donald McLennan as GARDENER (Head), who has been in the service of Colonel Mure, of Caldwell, for 23 years, and is leaving owing to the place being let; she will be glad to answer any inquiries about him or give a personal reference.—Apply, D. McLENNAN, Gardener, Caldwell, by Glasgow.

GARDENER (Head, where six or more are kept).—Mr. H. KING, Avon Castle Gardens, Ringwood, Hants, can confidently recommend his Foreman, Thomas Sidwell, to anyone requiring the services of a thoroughly practical and skilful GARDENER; nearly 15 years' first-class experience in the cultivation of choice Fruits, Vegetables and Flowers, including Orchids, Roses, Carnations, Pleasure Grounds, and general routine; age 30; married, one child.

GARDENER (Head) seeks Re-engagement with any Lady or Gentleman requiring a first-class Gardener; life experience in all branches pertaining to Horticulture and Landscape work; nine years as Head; excellent references; age 41; no family.—R. PRATT, Draycot Cerne, Chippenham, Wilts.

GARDENER (Head) seeks Situation where three or more are kept; three years here as Head, five years previously as General Foreman Haynes Park, Bedford, and previous 4½ years Croxteth Hall, Liverpool; thorough all-round experience; age 35; highly recommended.—JAMES FISHER, The Gardens, Templecombe House, Templecombe, Somerset.

GARDENER (Head, where two or more are kept) seeks Re-engagement; Gentleman highly recommends his Gardener; life experience all branches; trustworthy; married; excellent references.—SIMS, Mill, Watlington, Oxon.

GARDENER (Head, with one or two under); life experience, Inside and Out; excellent reference past and present employers; age 33; married.—TURNER, 10, Clinton Terrace, Dormansland.

GARDENER (Head) seeks Re-engagement; wide and thorough experience; present employer strongly recommends; excellent previous references; keenly interested all branches; age 32; married.—MARTIN, Summer Court Gardens, Wrotham.

E. MILLER MUNDY, Esq., Shipley Hall, Derby highly recommends A. Harris as GARDENER (Head) in good establishment; six years as General Foreman; experienced in all branches, Inside and Outside.—A. HARRIS, Shipley Hall, Derby.

GARDENER (Head); thorough knowledge; wide experience in all branches of Horticulture; expert cultivator of choice Fruit, Flowers, and Vegetables; capable and economical manager; exemplary character.—H. KING, Stone Cottage, Aston Bank, Ludlow.

GARDENER (Head, where more are kept); 16 years' experience all branches; age 31; can be well recommended to any Lady or Gentleman.—H. SMITH, Moor Hall Gardens, Cookham, Bucks.

GARDENER (Head) seeks Re-engagement with any Lady or Gentleman requiring the services of a practical man; 20 years experience, gained in large establishments; 2½ years as Head in present place; age 35; married, one child.—H. F., Box 14, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head or good Single-handed); nine years' experience in good establishments; excellent references; age 26; married when suited.—G. SALMON, Wavendon House Gardens, Woburn Sands, Beds.

GARDENER (Head or good Single-handed); life experience, Inside and Out; age 30; abstainer; disengaged when suited.—C. M., 90, Francis Avenue, Southsea. (No circulars.)

GARDENER (Head Working) or GARDENER and BAILIFF if required, where five or six and upwards are kept; 25 years practical experience in all branches, Inside and Out, and Laying Out; thoroughly reliable; highly recommended; married, with encumbrance.—F. WOODHOUSE, Blackboys, Uckfield, Sussex.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park Gardens, can with confidence recommend H. Stedman as above, where three or more are kept; life experience in all branches; age 35; married, two children; life abstainer; excellent references.—STEDMAN, Bicester Lodge, Kirtlington Park, Oxon.

GARDENER (Head Working); life experience in good establishments; accustomed to high-class culture; Orchids a speciality; good references; age 32.—WOOD, 3, Victor Cottages, Lewes Road, Lindfield, Sussex.

GARDENER (Head Working); thoroughly experienced in all branches; understands Stock and Poultry; present place four years and four months; good references; age 39; married, no family; disengaged September 21st.—W. PRINCE, The Gardens, Childown, near Chertsey, Surrey.

GARDENER (Head Working); life experience in all branches, Inside and Out; married, two children, ages 9 and 7; five years present place; excellent references.—TROWBRIDGE, The Cottage, Mead House, Southend, near Reading, Berks.

GARDENER (Head Working); 15 years' practical experience, gained in good establishments; excellent references; age 28; single.—L. BONIFACE, 64, West Bay Road, Bridport, Dorset.

GARDENER (Head Working); practical experience in all branches; age 42; married, no family; six and ten years' highest references.—GARDENER, 207, Preston Road, Brighton.

J. S. WHITE, Esq., St. Margaret's, Weybridge, highly recommends his GARDENER (Head Working); 26 years' practical experience; age 40; married, no family.—W. ANDERSON. Delhi, Weybridge.

MR. AMOS PERRY, Hardy Plant Farm, Enfield, can with confidence recommend a thoroughly experienced GARDENER (Head Working), where first-class gardening is required; full particulars on application.

GARDENER (Head Working).—Mr. GILBERT wishes to recommend E. Munt as above where three or four are kept; life experience, gained in first-class places, including Chatsworth, Wood Green Park, &c.; 3½ years here as Second; good references.—MUNT, Champneys Gardens, Tring, Herts.

GARDENER (Head Working); life experience; thoroughly practical in all branches; 22 years' excellent references; age 37; married.—SUTTON, Chesfield Park, Stevenage, Herts.

GARDENER (Head Working, where three or more are kept; life experience, Inside and Out, including Orchids; four years in present situation; well recommended by present and previous employers; disengaged when suited.—ROBERT BEGG, Redenham House, Andover, Hants.

GARDENER (Head Working, where several are kept); 17 years' good practical experience all branches; five years Head last place; highest references as to capabilities; age 34; married.—A. SPRINGHAM, Henbury, Bristol.

GARDENER (Head Working or good Single-handed); life experience, Inside and Out; good references; three years as Head; age 26; single.—H. MANNERS, Wall Hill Farm, Corley, Coventry, Warwickshire.

GARDENER (Head Working or good Single-handed); life experience, Inside and Out; nine years in last place; age 40; married, one child; good references.—H. PATCHING, 131, Trafalgar Road, Portslade, Sussex.

GARDENER (Head Working or good Single-handed), Scotch, wishes Situation; in or near London preferred; first-class character; thoroughly experienced, Inside and Out; age 40; married.—J. F., 178, Clifton Terrace, Richmond, Surrey.

GARDENER (Head Working or good Second); age 25; experienced in all branches, gained in first-class establishments; good references.—Particulars, A. PRUCE, The Lodge, Hyde Lane, Gloucester.

GARDENER (Head Working, where two or three are kept); life experience Inside and Out; well recommended; age 34.—T. BARNARD, The Lea Gardens, Esher, Surrey.

GARDENER (Head Working of three).—P. F. WARNER, Esq., desires to recommend his late Gardener, James Paice, very highly; life experience in all branches Inside and Out; age 29; married, no family; disengaged.—Apply, JAMES PAICE, Myrtle Cottage, Bushey Heath, Watford.

GARDENER (Head Working or good Single-handed); 21 years' practical experience; 9½ as Head; age 34; married, one child; well recommended.—H. ATKINS, 5, Yorke Road, Croxley Green, Herts.

GARDENER (Head Working or good Single-handed with help); life experience Inside and Out; married, no family.—J. E. WOLDEN, Tamworth Lodge, Mitcham. (No circulars.)

GARDENER; life experience Inside and Out; look after car if required; certificate; good references; age 30; single; total abstainer.—GREY, 41, Grafton Road, Worthing.

GARDENER (good all-round experience); young man; strong, reliable; make himself generally useful; any distance; low wages; 10 years' character.—J. F., 27, St. Dunstan's Hill, City.

GARDENER (Single-handed or with help); used to Vegetable and Flower growing; good Nursery experience of Forcing and Growing under Glass; married; 10 years present situation.—W., 144, Castlemain Road, Stourfield Park, Bournemouth.

GARDENER (Single-handed); well up in Herbaceous, Alpines and Roses, Hardy Fruit and Kitchen work generally; 14 years' experience in good places.—ARLOTT, Sherfield-on-Loddon, Basingstoke.

GARDENER (Single-handed or good Second); age 29; 14 years' practical experience Inside and Out; well recommended; abstainer; married, child age 2½.—COLLIER, Oldfield, Riverside, Maidenhead.

GARDENER (Single-handed); thoroughly experienced Inside and Out; age 27; married when suited; willing to be useful; abstainer.—H. DUNMALL, The Gardens, Elmhurst, Bedonwell Hill, Belvedere, Kent.

EDGAR TAYLOR, Esq., highly recommends G. Henbest as GARDENER (Single-handed); 13 years' general experience; eight years present place.—Apply, HENBEST, Colney Park Gardens, near St. Albans, Herts.

GARDENER (Single-handed or otherwise); good all-round Inside and Out; life experience; age 30; married; five years' reference; abstainer.—ATTWATER, 18, Oak Road, Çrawley.

GARDENER (Single-handed or good place as Second); excellent character; nine years in present place; leaving when suited; age 25.—WILLIAM DEVERALL, The Green, Holt, Wilts.

GARDENER (Single-handed); life experience; age 43; single.—W. O., 53, Denmark Road, Wimbledon.

GARDENER can confidently recommend Man for Pleasure Grounds and Kitchen Garden; used to machines and scythe; age 34; married.—WELLS, Aberpergwm, Glyn Neath, Glam.

GARDENER (Second or Single-handed, Inside and Out); eight years' experience; age 24; good references.—Apply, E. SLATER, Bhylls Cottage, Bhylls Lane, Compton, near Wolverhampton.

GARDENER (Second or Single-handed or with help); experienced Inside and Out; abstainer; age 26; married, one child.—L. HUBBARD, Coombe Lodge Gardens, Coombe Road, Croydon.

GARDENER (Second or Single-handed); 12 years' experience; highly recommended; Inside and Out; Pleasure Grounds, Hardy Fruits, Kitchen Garden, Roses; good Propagator Inside and of Alpines; age 26; single.—J. WESTGATE, care of Mrs. Brigenshaw, Primrose Hill, King's Langley, Herts.

GARDENER (Second or Single-handed); age 29; married; life experience Inside and Out; good references; total abstainer; at liberty when suited.—RELIABLE, Box 16, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Second) seeks Situation; experienced Inside and Out; good references; can be well recommended; age 26; single.—L. FOSTER, Fernlee Villas, Glebe Road, Warlingham, Surrey.

GARDENER (Second, chiefly Outside, where two or three are kept); five years present situation; age 23.—L. LEACH, Hertfordshire Cottage, Amersham, Bucks.

GARDENER (Second, Inside and Out); 12 years' experience; good references.—G. JEFFRIES, 5, St. Philip's Road, Surbiton, Surrey.

GARDENER (Second); 26; good references and experience; Bothy preferred; disengaged when suited.—J. BETTS, Grove Park Gardens, Kingsbury, Middlesex.

GARDENER (Second, chiefly Inside); eight years' experience, Inside and Out; used to Vines, Peaches, Figs, &c.; Greenhouse Plants, Carnations, Chrysanthemums, &c., and general Outside work; good references; age 25; Bothy preferred.—W. FREEMAN, The Green, Sandon, Chelmsford, Essex.

GARDENER (Under) seeks Situation; aged 22; six years' experience; three years in present place; good character; abstainer.—W. ANDREWS, Leckford, Stockbridge, Hants.

GARDENER (Under) seeks Situation; Inside and Out; 4½ years' experience; good references; Bothy preferred.—GEORGE MEREDITH, 25, Fox Street, Runcorn.

GARDENER (Under); single; age 25; thoroughly understands Flower and Kitchen Garden; 3½ years' good character; leaving to better myself.—A. BOWYER, 2a, Park Place, Clapham Park Road, S.W.

FOREMAN (Inside or good Second); 15 years' experience; age 29; good references; good experience in Fruit and Plants.—T. J. MITCHELL, The Gardens, St. Clere, Kemsing, Kent.

FOREMAN or good SECOND; age 27; married, one child, 4 years; 13 years' first-class experience in good places Inside and Out and Decorating; well recommended.—F. B., Box 5, 41, Wellington Street, Covent Garden, W.C.

FOREMAN or SECOND (Inside) requires Situation; good experience in Fruit and Plants, Carnations, and Chrysanthemums, and Floral work; good references.—BRIND, Riddings House Gardens, Derby.

FOREMAN or SECOND in good establishment; well up in all branches; Floral and Decorating; six years last situation; age 29; disengaged; good references.—W. WAITE, 5, Claremont Gardens, Surbiton.

MR. W. BRUCKSHAW, Pellwall Gardens, Market Drayton, Salop, can highly recommend H. Wallace as FOREMAN or SECOND (Inside); three years present situation; good Carnation grower; excellent references; age 27.

FOREMAN or SECOND (Inside).—P. WOODRUFF, The Gardens, Goodnestone Park, can highly recommend B. Simmonds as above; well up in Fruit, Flowers, House and Table Decoration; age 26; disengaged.—Dukes Place, West Peckham, Maidstone.

FOREMAN (Inside), age 25.—W. SHERWIN, Locke Park Gardens, Derby, can confidently recommend his Journeyman (First) as above; 11 years' experience; 2½ here; well up in Fruit, Plants, House and Table Decorating.

FOREMAN (Inside) in good establishment; 14 years' experience in Fruit, Plants, Carnations, Decorating; excellent references from first-class places, including Longford Castle, Keir, Waddesdon Manor, &c; age 29.—T. HUMBY, Aldermaston Court Gardens, Reading.

FOREMAN (Inside); age 26; good general experience in Fruit and Plant Houses; Decorating; two years present place; good references.—BEESON, The Gardens, Nonsuch Park, Cheam, Surrey.

FOREMAN (Inside or General); life experience in first-class establishments, from which can produce excellent references; good Decorator; age 29.—T. JONES, Holmwood Park Gardens, Tunbridge Wells.

FOREMAN (Inside); age 28; good experience in the growing of Fruits and Plants, House and Table Decorations; disengaged; good references.—BELL, Victoria Drive, Ilkley, Yorks.

FOREMAN (General).—Mr. HIGGINS, Glynllivon Park Gardens, Carnarvon, will be pleased to recommend J. Wood; 3½ years Foreman here Inside; good experience Orchids, Fruit, Plants, Carnations, Chrysanthemums, and Decorating; age 28.

FOREMAN (Inside); good practical experience; Vines, Peaches, Carnations, Chrysanthemums, Decorating, and general routine of good establishments; good references; age 27; disengaged.—ALLEN, 23, Meadowbrook Road, Dorking.

MR. OLIVER, Bonis Hall Gardens, Prestbury, Macclesfield, can with confidence recommend William Clinton as FOREMAN; he is a sober, honest, and competent man in all branches; age 29; married, one child; excellent references; 2½ years as Foreman here.

FOREMAN (Inside), age 23; thorough practical experience in Vines, Peaches, Carnations, Chrysanthemums, House and Table Decorations; disengaged.—Apply, T. YARWOOD, Pyon House Gardens, Hereford.

COLONEL WARDE, M.P., highly recommends his FOREMAN, A. Whibly, to any Lady or Gentleman wanting a good, all-round Man; 15 years' experience in all branches; House and Table Decorations; age 28; married when suited.—Barham Court, Maidstone.

JOURNEYMAN seeks situation in Kitchen Garden and Pleasure Ground; age 23; eight years' experience; can be well recommended.—H. HAGGER, Sudbury House Gardens, Harrow, Middlesex.

JOURNEYMAN (First, Inside); age 24; nine years' experience; good references; Bothy preferred.—Apply, H. HUTCHINGS, Brick House, Tiverton, Devon.

JOURNEYMAN (First, Inside); 7½ years' experience in Fruit and Plant Houses; age 22; good references; Bothy.—F. E., Box 6, 41, Wellington Street, Covent Garden, W.C.

JOURNEYMAN (First, Inside); general knowledge of Fruit and Plants; age 24; 10 years' experience; good references; South preferred.—T. EDWARDS, The Gardens, Norman Court, Salisbury, Wilts.

JOURNEYMAN (First, Inside); 25; good experience; Stove and Greenhouse Plants, Fruit, Cucumbers, Chrysanthemums; good references.—H. ASHLEY, Porch Cottage, Weston, near Ross, Herefordshire.

JOURNEYMAN (First, Inside).—Mr. J. E. PARKER, Staunton Harold Gardens, Ashby-de-la-Zouch, wishes to highly recommend F. Swanwick as above; 8½ years' good all-round experience; age 24.

JOURNEYMAN (First, Inside), age 25, seeks Situation in good establishment; well up in Fruit and Plants; good references; well recommended.—H. PRIOR, Busbridge Gardens, Godalming, Surrey.

C. BRAY, Upper Breinton, Hereford, seeks Situation as JOURNEYMAN (Second, Inside); three years' experience; good references; age 19.

JOURNEYMAN (Second, Inside); age 21; three years in present situation; 2½ previous; Bothy preferred; good references; well recommended.—E. BEARD, Park Hall Gardens, Salford Priors, Evesham.

MR. CHURCH, Poles Gardens, Ware, Herts., would be pleased to recommend A. STACEY for INSIDE and OUT; nearly 10 years' experience; age 25.

JOURNEYMAN (OUTSIDE); age 22; Flower Garden or Rock Garden if required; 15 months at Paddockhurst; good references; nine years' experience.—GEORGE COURAGE, The Close, Charlton Marshall, Blandford, Dorset.

JOURNEYMAN; 22 (INSIDE and OUT); eight years' experience; Bothy preferred; well recommended.—Apply, D. WINTER, Arlington View, Stockcross, near Newbury, Berks.

JOURNEYMAN, age 22 years, seeks Situation Inside; eight years' experience; excellent references.—W. HUGHES, Swinesherd, near Worcester.

JOURNEYMAN (INSIDE), age 21.—Mr. WALKER, Halston Gardens, Whittington, Oswestry, Shropshire, wishes to recommend A. HOPLEY as above; been here 2½ years; abstainer; active, willing, and obliging.—Apply above.

JOURNEYMAN (INSIDE).—Mr. HIGGINS, Glynllivon Gardens, Carnarvon, wishes to recommend A. GRATION; 7½ years' experience; Fruit and Plants; good references; age 23.—A. GRATION, Overton, Lancaster.

JOURNEYMAN seeks Situation Inside and Out; seven years' experience; age 22.—W. HAYTER, 35, Medfield Street, Roehampton, Surrey.

JOURNEYMAN (INSIDE and OUT); nearly two years in present place Inside and Out; 7½ previous in general garden work; age 23.—P. BENFIELD, The Gardens, Eastcourt House, Malmesbury,

JOURNEYMAN (INSIDE or INSIDE and OUT); 7½ years' good experience; age 23; two years and three months previous place; good references; disengaged.—F. SIGLEY, 33, Osbourne Street, Leek, Staffs.

JOURNEYMAN, 21 (INSIDE or INSIDE and OUT); seven years' experience, both Inside and Out.—F. PLUMLEY, 2, Dean Cottages, Upper Ventnor, Isle of Wight.

MR. F. L. THURSTON, Telham Court Gardens, Battle, wishes to recommend F. BOXALL, age 19, where he can gain further experience Inside under a Foreman; 3½ years here.

G. S. EVANS, "Carnation Specialist," Bexley Heath, strongly recommends Young Man for Inside and Out; age 21; six years' experience; highest references from previous private situations; Hants preferred.

YOUNG MAN (20) seeks situation Inside and Out; 5½ years' experience; good references; disengaged.—E. COOMBER, 5, Mill Cottages, Dunnings Road, East Grinstead, Sussex.

YOUNG MAN (27), married; Pleasure Grounds and Kitchen Garden; willing and industrious; excellent references.—S. BALDOCK, Hermitage Gardens, Walton-on-the-Hill, Surrey.

YOUNG MAN seeks situation in Gardens; slight experience; willing worker; can drive; willing to assist in house; accept small wage to start.—"CARONA," Whitefield Road, Tunbridge Wells.

YOUNG MAN seeks Situation in Kitchen Garden and Pleasure Grounds or Inside and Out; tall; willing to learn; age 21.—A. WHEELER, 83, Station Road, Chertsey, Surrey.

YOUNG MAN, age 25, seeks Situation Inside or Inside and Out; 10½ years' experience; good references; total abstainer.—W. STICKLAND, Tidworth House Gardens, near Andover, Hants.

YOUNG MAN (22) seeks Situation near London; Inside and Out; excellent references.—S. FLETCHER, Grove Park Gardens, Kingsbury, N.W.

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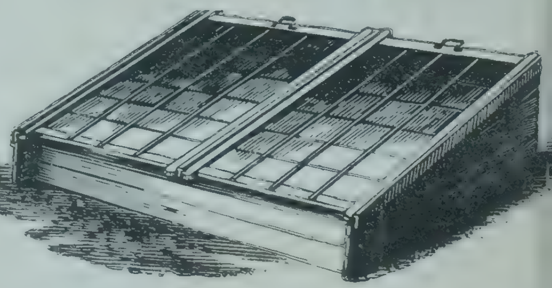

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MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

Cheshunt, Herts.

Important Sale of MARKET NURSERY, capable of extension, Paradise Hill Nursery, Park Lane, area 4¾ acres, six glasshouses with 690 ft. run of glass and 100 ft. pit, all heated, useful trade buildings, to be offered as a going concern, with the whole of the stock and utensils; possession upon completion.

MESSRS. PROTHEROE & MORRIS will OFFER the above at the Mart, Tokenhouse Yard, E.C., on THURSDAY NEXT, OCTOBER 3rd, at 2 o'Clock. Particulars of the Solicitors, Messrs. Goodall, Brown & Willatt, 5, Eldon Chambers, Nottingham, of A. H. King, Esq., Hastings House, Norfolk Street, Strand, W.C., and of the Auctioneers, 67 and 68, Cheapside, E.C.

Eynsford and Swanley, Kent.

(In Chancery.)

The old-established Nurseries and Fruit Farm of Messrs. H. Cannell & Sons.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at the Mart, Tokenhouse Yard, E.C., on THURSDAY NEXT, OCTOBER 3rd, at 2 o'Clock, in three lots.

The productive Fruit Farm and Nursery, Lower Austin Lodge Farm, Eynsford; area, 227 acres, with farmhouse, buildings, two cottages, and extensive stock, horses, vans, and implements; lease 32 years.

The long leasehold property, The Nurseries, Eynsford; area 41 acres, with residence, eight greenhouses, stock and utensils; lease 73 years.

The old-established NURSERIES, "The Home of Flowers," Swanley; area 13 acres, with residence, buildings, and 35 greenhouses, with the goodwill and stock; lease 61 years.

Particulars may be had at the Mart; of Messrs. Stones, Morris, and Stone, Solicitors, 5, Finsbury Circus, E.C.; of Messrs. T. P. Child and Son, C.A., 8, Frederick's Place, E.C.; or of the Auctioneers, 67 and 68, Cheapside, E.C.

Woldingham, Surrey.

CLEARANCE SALE OF NURSERY STOCK, consisting of Ornamental Trees in large variety, Flowering and Evergreen Shrubs in great assortment, 450 Rhododendron ponticum, Oval-leaf Privet, Spruce, Fir, Yews, Cupressus, &c., Herbaceous Plants in variety, quantities of Narcissus, and other stock.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at Marden Park Nurseries, Station Road, Woldingham, on THURSDAY NEXT, OCTOBER 3rd, at 12 o'Clock, by order of Mr. E. Vince. May be viewed. Catalogues had on premises; at 3, Eagle Buildings, Station Road, Whyteleafe; or of the Auctioneers, 67 and 68, Cheapside, E.C.

Friday next, October 4th, at 12.45 o'Clock.

Choice established ORCHIDS in large variety from a private collection and other sources. An importation from Madagascar, also Disa grandiflora, &c. Orchids in flower and bud.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

Shortlands Nurseries, Guildford Road, Ash, Surrey.

Two days Clearance Sale of a portion of the well-grown NURSERY STOCK, comprising 10,000 green and golden HOLLIES, 1½ to 7 ft.; 1,000 Thuya Lobbii, 3 to 8 ft.; 1,000 Abies, 1½ to 6 ft.; 2,000 ENGLISH YEWS, 2½ to 5 ft.; 1,700 Laurels; 1,500 Cupressus, 3 to 9 ft.; 2,000 Golden Retinosporas, 2 to 6 ft.; 3,000 Oval-leaf Privet, 2½ to 3½ ft.; 500 Aucubas, 200 Pampas Grass, 1,000 Deciduous Trees and Shrubs, 1,200 Ponticum and hybrid Rhododendrons, 2 to 3 ft.; 2,500 Standard and Dwarf Roses, 3,000 Standard and Feathered Apples and other stock.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, on the Premises as above, on TUESDAY and WEDNESDAY, October 8th and 9th, at 12 o'Clock. By order of Mr. H. Sleet. On view. Catalogues had on premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

THE "WILDERSPOOL" COLLECTION OF ORCHIDS.

Important Sale of a portion of this well-known collection, by order of Mr. W. Bolton, comprising about 150 CYPRIPEDIUMS, CHOICE AND RARE HYBRIDS AND SPECIES,

including

C. Alciboides superbum
C. Boltonii
C. Dreadnought
C. Germain Opoix var. Queen Alexandra
C. Leoniæ Gratrixiæ
C. villosum The Premier, and numerous other varieties.

CHOICE ODONTOGLOSSUMS,

including

O. crispum Domino
O. c. Lucianii
O. c. Lindenii
O. c. Raymond Crawshay
O. c. The Nizam
O. c. Xanthotes

and many others.

Together with Odontioda Bradshawiæ, Cooksoniæ, &c. Cymbidium Rosefieldiense and others. Zygopetalums, Oncidiums, Phaius. Several varieties of Dendrobiums, Miltonias, choice Lælias, Cattleyas and Lælio-Cattleyas, Cattleya Hardyana alba, Cattleya Dowiana Rosita, Cattleya Gigas Frau Melanie Beyrodt, Cattleya Mossiæ Reineckiana, &c.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, on the premises, "Wilderspool," Warrington, on FRIDAY, October 11th, at 1 o'Clock. On view. Catalogues had on premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

The Nurseries, South Woodford.

Expiration of Lease. First portion, by order of Mr. John Fraser.

Important Six Days Sale of the extensive stock of Evergreen and Flowering Shrubs, Hollies, Standard Ornamental Trees, Fruit Trees.

15,000 STANDARD, DWARF AND CLIMBING ROSES,

Up-to-date varieties, and a fine collection of Rhododendrons. The whole carefully prepared for removal.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at the above Nurseries (George Lane Station, G.E.R.), on MONDAY, October 14th, and five following days, at 11.30 o'Clock each day. May be viewed. Catalogues had on premises, or of the Auctioneers, 67 and 68, Cheapside, E.C.

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Mr. J. C. STEVENS begs to announce that his

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£2,000 will secure a well-equipped MARKET and RETAIL NURSERY and FLORIST BUSINESS complete; near London; well stocked; in good going order; same hands 30 years; tuition or partnership may be arranged; write at once.—T. G., Box 21, 41, Wellington Street, Covent Garden, W.C.

FREEHOLD NURSERY FOR SALE at seaside; Grapes, Tomatos, and Chrysanthemums; over 800 ft. run of glass (heated); 2¾ acres ground; water-mill, packing shed, &c.; freehold £1,400. —L. R., Box 2, 41, Wellington Street, Covent Garden, W.C.

MARKET NURSERY for SALE or to LET; four acres; 13 excellent modern glasshouses, up-to-date heating; capital dwelling-house.—WARRINGTON BENNETT, Kenilworth.

NEAR BRISTOL.—For SALE, genuine WHOLESALE NURSERY BUSINESS, with excellent Freehold premises, comprising modern seven-roomed House, about three-quarters acre of Nursery Garden (well stocked), up-to-date Glasshouses, &c. Price moderate.—Reasons for disposal and full particulars of WEEKS, 40, Whiteladies Road.

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FRUITERER'S BUSINESS; good class trade; centre of town; established 15 years; price £65, including stock, fixtures, &c.—Write, 22, Caversham Road, Reading.

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NEAR Teignmouth, Devon.—Productive FRUIT GARDENS and probably the best-known Picnic Resort in the district, offering comfortable living in delightful seaside retreat; five acres; convenient Residence, Greenhouse, Tea and Summer-houses; over 2,000 choicest selected Fruit Trees, Bush and Cordon; also Bush Fruit and Strawberries; rent £60 (or for sale).—Descriptive particulars of CREWS & SON, Agents, Exmouth.

NURSERY to LET; splendid position; five minutes from rail and trams; 350 ft. glass, 1¼ acres fruit; good house, rent £40.—Further particulars from MILES, Royal Hotel, Sheerness.

BUSINESS CARDS.

R.H.S. EXAM. — CORRESPONDENCE CLASSES for GARDENERS; first-class results.—Full particulars from the HEAD GARDENER, Heath End House, Baughurst, Basingstoke.

COACHING by Correspondence Class for the R.H.S. Exam. now starting; brilliant past successes.—Write, MEDALLIST, Pightle, Letheringsett, Holt, Norfolk.

PARTNERSHIPS.

WANTED, PARTNER with capital for a Nursery with about 2,000 feet of glass well stocked with Ferns and Geraniums, with good position in Covent Garden.—Write, H. C., Box 23, 41, Wellington Street, Covent Garden, W.C.

EXHIBITIONS.

National Vegetable Society's Show

will be Opened by the Earl of Clarendon, at 2 p.m., on OCTOBER 2nd.

Schedules of Classes and Prizes offered at the Society's **GREAT EXHIBITION OF VEGETABLES** to be held in the **Clarendon Hall, Watford,** are now ready, and can be had on application to the Hon. Sec., E. G. Quick, Kelmscott, Locket Road, Wealdstone, Harrow.

BIRMINGHAM

CHRYSANTHEMUM SHOW,

BINGLEY HALL,

November 5th, 6th and 7th, 1912.

Schedules now ready, and all particulars may be obtained from ALFRED NOAKES, Secretary, 148, Bristol Street, Birmingham.

PLANTS, &c., WANTED.

WANTED, large Kentia Fosteriana Palms, from 5 to 25 feet in height; large well-coloured Dracænas and Crotons; for cash or exchange. —ROBERT GREEN (1911), LTD., 28, Crawford Street, London, W.

WANTED, 12 good, extra tall AMPELOPSIS VEITCHII.—Send full particulars of height, price, &c., to HEAD GARDENER. Chute Lodge, Andover.

TEN THOUSAND CALCEOLARIA CUTTINGS wanted.—Price to T. ALLAN, 9, Salisbury Road, South Chingford, Essex.

WANTED, extra selected Dessert Pears, &c.; must be of finest quality.—F. LEVETT, Fruit and Flower Shop, The Turl, Oxford.

WANTED, Geranium Cuttings, any sorts; state quantity and price per thousand; also Calceolaria and Marguerite cuttings.— C. R. SHILLING, Hartley Nursery, Winchfield, Hants.

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CUTHBERT'S SPECIALITE MUSHROOM SPAWN.—NEW SPAWN NOW READY We continue to receive the most gratifying testimonials as to the productiveness and good quality of our Spawn. Per bushel, 5s.—R. & G. CUTHBERT, Seed and Bulb Merchants, Southgate, Middlesex.

100,000 WALLFLOWERS, Blood Red and Cranford Beauty (yellow); Seed direct from Carter's; grand plants.— FELGATE & SONS, Burhill Nursery, Walton-on-Thames.

GOLDEN PRINCEPS NARCISSUS, very fine large bulbs, ready for boxes or pots for Christmas flowering, price 10s. per 1,000, 3,000 for 28s.; carriage paid for cash; 50,000 to sell.—J. HANDSCOMBE, F.R.H.S., The Nurseries, Feltham, Middlesex.

HARDY PLANTS.—HYBRID DELPHINIUM, grand strain, 3s. 6d. 100; Gaillardia grandiflora, 3s. 100; Coreopsis grandiflora, 3s. 100; Rose Campion, 2s. 6d.; White Wallflowers, 2s. 6d. 100; Iceland Poppies, 2s. 6d. 100; Blood-red Wallflowers, 1s. 6d. 100, 10s. 6d. 1,000; Lychnis chalcedonica, 2s. 6d. 100; Mrs. Sinkins Pinks, strong plants to divide, 1s. doz., 7s. 6d. 100; all the above are strong, well-grown plants; carriage paid.—COLLIER, Headley, Epsom.

SPECIAL OFFER.—Stove Plants and Orchids to clear. Lady, giving up stove, would be glad to receive offers for quantity of Dracænas, Crotons, Eucharis, Nepenthes, including specimen Plants, also several large pots of Adiantum Farleyense, 140 assorted Orchids and six large Figs, &c. Full list on application to E. D., Holly Point, Heaton Mersey.

NOW is the time to sow Lettuces for a constant supply from March 15th till June without artificial heat; the best Cabbage Lettuces are: Little Gott or Petite Noire and White Passion; the best Cos Lettuce is Paris Grey; 1s. 3d. per oz., post free; ½ oz. of each variety, 2s., with cultural directions from the grower.—P. AQUATIAS, The Nurseries, Timperley, Cheshire.

TWO PANDANUS VEITCHII in 10-inch pots; nearly 4 feet high; what offer?— C. CHEESE, Beech Holme Gardens, Colwyn Bay.

20,000 GOLDEN EUONYMUS (ovata aurea), 9-18 inches; samples and prices on application; 400 Cupressus macrocarpa, 4-5 feet, in pots, cheap to clear; large Green Euonymus for screen work; state requirements.— H. H. MOORE & SONS, Nurseries, Chichester.

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NARCISSUS, NARCISSUS.—Poetaz, single, double, choice-named varieties; fine mixed from 15s. 1,000; Yellow Crocus, 10s., 15s. 1,000; Anemone Fulgens, 4s. 6d. 100; 36-page Catalogue free of over 400 varieties of Bulbs on approval.—ELLISON, 45, West Bromwich.

FOR SALE.—Calanthe Veitchii, Cœlogyne cristata, cristata alba, Citrina; cheap to clear in quantities.—E. WILLS, Nurseryman, Shirley, Southampton.

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400 extra fine MALMAISON Layers, Calypso, Trumpeter, Rose Pink, &c.; 6s. per dozen, 40s. per 100; open to reasonable offer for lot.— HEAD GARDENER, Brooklands, near Halifax.

FOR SALE about 30 large Palms, from 3½ to 17 feet high, including Kentias, Latanias, Phœnix.—For particulars, apply ROBINSON & MEAD, Estate Agents, Hemel Hempstead.

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SURPLUS MALMAISONS, established in 3-inch pots, strong and healthy; Blush, Princess of Wales, Duchess of Westminster, Calypso, 6s. per dozen.—GALLOP, Canwell Gardens, Sutton Coldfield.

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FOR SALE, a pair of Dracæna Drisethii variegata, 8 ft.; also six 14 ft. Dracæna Parii; all grand heads and healthy.—BOATWRIGHT, Shakespeare Road Nurseries, Herne Hill.

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GOOD stocks of Paul Crampel, Constance, Raspails, Double Whites, Happy Thought, Galilee; what offers per 100?—MILLARD, 20, College Road, Kensal Rise, N.W.

PAUL CRAMPEL, 1,000 old stools; also 1,000 cuttings for sale; what offers?— GARDENER, Buckenham Hall, Mundford.

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PERPETUAL CARNATIONS, from pots, ready for 48's. The following, £1 per 100: Mayday, W. Perfection, Harlowarden, Beacon, Winsor, and Enchantress, 48's, 30s. per 100, 4s. per doz. Carnation list free.—J. HANDSCOMBE, F.R.H.S., The Nurseries, Feltham, Middx.

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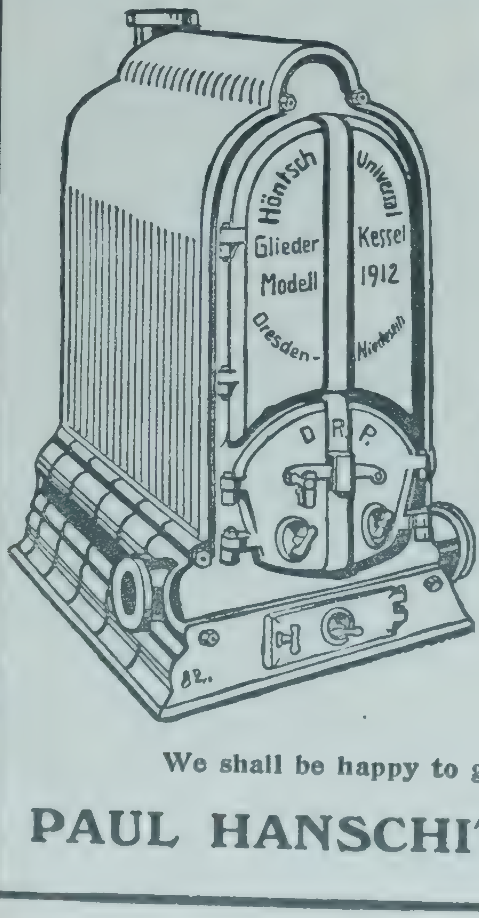

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The boxes for answers to advertisements are provided for the use of advertisers only, and no matter will be forwarded which is not, in the opinion of the Publisher, a bona-fide or specific answer to an advertisement. The boxes are not to be used for the distribution of printed or written announcements, or for the benefit of competing businesses. All advertisements and replies are accepted subject to the above conditions.

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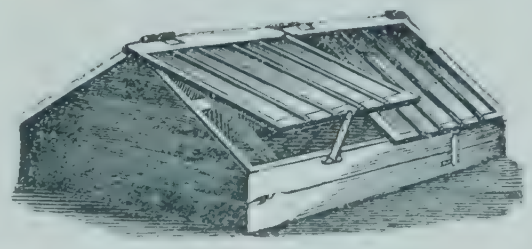

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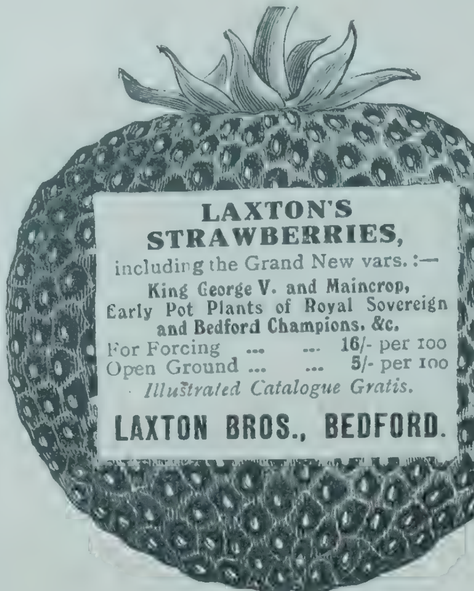

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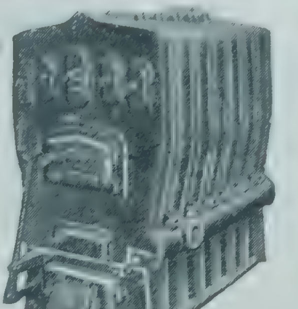

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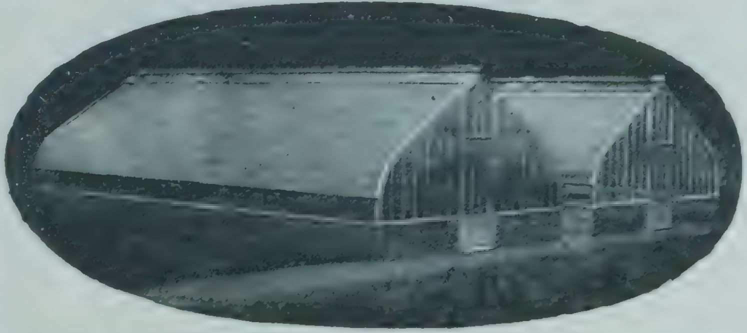

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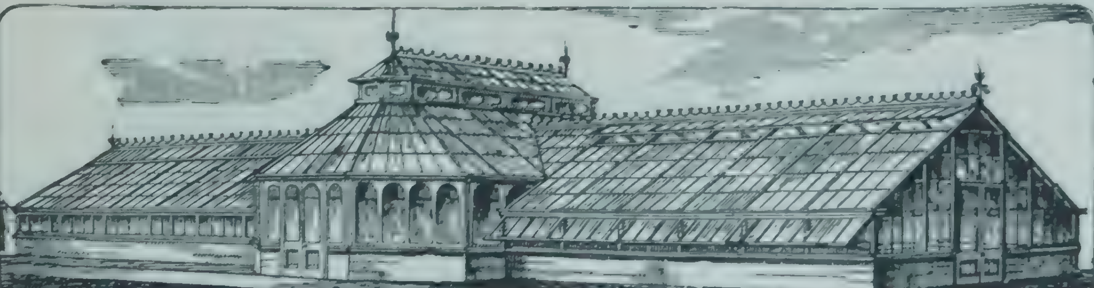

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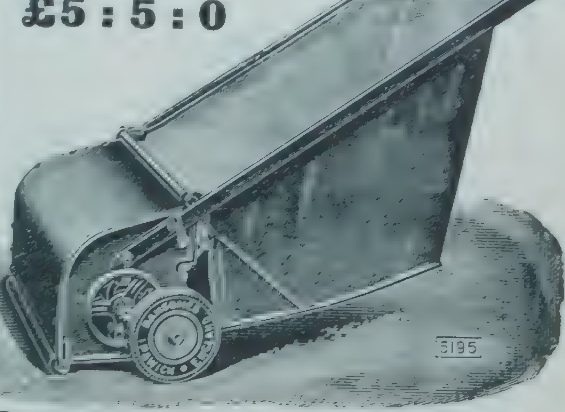

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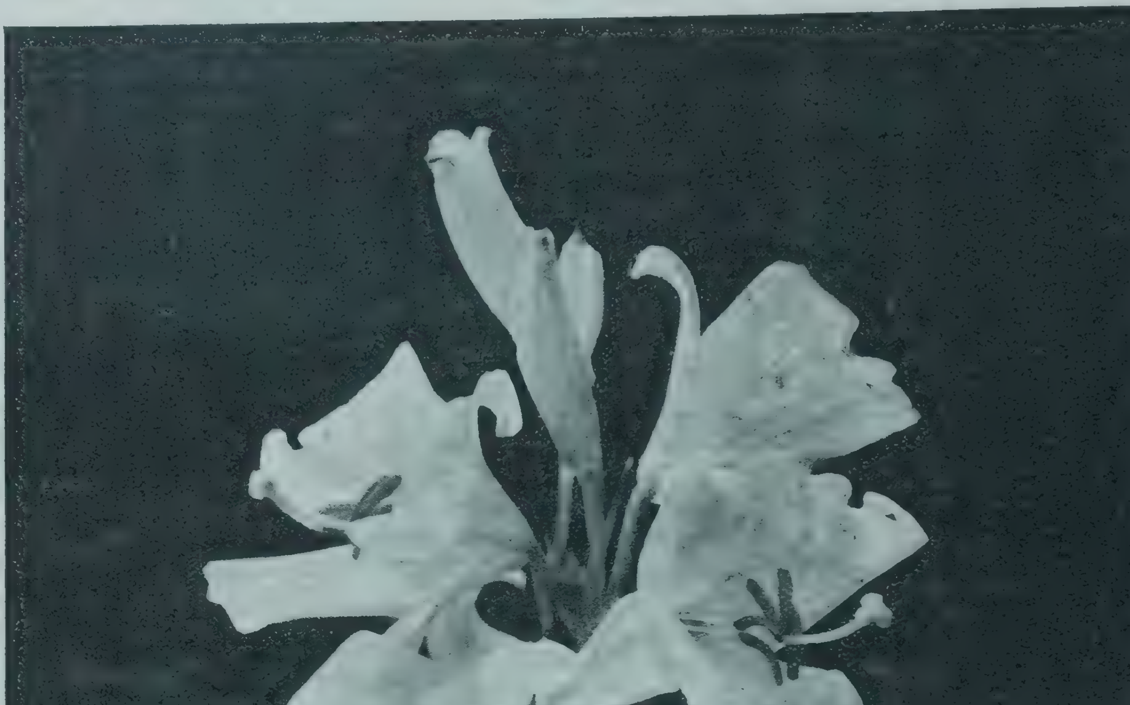

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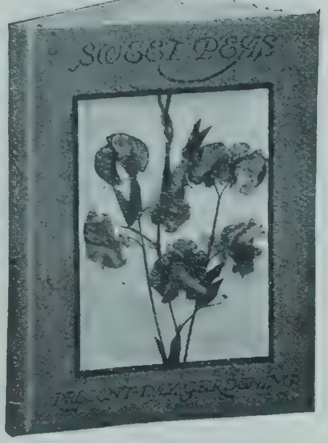

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MARKETS.

COVENT GARDEN, *September 25.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—Eds.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	3 0- 3 6
Asters, white ...	1 6 2 0
— coloured, per doz. bunches...	1 6- 2 0
— single, mixed	2 0- 3 0
Bouvardia, per dz. bunches ...	6 0- 7 0
Carnations, per dozen blooms, best American varieties ...	1 6- 2 6
— smaller, per doz. blooms ...	0 8-0 10
— Carola (crimson), extra large ...	2 0- 3 0
— Malmaisons, p. doz. blooms:	
— — pink ...	8 0-15 0
Centaurea (Sweet Sultan) mauve and white, per doz. bunches...	2 0- 3 0
— yellow ...	1 0 —
Chrysanthemums, per dozen:	
— white ...	1 0- 2 6
— pink ...	1 0- 2 6
— yellow ...	1 0- 2 0
— bronze ...	1 0- 2 6
— white, per doz. bunches ...	3 0- 4 0
— coloured ...	3 0- 4 0
— maximum, per doz. bunches...	0 9- 1 0
Coreopsis, per doz. bunches ...	0 6- 0 9
Cornflower, p. doz. bunches:	
— pink ...	0 9- 1 0
— white ...	0 9- 1 0
— blue ...	0 9- 1 0
Delphinium, p. dz. bunches:	
— light and dark blue ...	4 0- 6 0
Eucharis, per dozen ...	2 0- 2 6
Gaillardia, per doz. bunches ...	0 6- 0 9
Gardenias, per box of 15 and 18 blooms...	1 6- 2 6
Gladiolus:	
— Brenchleyensis per doz. spikes	2 6- 3 0
— Hybrids, p. dz. spikes ...	2 0- 3 0
Gypsophila, p. dz. bunches:	
— white ...	2 0- 3 0
Lapagerias, white, per dozen ...	2 0- 2 6
Lilium auratum, per bunch ...	2 6- 3 0
— longiflorum, per doz., long	1 6- 2 0
— — short ...	1 6- 2 0
— lanciforium alba, long ...	1 0- 1 6
— — short ...	1 3- 1 6

	s.d. s.d.
Lilium speciosum rubrum, p. dz.	
— long ...	1 3- 1 6
— short ...	0 9 —
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0-18 0
— special...	10 0-12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white ...	3 0- 4 0
— yellow ...	1 0- 1 6
Mignonette, per doz. bunches...	3 0- 4 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	12 0-15 0
— Cattleya Harrisonæ, pr. doz.	6 0 —
— Odontoglossum crispum ...	3 0- 4 0
Pancratiums, p. dz. spikes ...	2 6- 3 0
Pelargoniums, p. doz. bunches	2 0- 3 0
— Double Scarlet	4 0- 6 0
Physalis, per doz. bunches ...	5 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 6
— C. Mermet ...	0 9- 1 6
— Frau Karl Druschki ...	0 9- 1 0
— General Jacqueminot ...	— —
— Liberty ...	1 6- 2 0
— Madame A. Chateney ...	1 0- 2 6
— Niphetos ...	1 0- 1 6
— Richmond ...	1 0- 2 6
— Sunburst ...	2 0- 3 0
— Sunrise ...	0 6- 0 9
— President Carnot ...	1 6- 2 0
— Lady Roberts	1 0- 1 6
— Lady Hillingdon ...	0 9- 1 0
— Franz Deegen	1 0- 1 6
— Kaiserine ...	0 9- 1 6
Scabiosa caucasica, per doz. bnchs.	2 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, per dozen bunches:	
— mauve,	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips) ...	2 6- 3 0
Stock, p. d. bnchs:	
— white ...	4 0- 5 0
Tuberose, p. doz. blooms, long...	0 8- 0 9
— — short ...	0 6- 0 7
Violas, small blue, p. doz. bunches	0 9- 1 0
Violets, per dozen bunches ...	1 6- 4 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	4 0- 5 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0-18 0
— Sprengeri ...	10 0 12 0
Carnation foliage, doz. bunches...	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0 15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, per gross bunches ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved ...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, per dozen... ...	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green ...	21 0-30 0
— variegated ...	30 0-60 0
Asters, per dozen	4 0- 5 0
Chrysanthemums, 48's ...	6 0 12 0

	s.d. s.d.
Cocos Weddeliana, per dozen:	
— 60's ...	6 0-12 0
— larger, each ...	2 6-10 6
Cyclamens, 48's ...	10 0-12 0
Cyperus alternifolius, per doz.	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0-12 0
Erica nivalis ...	15 0-18 0
— — 60's ...	6 0- 8 0
— — 72's ...	3 0- 4 0

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's. ...	12 0-20 0
— in 48's, per dozen	6 0 —
— choicer sorts per doz.	8 0 12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0 30 0

	s.d. s.d.
Lilium lancifolium rubrum in pts., per dozen ...	15 0 18 0
— lancifolium alba. in pots, per dozen ...	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's ...	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 3 0
— Cooking, per bushel	3 0- 4 0
Bananas, bunch:	
— Doubles ...	10 0 12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured...	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Blackberries, peck	2 6- 3 0
— chip	1 0- 1 6
Figs (Guernsey), per dozen ...	1 6- 3 0
— English ...	1 6- 3 0
— (Italian), boxes	0 8- 1 0
Cranberries, per case	14 6 —
Grape Fruit, case:	
— 96's	21 0 26 0
— 80's	
— 64's	
— 54's	
— per dozen ..	6 0 —
Grapes (English), per lb.:	
— Hamburgh ...	0 6- 0 8
— Canon Hall ..	1 0- 4 0
— Muscats ...	1 0- 2 0
— Gros Colmar...	0 10- 1 6
— Black Alicante	0 5- 1 0
— Madresfield Court	1 6 2 6
— Gros Maroc ...	1 0- 1 6

	s.d. s.d.
Lemons, per case:	
— Messina ...	10 6-12 0
— ordinary ...	6 0- 7 0
— Naples ...	20 0-30 0
Limes, per case ...	2 6 —
Melons (Guernsey)	1 0- 2 6
— (English) ...	1 0- 2 6
— Canteloupe ...	2 0- 5 0
Nuts, Almonds, per bag	52 6 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 2-0 2½
— Walnuts (French), p. lb.	0 3- 0 6
Oranges:	
— Cape, per case	13 6-14 6
— Jamaica, case	12 6-16 0
— Naartjees, per box	2 0- 2 6
Peaches	
— English, dozen.	
— selected ...	12 0-15 0
— best ...	4 0- 6 0
— seconds	
Pears:	
— French, pr. box	3 0 —
— — per crate ...	6 0- 8 0
— English, ½ bus.	1 0- 3 0
— Californian, p. case	6 0- 7 0
Pineapples, St. Michael ...	2 6- 5 0
Plums:	
— (Californian), crate	9 0-10 6
— Switzers, ½ sieve	2 6- 3 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Artichokes (Globe), per dozen ...	2 6 —
— English ...	2 0 —
— ground, ½ bus.	1 6 —
Aubergines, per dozen... ...	2 0 —
Beans:	
— French, ½ bshl.	1 0- 1 3
— Scarlet Runners, per bushl.	0 9- 1 0
— — per bag ...	2 0- 2 6
Beetroot, per bushel ...	2 0 —
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	1 6- 2 0
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun....	1 6 —
— dirty, per bag...	2 6 —
— washed, bag...	3 0 —
Cauliflowers, per — tally	2 6- 4 0
Celery, per dozen	12 0 14 0
— dirty	8 0-12 0
Cucumbers, per flat	4 6- 6 0
Endive, per dozen	1 6 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles ..	15 0 18 0
Leeks, per doz. ..	2 0 —
Lettuce (English), Cos, per box ..	1 6 —
Cabbage, per dozen	0 3- 0 6
Marrows, per tally	1 0- 5 0

	s.d. s.d.
Mint, per dozen bunches ...	2 6 —
Mushrooms, cultivated, per lb.	1 3- 1 6
— field, per peck	3 0- 3 6
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag ...	3 6- 4 0
— (Spring), per doz bunches	3 0 —
— (Spanish). case	6 0 —
— Dutch, bags ...	2 9- 3 0
Parsley, ½ sieve ...	1 0- 1 3
— per doz. bun.	2 0 —
Parsnips, per bag	2 6- 3 0
Peas (English), per bushel	5 0- 6 0
— bags	9 0-12 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen ...	0 3- 0 6
Sage, per dozen ...	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel...	1 9- 2 6
— bags	2 6- 3 6
Tomatos, per doz. lbs.:	
— (Guernsey), ...	2 6 —
— (English) ...	2 6- 3 0
— seconds ...	1 0 —
Turnips (English), per dz. bunches	1 6- 2 6
— per bag	2 0 2 6
Watercress, p. dz. bunches ..	0 4- 0 6

Remarks.—The principal varieties of English culinary Apples are Peasgood's Nonesuch, Warner's King, Bismarck, Lane's Prince Albert, and Lord Derby; and dessert varieties consist mainly of Cox's Orange Pippin, Chas. Ross, Worcester Pearmain, and Allington Pippin. The overseas arrival per s.s "Olympic" this week consisted of 190 boxes of Gravensteins, 307 boxes of Jeffries, and 132 boxes of King of Tompkins County, making the total number of 629 boxes. English dessert varieties of Pears are Doyenné du Comice, Beurré Hardy, Calabash, Louise Bonne of Jersey, Pitmaston Duchess, and Fertility. The supply of Hazels has finished. Imported Pears consist of the following varieties: Williams's Bon Chrétien, Beurré Superfin, and

well graded. English crops of Plums are nearly over, and supplies are now limited to Prunes and German Sweitzers. The supply of Damsons has finished. Sloes are in excess of the demand. A shipment of several thousands of boxes of Italian Prunes arrived this week, containing about 24 lbs. of fruit in each box. They were in excellent condition for either dessert or culinary purposes. Blackberries continue a heavy supply. English Muscat Grapes show a slightly better trade. There still remains a very heavy supply of other varieties, which can only be cleared at low rates. Figs consist principally of the Italian kinds, packed in boxes of one dozen fruits. Supplies of Melons are shortening and prices advancing. A few late varieties of English Peaches still continue to arrive, and fairly heavy consignments of American Peaches are to hand packed in boxes containing 18 fruits or more. Cranberries, in cases of 20 to 30 quarts, are arriving from Cape Cod and Holland, the latter being very fine berries. The consignments of English and Channel Islands Tomatos are now gradually shortening, and the first shipments from Canary Islands are due next week. There still continues to be a very heavy supply of Cobnuts and Walnuts, the bulk of the latter consignments being from France. English Corn Cobs are obtainable, but are not so plentiful this season as in past years. With regard to the Vegetable Market, there is little or no change to report this week. *E. H. R., Covent Garden, September 25, 1912.*

New Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 4 6
Kents	4 3- 5 0

	per cwt. s.d. s.d.
Blacklands ...	3 9- 4 3
Lincolns	4 0- 4 6

Remarks.—Trade continues normal, and prices rule as last week. *Edward J. Newborn, Covent Garden and St. Pancras, September 25, 1912.*

GARDENING APPOINTMENTS.

[*Correspondents are requested to* ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.*]

Mr. Alexander McLean, for some time Gardener to Colonel Massy Westropp, at Doonass, Clonlara, as Steward Gardener to L. A. Johnson, Esq., Laragh House, Bandon, Co. Cork.

Mr. C. W. Evans, Gardener to Colonel H. P. Kirkwood, Bath, as Gardener to J. Berlein, Esq., J.P., Cross Oak, Berkhamsted, Herts.

Mr. W. Wood, for 2 years Gardener to J. O. Jameson, Esq., Dolland, Clonsilla, Co. Dublin, as Gardener to Captain Hawksworth Smyth, Ballynegall, Mullingar, West Meath.

Mr. F. Fitzwater, for 19 years Gardener to the late F. Braby, Esq., Bushey Lodge, Teddington, as Gardener to C. Urban, Esq., at the same place. (Thanks for 1s. which has been placed in the R.G.O.F. box.—Eds.)

Mr. John J. Rennison, for the past 2½ years second Gardener at Skipton Castle, Yorkshire, as Gardener to Miss Calvert, Sorrelsykes Park, Leyburn, Yorkshire.

Mr. Henry Fenner, for the past 9 years Gardener at Bethlem Royal Hospital, Southwark, London, and previously for 7 years Foreman at Holly Lodge Gardens, Highgate, London, as Gardener at Bethlem Hospital and King Edward's School, Witley, near Godalming, Surrey. (Thanks for 1s. 6d., which has been placed in the R.G.O.F. box.—Eds.)

Mr. Wm. B. Burchill, for 7 years Gardener to Captain Simpson, Perton Grove, near Wolverhampton, and previously Fruit Foreman to Mr. Gilman, of Ingestre, as Gardener to the Hon. Mrs. Wynn, Rûg, Corwen, North Wales.

Mr. E. Smith, for the past 4 years Gardener to A. Seligman, Esq., Shapswell Manor, Etchingham, Sussex, as Gardener to J. F. Mason, Esq., M.P., Eyneham Hall, near Witney, Oxfordshire.

Mr. A. Mortimore, until recently outside Foreman at Chipstead Place, near Sevenoaks, Kent, also Craig-y nos Castle, South Wales, and Packington Hall, near Coventry, as Gardener to E. M. Blackburn, Esq., Little Thakeham, near Pulborough, Sussex. (Thanks for donation for R.G.O.F. box.—Eds.)

Mr. T. Russell, for the past 2 years Gardener to J. M. Carr-Lloyd, Esq., Lancing Manor, Lancing, Sussex, as Gardener to Mrs. Calvert, Ockley Court, Ockley, Dorking, Surrey.

CATALOGUES RECEIVED.

H. N. Ellison, 5 and 7, Bull Street, West Bromwich—Bulbs and Seeds.

F. C. Woodcock, Drum Hill, Walmer, Kent—Sweet Peas.

Charles Ramsay & Son, Balls Bridge, Dublin—Nursery Stock.

Boulton & Paul, Norwich—Country House Requisites.

FOREIGN.

G. Truffaut, 90bis, Avenue de Paris, Versailles—Horticultural Sundries.

Gemen & Bourg, Luxemburg (Grand Duchy)—Dutch Bulbs.

DEBATING SOCIETIES.

PANGBOURNE & DISTRICT GARDENERS'.—This association held its annual non-competitive exhibition of Fruit, Flowers and Vegetables on September 18. Some of the exhibits were exceptionally good, several certificates of merit being awarded. The exhibition was opened to the public for a short time, after which the ordinary meeting of the association was held, and the officers and committee

THE WEATHER.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending September 21, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather* was rainless over nearly the whole of the United Kingdom, and in many districts, especially in Ireland and the western parts of Britain, the atmosphere was brighter than during the preceding weeks.

The *temperature* was again below the normal, except in the north and east of Scotland, where it was slightly above. The highest of the maxima, which were recorded during the earlier half of the week, ranged from 72° in Scotland E., England S.W., and Ireland S., to 64° in England E. At various stations the maxima were below 60° on several days. The minima occurred as a rule in the latter half of the week, and were generally rather low for the time of the year. In Scotland E. (at Balmoral on the 21st), the thermometer fell to 31°, and elsewhere the lowest readings ranged from 35° in Scotland W., England N.W., S.E., and the Midland Counties to 40° in Ireland S., and to 49° in the English Channel. The lowest grass readings were 26° at Newton Rigg, 27° at Greenwich and Balmoral, and 28° at Kew, Wistley, and West Linton. The temperature of the soil at a depth both of 1 foot and 4 feet was below the average, and also lower than in the corresponding week of last year.

The *rainfall.*—Over the greater part of England and in the west of Scotland there was no rain, and elsewhere only a few hundredths of an inch were recorded.

The *bright sunshine* was below the normal over the eastern half of the Kingdom, but above it in the western section. The percentage of the possible duration ranged from 60 in the English Channel, and 47 in England S.W. to 24 in England E. and to 20 in Scotland N.

THE WEATHER IN WEST HERTS.

Week ending September 25.

The eighth cold week in succession, and the first unseasonably sunny one since July.—Still another cold week, and the eighth cold one in succession. There was one day during the past week of average temperature, but all the other days were more or less cold for the time of year. In fact, taking the last 60 days, there has not been a single unseasonably warm day, and during the same period but few warm nights. On the night of the 24th inst. the exposed thermometer registered 6° of frost, making this the coldest night as yet this autumn, and also the coldest night in September for 23 years. The ground is at the present time 3° colder at 2 feet deep, and 5° colder at 1 foot deep, than is seasonable. No measurable quantity of rain has now fallen for a fortnight, and the total rainfall since the present month began amounts to less than a quarter of an inch. There has been no percolation at all through either of the soil gauges for the last five days. The sun shone on an average for 5½ hours a day during the week, which is three-quarters of an hour a day in excess of the average for the time of year. This was the first week for 10 weeks in which the duration of bright sunshine has been longer than is seasonable. Calms and light airs have alone prevailed, and the direction of these light airs has been persistently from some easterly point of the compass. The mean amount of moisture in the air at 3 o'clock in the afternoon fell short of a seasonable quantity for that hour by 5 per cent. *E. M., Berkhamsted, September 25, 1912.*

SCHEDULES RECEIVED.

Society of American Florists and Ornamental Horticulturists.—The third international flower show of this society will be held at the New Grant Central Palace, New York, from April 5 to 12, 1913. Secretary, Mr. John Young, 54, West 28th Street, New York.

The Sheffield Chrysanthemum Society.—The annual show of this society will be held in the Corn Exchange, Sheffield, on Thursday, Friday and Saturday, November 14, 15 and 16. Secretary, Mr. J. W. Pitt, 56, Tasker Road, Sheffield.

Finchley Chrysanthemum Society.—The annual Chrysanthemum exhibition of this society will be held in the King Edward Hall, Church End, Finchley, on Wednesday and Thursday, November 13 and 14. The special prizes include a Silver Challenge Bowl to be offered for four vases of specimen Japanese blooms, and a Five Guinea Challenge Shield offered for six vases of single Chrysanthemums. In a class for the most gracefully arranged Floral table decoration of Chrysanthemums two silver Rose bowls will be awarded to the first and second prize-winners. Secretary, Mr. W. J. Druett, Linden Cottage, Dale Grove, North Finchley.

GARDENING CHARITIES.

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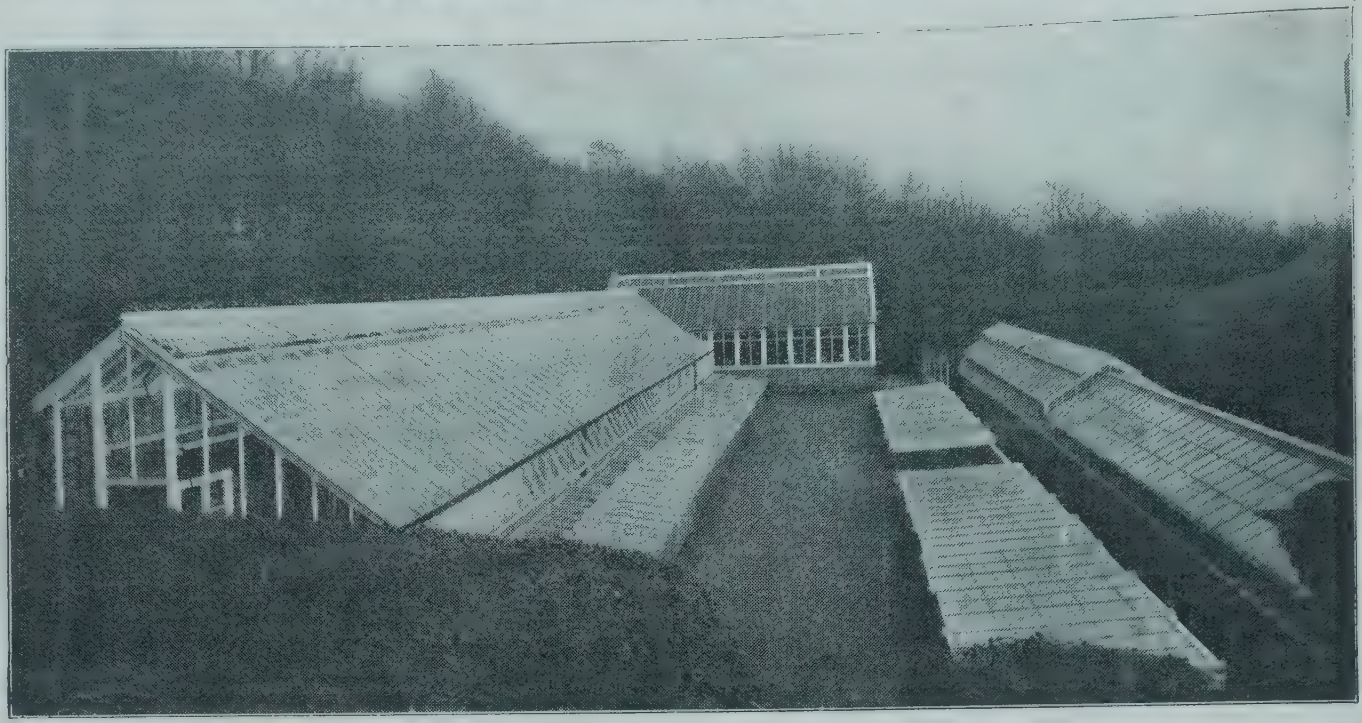

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o,000 Narcissus, Polyanthus and others. 30,000 Freesias, 2,000 Spiræas. Thousands of Tulips, Crocus, Hyacinths, &c. Amaryllis, Frittilarias, Iris, Helleborus Niger, Hardy Lilies, Retarded Bulbs, &c.

: 4 o'Clock.—Palms in variety; also Standard and Pyramidal Bays, Hardy Plants and Shrubs from the Continent.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their ntral Sale Rooms, 67 and 68, Cheapside, E.C. On ew morning of Sale and Catalogues had.

Lee-on-the-Solent, Hants.

earance Sale of first-class Nursery Stock, owing to expiration of Lease, comprising 6,000 bushy Golden and Green Euonymus 1 to 3 ft., 2,000 Laurestinus 1 to 4 ft. Specimen Conifers and Evergreen Shrubs. 300 Standard Avenue Trees, 2,500 Green Privet, Golden Box, Olearia, &c., bush plants 1 to 3 ft. Quantities of Laurels, Beech, and other useful stock; also two six-light frames and wooden shed.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at Church ursery, Lee-on-the-Solent, on THURSDAY NEXT, ctober 10th, at 12 o'Clock. May be viewed. Catagues had on premises, and of the Auctioneers, 67 and , Cheapside, E.C.

The "Wilderspool" OLLECTION OF ORCHIDS.

IMPORTANT SALE

a portion of this well-known collection, by order of . Bolton, Esq., comprising many rare and valuable varieties, amongst which may be mentioned

DONTOGLOSSUM CRISPUM ANTIMACHUS
" " JEANETTE
" " LUCIANA
" " LINDENII
" " MASSANGEANA
" " RAYMOND CRAWSHAY
" " ROSSENDALE
" " TITUS
" " THE NIZAM
" " ARDENTISSIMUM DORIS
" " MORTEBEEKENSE
" " URO-SKINNERI ALBA
ATTLEYA LABIATA AMESIANA
" GIGAS FRAU MELANIE BEYRODT
" DOWIANA ROSITA
" MOSSIÆ CAHUZAC
" HARRISONIÆ ALBA
" HARDYANA ALBA
ÆLIO-CATTLEYA BELLA ALBA
YPRIPEDIUM BOLTONII
" DREADNOUGHT
" ELLIS MARTINDALE
" GERMAIN OPOIX var. Queen Alexandra
" LORD OSSULSTON, Earl Tankerville's var.
" LEEANUM GRATRIXIÆ
" VILLOSUM THE PREMIER

ogether with numerous other splendid varieties. The whole are in a particularly fine state of cultivation, the collection being notorious for the vigour and freedom of growth maintained in all the plants.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, upon the remises,

"Wilderspool," Warrington,

RIDAY NEXT, OCTOBER 11th, 1912,

At 1 o'Clock.

Plants may be viewed by appointment.

Catalogues on premises, or of the Auctioneers, 67 and 8, Cheapside, London, E.C.

DUTCH BULBS.

SALES EVERY DAY (Excepting Saturdays) at 10.30 o'Clock.

10,000 LOTS Sold Weekly of Hyacinths, Tulips, Crocus, Narcissus, and others received direct from Holland, at PROTHEROE & MORRIS'S Central Sale Rooms, 67 and 68, Cheapside, London, E.C. Established 80 years. Commissions executed; lots packed and forwarded to all parts. Catalogues free.

Dutch Bulbs, Perennials, Rose Trees, Shrubs.

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are held

MONDAY, WEDNESDAY & THURSDAY, at 12.30.

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STOVE AND GREENHOUSE PLANTS.

Ghyll Bank, Sutton, St. Helens, Lancs.

MESSRS. WM. HALSALL & SON have been favoured with instructions from W. J. Thomson, Esq., J.P., to SELL by AUCTION on THURSDAY, OCTOBER 10th, at 1 o'clock in the afternoon, the whole of his collection of Stove and Greenhouse Plants, including about 400 Eucharis Lilies in 10 and 12-inch pots, Crotons, Orchids, Dracænas, Achimenes, Begonias, Primulas, &c.

Catalogues may be obtained on the premises, or from W. Halsall & Son, Auctioneers, 5, Church Street, Prescot.

FRYETT, WHITE & CO., The Moorgate Auction Rooms, 23-5, Moorfields, E.C., beg to announce that their sales of DUTCH BULBS AND HORTICULTURAL PRODUCE are held every Tuesday, Wednesday and Friday. Catalogues free on application.

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Over 100 Nurseries, Market Gardens, Florist & Seed BUSINESSES to be DISPOSED OF.

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In consequence of the increase in the circulation, and also of the earlier despatch of the morning trains from London, the hour of going to press has been again advanced, and in future Advertisements received after 5 p.m. on WEDNESDAY will be held over till the following week. On no consideration whatever will any exception be made to this rule.

BUSINESS CARDS.

R. H.S. EXAM. — CORRESPONDENCE CLASSES for GARDENERS; first-class results.—Full particulars from the HEAD GARDENER, Heath End House, Baughurst, Basingstoke.

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The Woman's Agricultural & Horticultural International Union.

President—H.R.H. The Princess Louise, Duchess of Argyll.

The 6th ANNUAL SHOW of

Farm & Garden Produce

will be held on **WEDNESDAY, OCTOBER 23rd,**

at the **ROYAL HORTICULTURAL HALL, Vincent Sq., Westminster.**

Flowers, Fruit, Vegetables, Garden Designs, Table Decorations, Honey, Preserves, etc.

Trade Exhibits invited. Entries close October 16th.

Schedules obtainable Secretary, 45 (6th floor), Queen Anne's Chambers, S.W.

Huddersfield and District Chrysanthemum Society.

THE 21st EXHIBITION

of the above Society will be held in the TOWN HALL, HUDDERSFIELD,

on Friday & Saturday, November 15th & 16th.

Entries close Friday, November 8th.

Schedules and Entry Forms may be obtained on application to JOHN BELL, Hon. Sec., Marsh, Huddersfield.

PUBLISHERS' NOTICES.

Present-Day Gardening.

Edited by R. HOOPER PEARSON, Managing Editor of the GARDENERS' CHRONICLE. Now Ready. Post free, **1/10** each.

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4.—**ORCHIDS.** By JAMES O'BRIEN, V.M.H., Secretary of the Orchid Committee of the Royal Horticultural Society.

5.—**ROOT & STEM VEGETABLES.** By ALEXANDER DEAN, V.M.H., Chairman of the National Vegetable Society.

6.—**CARNATIONS & PINKS.** By T. H. COOK, Head Gardener at Sandringham; JAMES DOUGLAS, V.M.H., and J. F. McLEOD, Head Gardener to Mr. Pierpont Morgan. Contains 8 full-page coloured plates.

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THE PUBLISHER,
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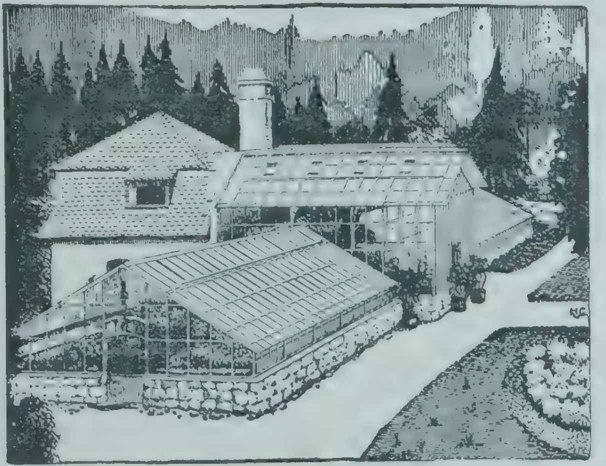

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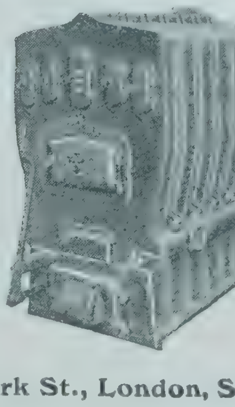

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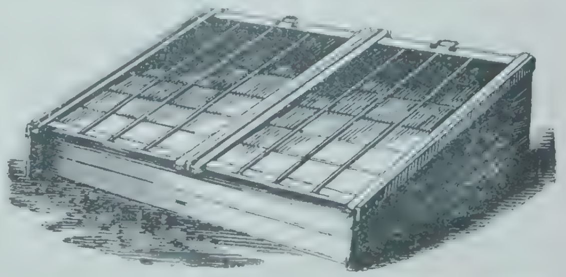

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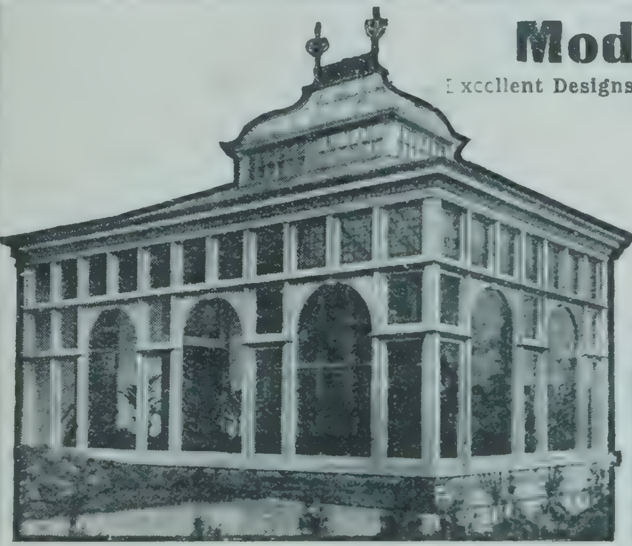

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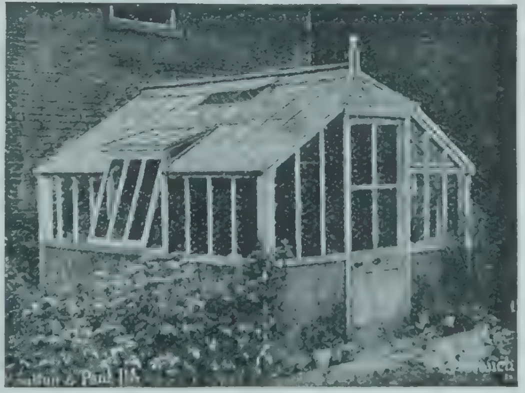

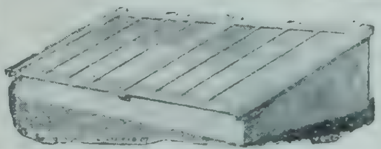

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J. E. NEWMAN Thanks all Applicants for JOURNEYMAN'S place, which is now Filled.

MRS. R. P. MORGAN Thanks all Applicants for GARDENER'S (Head) place, and begs to inform those with whom she has not communicated that their services will not be required.

University of Bristol.
Agricultural and Horticultural Research Station (National Fruit and Cider Institute), Long Ashton.

APPLICATIONS are invited for the post of Secretary and Manager; salary £150, rising to £175 per annum and house; the successful candidate will be required to take up his duties on November 4th.—Applications, stating age, references, and experience, should reach the undersigned not later than October 12th.

JAMES RAFTER, Registrar.

WANTED, GARDENER, experienced, for country house; willing make himself useful, also other ways; good cottage; help of boy; preference given to man with wife or sister who can cook.—Apply, REGINALD HARTLEY, Feltwell Lodge, near Brandon, Norfolk.

WANTED, GARDENER; experienced and industrious; Single-handed; unmarried; Glass, Lawn, and Kitchen Garden, in all ¾ acre; bedroom provided in house and Sunday board. —State previous experience, age, and wages wanted to OWNER, 58, Tulse Hill, Brixton, London, S.W.

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WANTED, LEADING HAND, single, in Pleasure Ground; experienced in Herbaceous Borders, Lawns, and Rose Garden; duty every fourth Sunday.—Apply by letter, stating wages required with Bothy, to C. F. LEVENS, Gardens, "Broxmead," Cuckfield, Haywards Heath.

WANTED, good MAN, about 23 to 25, for Flower Garden, Pleasure Ground, and Borders; wages 18s. per week and Bothy.—Apply, with full particulars, to J. ELLICOTT, Haldon Gardens, Exeter.

WANTED, strong, active MAN, about 21, for Pleasure Grounds, &c.; duty, Bothy; cricketer preferred.—BOTLEY, Holwood Park, Hayes, Kent.

WANTED, energetic MAN to take LEAD in the Kitchen Gardens; must be first-class Vegetable grower; age not under 24; duty every fourth week; 18s. and Bothy; state age, references.—P. MAY, Gaddesby Hall Gardens, near Leicester.

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WANTED, a GROWER for a small Nursery; must be a competent and experienced man, used to forcing Shrubs and Bulbs.—Apply Z., Box 1, 41, Wellington Street, Covent Garden, W.C.

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WANTED, FLORIST and DECORATOR, and to act as Salesman in large Retail Nursery; must be an experienced Florist, and capable of arranging competitive groups at flower shows. —State age, experience, and wages expected to R. C. J., Box 16, 41, Wellington Street, Covent Garden, W.C.

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WANTED, a YOUNG LADY JUNIOR, with knowledge of Seeds and Bulbs, and to assist with book-keeping; state age, wages expected and photo; live out.—J. LEWIS & SON, Nurserymen, Malvern.

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MRS. ANNESLEY, Otago House, Exeter, can recommend her late GARDENER (Head of one or two); here about two years; life experience; age 30.—CLEAVE, 3, St. Loye's Terrace, Wonford, Exeter.

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GARDENER (Head) seeks Re-engagement with any Lady or Gentleman requiring a first-class Gardener; life experience in all branches pertaining to Horticulture and Landscape work; nine years as Head; excellent references; age 41; no family. —R. PRATT, Draycot Cerne, Chippenham, Wilts.

GARDENER (Head); age 38; life experience in all branches; married, two children, ages 9 and 7; five years present place.—TROWBRIDGE, The Cottage, Mead House, Southend, near Reading, Berks.

GARDENER (Head); thoroughly experienced in all branches, including Orchids and Forestry; excellent references; late Head Gardener at Middleton Park 8½ years.—Apply, A. PERRY, care of Mr. Sherwood, Shurlock Row, Twyford, Berks.

GARDENER (Head, where five or six and upwards are kept); 25 years' practical experience in all branches, Inside and Out; thoroughly reliable and highly recommended; married, without encumbrance.—F. WOODHOUSE, Blackboys, near Uckfield, Sussex.

GARDENER (Head of five); excellent references as above; good Fruit, Cut Flower, Hardy Shrubs and Vegetable Grower; 13 years Head in good establishments; age 39; Wife experienced laundress if required.—H., 5, Mallinson Road, Clapham Junction.

GARDENER (Head or good Single-handed); nine years' experience in good establishments; excellent references; age 26; married when suited.—G. SALMON, Wavendon House Gardens, Woburn Sands, Beds.

GARDENER (Head, or Single-handed with help); life experience in all branches; present place 2½ years; age 30; married; good references.—HOOK, 46, Allen Street, Maidstone.

GARDENER (Head or good Second); life experience Inside and Out; six years' good character; age 31; married, no family.—F. S., care of Shaw, Newsagent, Kenley, Surrey.

MR. AMOS PERRY, Hardy Plant Farm, Enfield, can with confidence recommend a thoroughly experienced GARDENER (Head Working) where first-class gardening is required.—Full particulars on application.

HUGH CHARRINGTON, Esq., highly recommends his GARDENER (Head Working); first-class all round; energetic and reliable; leaving through estate being sold.—DUKES, The Gardens, Dove Cliff, Burton-on-Trent.

GARDENER (Head Working); life experience in good establishments; accustomed to high-class culture; Orchids a speciality; good references; age 32.—WOOD, 3, Victor Cottages, Lewes Road, Lindfield, Sussex.

GARDENER (Head Working); life experience in all branches; first-class reference; seven years as Head; age 39; married, three children. —CHAS. NEIGHBOUR, Eastington, Stonehouse, Glos.

MR. COLLETT, Kirtlington Park Gardens, can with confidence recommend his Foreman, H. Stedman, as GARDENER (Head Working); life experience in all branches; age 35; married, two children; life abstainer; excellent references; disengaged when suited.—STEDMAN, Bicester Lodge, Kirtlington Park, Oxon.

GARDENER (Head Working); practical experience in all branches; age 42; married, no family; six and ten years Head; good references.—W. TESTER, 20, Maldon Road, Brighton.

GARDENER (Head Working) seeks Situation; life experience in good all-round gardening; age 40; married, two children; good references. — HOARE, Wycombe Court Gardens, High Wycombe.

GARDENER (Head Working); 25 years' experience, all branches; disengaged October 19th; age 39; married, no family; good references.—DOMAN, The Gardens, Ongar Place, Addlestone, Surrey.

GARDENER (Head Working, where two or three are kept); life experience, Inside and Out; age 28; married when suited; can be well recommended.—W. RIDGES, care of Mrs. Osborne, Ebberns Road, Apsley, Hemel Hempstead.

GARDENER (Head Working, where others are kept); life experience, Inside and Out, including Orchids; 20 years as Head; married, no encumbrance; left through estate being sold; highly recommended; four years last situation.—R. BEGG, 8, Northwicks, Old Wenton Road, Andover, Hants.

GARDENER (Head Working, where two or three are kept); 16 years' experience in all its branches; age 31; can be well recommended.—MORPHETT, Falconwood, Shooters Hill, S.E.

GARDENER (Head Working, where several are kept); 17 years' good practical experience all branches; five years Head last place; highest references as to capabilities; age 34; married. —A. SPRINGHAM, Henbury, Bristol.

GARDENER (Head Working).—Mr. GILBERT wishes to recommend E. Munt as above, where three or four are kept; life experience, gained in first-class places, including Chatsworth, Wood Green Park, &c.; 3½ years here as Second; good references.—MUNT, Champneys Gardens, Tring, Herts.

GARDENER (Head Working); age 39; married, no family; life experience in all branches, Inside and Out; last 10 years as Head; highly recommended; leaving through breaking up establishment.—F. DEWING, Newton Hall Gardens, Stocksfield-on-Tyne.

JAS. POUND, Mongewell Park Gardens, Wallingford, wishes to recommend Percy Rolf to any Lady or Gentleman requiring a GARDENER (Head Working); well versed in the various branches of the profession; can be well recommended as an intelligent, energetic, and capable man; five years present place as Foreman; age 30.

GARDENER (Head Working or good Single-handed); life experience Inside and Outside; excellent references; age 32; married, one child; disengaged.—F. CROSBY, Leppitts Hill, High Beach, Essex. (No circulars.)

GARDENER (Head Working), married, seeks Situation; good knowledge of Orchids and Greenhouse Plants, and good general experience with Vegetable and Flower Garden; 11 years previous situation.—Apply, FISHER, 12, Franche Court Road, Tooting, S.W.

GARDENER (Head Working or good Single-handed with help); life experience, Inside and Out; Flowers, Fruit, Vegetables; married, no family.—J. E. W., 2, Tamworth Park, Mitcham.

GARDENER (Head Working).—W. GODDARD, "Langley House" Gardens, Abbots Langley, Herts, confidently recommends D. Diplock as above; 16 years' practical experience in all branches in well-kept establishments; abstainer.

GARDENER (Head Working); life experience Inside and Out, where several are kept; disengaged when suited; married. — W. WARREN, 37, Albion Terrace, Albion Road, Hounslow, Middlesex.

GARDENER (Head Working, where two or three are kept); life experience, Inside and Out; age 30; married, one child; well recommended.—J. LINSTEAD, Weston, Stevenage, Herts.

W. HOWARTH, Selsdon Park Gardens, Croydon, can thoroughly recommend W. Cross to anyone requiring a good MAN (Inside); three years here; good experience in Fruit and Plant Houses, Chrysanthemums, &c.; age 26; disengaged; near London preferred.—W. CROSS, Britford Road, Salisbury, Wilts.

GARDENER. — R. STANLEY CLARKE, Esq., highly recommends the late Mrs. Stanley Clarke's Gardener; thoroughly experienced in all branches; excellent references; married. —A. L., Glany-mor, The Highlands, St. Leonards.

MR. PETTIT, Lamport Hall Gardens, Northampton, can highly recommend C. Longbottom for Pleasure Grounds and Kitchen Garden; thoroughly experienced in his work; married, one child. —Apply, C. LONGBOTTOM, as above.

GARDENER; good general experience, both Inside and Out; 10 years' good reference; disengaged; age 31; married.—F. VENN, care of W. Stocks, Verulam House Gardens, St. Albans, Herts.

GARDENER (Single-handed); 12 years' experience, Inside and Out; married when suited; abstainer; willing and obliging; disengaged.—H. DUNMALL, Station Road, Wadhurst, Sussex.

GARDENER (Single-handed or otherwise); experienced in all branches Inside and Out; age 33; married; good references from past and present employers.—THORNBY, 93, London Road, Maidstone.

GARDENER (Single-handed or otherwise, Outside); age 27; nine years' experience; good reference; single.—J. MAY, The Gardens, Gadsden, Hayes, Kent.

GARDENER (good Single-handed or Second in large place); 19 years' experience; excellent references; married; near London preferred.—G. GILLETT, The Lodge, Greystoke, Warwick.

GARDENER (Single-handed or Second); eight years' good reference; age 25; married.—P. COSHAM, Poplar Cottages, Tidebrook Hill, Wadhurst, Sussex.

GARDENER (Second; where three or four are kept, or good Single-handed); life experience Inside and Out; age 22 years; good references. —Apply, F. WHITMAN, The Gardens, Worth Hall, near Crawley, Sussex.

GARDENER (Second, Inside or Inside and Out); thoroughly experienced Fruit, Plants, Decorating; excellent references; disengaged; age 27; married when suited.—LYDE, Ripley, Christchurch.

GARDENER (Second, Inside and Out); experienced in Vines, Peaches, Stove, Greenhouse Plants, and general work; age 25.—H. WAITE, Mount Road, Tettenhall, Wolverhampton.

GARDENER (Second, Inside and Out); 12 years' experience; good references; age 27.—G. JEFFRIES, 5, St. Philip's Road, Surbiton, Surrey.

GARDENER (Second of four or more); 26; single; good references and experience.—J. BETTS, Grove Park Gardens, Kingsbury, Middlesex.

GARDENER (Second) or JOURNEYMAN (First, Inside) seeks Situation; age 24; 8½ years' experience; disengaged.—Apply F. PAXTON, Stoke Court Cottages, Stoke Poges, Slough.

GARDENER (Second, Inside and Out) or FOREMAN on Pleasure Grounds; age 26; life experience in good gardens; total abstainer; highly recommended.—F. HOARE, The Bothy, Knott Park, Oxshott, Surrey.

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FOREMAN (Inside) seeks Situation; 13 years' experience in Fruit, Plants, and Decorating; excellent references from first-class establishments, including Highnam Court, Waddesdon Manor, and Warren House; age 27; disengaged.—H. BALDWIN, Wilderness Gardens, Mitcheldean, Gloucestershire.

FOREMAN (Inside); age 23; thorough practical experience Vines, Peaches, Carnations, Chrysanthemums, Decorating and general routine of good establishments; disengaged.—T. YARWOOD, Pyon House Gardens, Hereford.

FOREMAN (Inside or General); life experience in first-class establishments, from which can produce excellent references; good Decorator; age 29.—T. JONES, Holmwood Park Gardens, Tunbridge Wells.

FOREMAN or SECOND (Inside).—Mr. HALL wishes to recommend A. Freeman; five years present place; good experience in Plants and Fruit; age 24.—A. FREEMAN, The Gardens, Harewood, Leeds.

FOREMAN or good SECOND; good experience in Fruit and Plants, Decorating, &c., including London season; disengaged October 12th.—FRANK H. ENDICOTT, Grove Park Gardens, Kingsbury, N.W.

FOREMAN (Inside).—Mr. J. GIBSON, Welbeck Gardens, Worksop, can thoroughly recommend W. Baker; 12 years' good experience in Fruit and Plants; two here as Carnation grower; age 26.

MR. J. FREEMAN, Cheverells, Dunstable, highly recommends G. Sims as FOREMAN (Inside); well up in Vines, Peaches, Chrysanthemums, Carnations, &c.; good Decorator; age 27.

FOREMAN (Inside).—A. BROWN, Melchet Court Gardens, Romsey, wishes to strongly recommend R. Morris, age 26, to any Gardener requiring a thoroughly competent man as above; leaving through sale of garden stock and consequent reduction of staff; excellent references. (No circulars.)

JOURNEYMAN (First, Inside); age 24; eight years' experience; good references; Bothy preferred.—G. WOOD, Ribbleton Hall Gardens, Preston, Lancashire.

JOURNEYMAN (First, Inside); 25; good experience; Stove and Greenhouse Plants, Fruit, Cucumbers, Chrysanthemums; good references; disengaged.—H. ASHLEY, Porch Cottage, Weston, near Ross, Herefordshire. (No circulars.)

C. BRAY, Upper Breinton, near Hereford, seeks Situation under Foreman as JOURNEYMAN; Inside preferred; age 20; can be well recommended.

JOURNEYMAN (Inside).—Mr. HOLDEN can highly recommend Young Man as above; aged 19; 4½ years' experience; excellent references.—A. HARRISON, Heveningham Hall Gardens, Yoxford, Suffolk.

JOURNEYMAN (Outside) on Pleasure Ground; good hand with machines and scythe; can take duty; well recommended; age 30; single.—J. COVINGTON, 34, Birkbeck Road, Hornsey, N.

H. HUTCHINGS, Brick House, Tiverton, Devon, seeks Situation as JOURNEYMAN (Inside); age 24; nine years' experience; good references; Bothy preferred; disengaged.

JOURNEYMAN (Inside).—A. BROWN, Melchet Court Gardens, Romsey, wishes to strongly recommend A. Loader, age 22, as above; leaving through reduction of staff; well up in Plant and Fruit Culture generally. (No circulars.)

JOURNEYMAN (Inside) seeks Situation; eight years' experience; good references.—J. BADNELL, 8, Jubilee Terrace, Margate.

JOURNEYMAN seeks Situation as SECOND; age 22; eight years' experience; Bothy preferred.—G. NICHOLLS, Warren Kiln, Kintbury, Berks.

YOUNG MAN, age 21, as GARDENER (Under); good reference.—Apply, E. HUNT, Chirton, near Devizes, Wilts.

YOUNG MAN, married, one child requires Situation as SINGLE-HANDED or with help; has been Gardener and Caretaker four years previous; 15 years' experience; highly recommended; first-class reference; wife attend Poultry if required.—H. A., Box 20, 41, Wellington Street, Covent Garden, W.C.

YOUNG MAN, age 22, seeks Situation in Kitchen Garden or Pleasure Grounds; good reference.—T. COOPER, St. Catherine Lodge, S. Ascot, Berks.

YOUNG MAN (26) seeks Situation Inside or Inside and Out; 11 years' experience; good references; total abstainer.—Apply, G. COLES, 412, North Tidworth, near Andover, Hants.

YOUNG MAN (22) seeks Situation under Foreman; Kitchen Gardens; 2½ years' experience; total abstainer; willing to learn; Surrey preferred.—Apply, E. MUNDY, Tower House, Tidworth, Hants.

YOUNG MAN seeks Situation in Kitchen Garden or Pleasure Grounds; six years' experience; good reference; age 23.—J. MORGAN, The Gardens, Fulham Palace, Fulham, S.W.

YOUNG MAN seeks Situation in Kitchen Garden, Pleasure Ground; good experience and references; age 21.—Apply, T. M., 4, Railway Place, Vicarage Road, Sunbury, Middlesex.

YOUNG MAN seeks Situation in Kitchen Garden or Pleasure Grounds; age 20; abstainer; good references; strong and willing.—H. SMALL, The Oaks Gardens, Walton Heath, Epsom.

YOUNG MAN, age 18, seeks Situation as IMPROVER (Inside or Inside and Out); four years' good references; Bothy preferred.—P. HARVEY, Knole Park Gardens, Sevenoaks, Kent.

MR. W. REED, Coworth Park Gardens, Sunningdale, Berks., will be pleased to recommend Young Man, age 17, as IMPROVER (Inside); two years' experience; Bothy preferred.

YOUNG MAN seeks Situation as IMPROVER (Inside and Out); age 18; good references; Bothy preferred.—C. BROWN, care of Fripp, Northerwood Park, Lyndhurst, Hants.

YOUNG MAN, age 24, seeks Situation in Kitchen Garden and Pleasure Grounds; three years present place; strong and willing.—H. HORN, care of Head Gardener, Uppark Gardens, Harting, Petersfield, Hants.

YOUNG MAN (20) seeks Situation; Inside and Out or Kitchen Garden; five years' experience; strong and active; good references.—W. J. MURRELL, Stowe Hill Gardens, Lichfield, Staffs.

IMPROVER seeks Situation, with general experience; age 20; Bothy preferred.—F. JAMES, Courtlands Gardens, West Hoathly, Sussex.

IMPROVER seeks Situation; age 17½; three years' experience Inside and Out here; good character.—JAMES KEMP, Ellern Mide Lodge, Totteridge, Herts.

IMPROVER (Inside and Out); three years' experience; well recommended; good character; abstainer and non-smoker; willing and obliging; tall and strong; age 20 years; Bothy preferred.—L. A., Box 19, 41, Wellington Street, Covent Garden, W.C.

CHARLES JONES, Gardener to Sir Wm. Anson, Bart., Pusey House, Faringdon, Berks., wishes to place his son under first-class Gardener; age 15; tall and strong; Bothy preferred.

HEAD GARDENER highly recommends strong YOUTH for Kitchen Garden and Pleasure Grounds, or assist in Greenhouses; thoroughly honest and capable; six year's good character.—WILLN, Botesdale, Suffolk.

APPRENTICE.—Wanted to place a well-educated Youth, age 18, strong and healthy, in a good establishment; premium if necessary.—For full particulars apply, Mr. CAMM, Cliveden, Taplow.

TRADE.

MANAGER (Working) desires Re-engagement in an up-to-date Market Nursery; thoroughly experienced with Forcing, Chrysanthemums, Roses, Tomatos, Cucumbers, Carnations, Bedding Plants and general Cut Flower trade; wholesale and retail; keen manager of men; married; age 30.—TOMATO, Box 17, 41, Wellington Street, Covent Garden, W.C.

MANAGER, FOREMAN or DEPARTMENT FOREMAN (Outside or Inside); thoroughly experienced all branches; grown wholesale or retail; used to exhibiting; first-class Propagator and Forcer; highest references.—STAIRMAND, 3, Blair Grove, Norwood Avenue, Southport.

SEEDSMAN'S MANAGER or ASSISTANT; all departments; 17 years' experience; wholesale, retail, seed growing, packing, and warehousing; highest references.—W., Box 13, 41, Wellington Street, Covent Garden, W.C.

FOREMAN; used to Wholesale and Retail Trade; used to growing usual run of Market Plants, Fruits, Roses, Evergreens, &c.; good references.—B., 37, St. Johns, Worcester.

FOREMAN (Working); well up in general Nursery Stock (Inside and Out); Floral Making up; life experience; age 45; married.—G. CANN, Monnow Street, Monmouth.

FOREMAN; life experience in Market work, Palms, Ferns, Liliums, Chrysanthemums, and all Soft-wooded Stuff, Bulb and Valley Forcing, Cucumbers and Tomatos; age 31.—P. C., Box 21, 41, Wellington Street, Covent Garden, W.C.

FOREMAN and GROWER Produce required; Market and Shop sale; all Bedding and Soft-wooded Stuff, Cut Bloom, Ferns, Palms, Chrysanthemums, Fruit, Bulbs, Nursery routine, Forcing, Propagating; good references.—Ivy Cottage, Leighs, Chelmsford.

FOREMAN (Working); life experience in Market Nursery; Cucumbers, Tomatos, Chrysanthemums, Bulb Forcing, Bedding Stuff, and Cut Flowers, &c.; age 29; married; abstainer.—BULBS, Box 24, 41, Wellington Street, Covent Garden, W.C.

GROWER; Melons, Cucumbers, Tomatos, Gloxinias, Calceolarias, Primulas, Cinerarias; 12 years with Messrs. Webb & Sons, Wordsley.—S. KERSLAKE, Delberg, Hope Street, Wordsley, near Stourbridge.

ROSE PROPAGATOR and GROWER, &c., seeks Situation in Trade or Market Nursery; 14 years' experience in Nursery work.—T. SIMMONDS, 4, New Road, Hextable, Kent.

GARDENER or FLORIST seeks Situation; first-class practical experience Inside and Out; single; quick and hard-working; intelligent; age nearly 30.—A. BERGER, 5, Coram Street, Russell Square, W.C.

MAN (23) seeks Situation; six years' experience; Cucumbers and Tomatos, &c.; capable hand; two years last situation; good references.—STOCK, Mortimer Road, Rayleigh, Essex.

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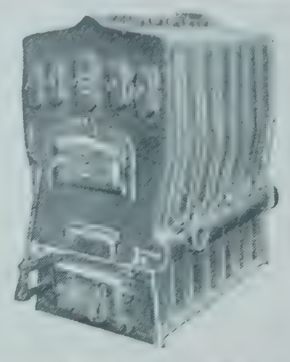

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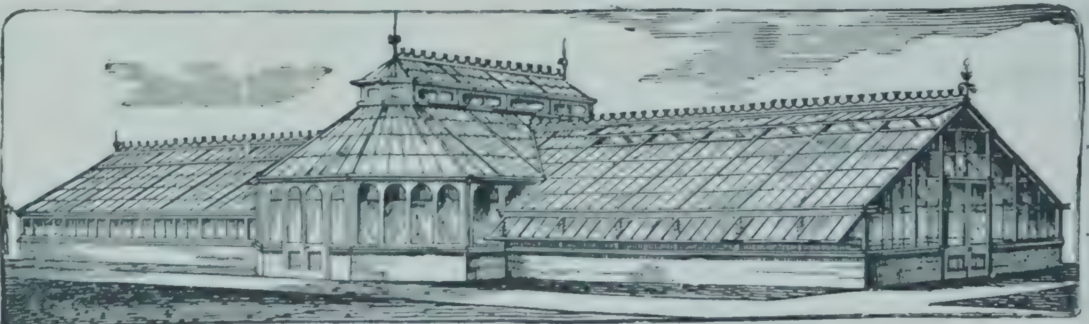

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	Per 1,000	Per 100
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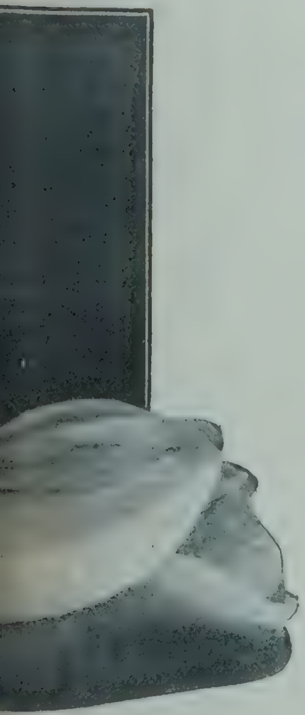

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Golden Spur—Splendid deep yellow ...	**10/6**	**1/6**
Horsfieldii—Perianth pure white, golden trumpet	**6/6**	**1/-**
Van Sion—Double Trumpet Daffodil ...	**10/6**	**1/6**
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Orange Phœnix (Eggs and Bacon)... ...	**6/-**	**10d.**
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	Per 1,000	Per 100
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Carters Royal Parks Violet	10 in.	**10/-**	**1/6**
Carters Royal Parks Yellow	11 in.	**10/-**	**1/6**
Carters Royal Parks White	11 in.	**10/-**	**1/6**
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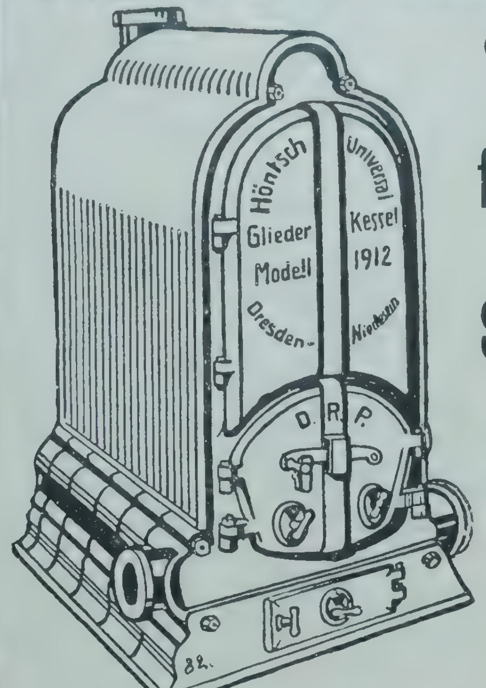

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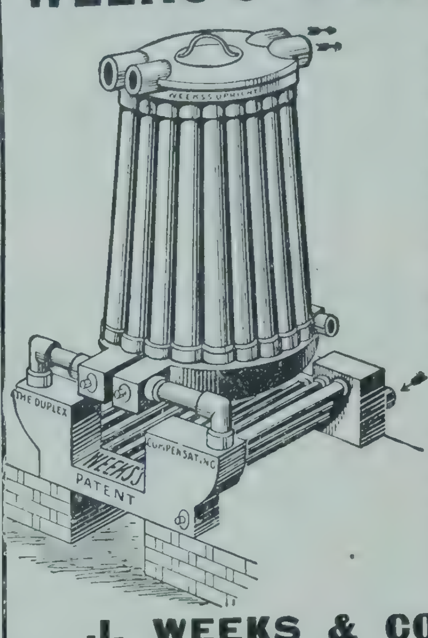

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COVENT GARDEN, October 9.

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Carnations, per dozen blooms, best American varieties	1 6- 2 6
— smaller, per doz. blooms	12 0-15 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaisons, p. doz. blooms:	
— — pink	8 0-15 0
Chrysanthemums, per dozen:	
— white	1 0- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze	1 0- 2 6
— white, per doz. bunches	5 0- 8 0
— coloured	5 0- 6 0
Daisies (Michaelmas), various	3 0- 4 0
Eucharis, per dozen	2 0- 2 6
Gardenias, per box of 15 and 18 blooms	1 6- 2 6
Lapagerias, white, per dozen	2 0- 2 6
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 6- 3 0
— — short	2 6- 3 0
— lancifolium alba, long	1 3- 1 6
— — short	1 3- 1 6
— speciosum rubrum, per doz.:	
— long	1 3- 1 6
— short	0 9- 1 0
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6
Mignonette, per doz. bunches	3 0- 4 0

	s.d. s.d.
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	12 0-15 0
— Cattleya Harrisonæ, p. doz.	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum	3 0- 4 0
Pelargoniums, p.doz. bunches	4 0- 5 0
— Double Scarlet	4 0- 6 0
Physalis, per doz. bunches	5 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 6
— C. Mermet	0 9- 1 6
— Frau Karl Druschki	1 0- 1 6
— Liberty	1 6- 2 6
— Madame A. Chatenay	1 6- 3 0
— Niphetos	1 0- 1 6
— Richmond	1 0- 2 6
— Sunburst	3 0- 5 0
— Sunrise	0 9- 1 0
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 3
— Franz Deegen	1 0- 1 6
— Kaiserine	1 3- 2 6
Scabiosa caucasica, per doz. bnchs.	2 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	3 6- 4 0
Stock, p. d. bnchs:	
— white	4 0- 5 0
Tuberose, p. doz. blooms, long	0 8- 0 9
— — short	0 6- 0 7
Violas, small blue, p.doz. bunches	0 9- 1 0
Violets, per dozen bunches	1 6- 4 0
— double, pr. dz. bunches	3 0- 5 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Carnation foliage, doz. bunches	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross bunches	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6
Croton, per dozen	18 0-30 0
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, per dozen	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0

	s.d. s.d.
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, per dozen	6 0 —
— choicer sorts per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0-18 0
— lancifolium alba. in pots, per dozen	15 0-18 0
— longiflorum, p. dozen	12 0-15 0

Plants in Pots, &c.: Average Wholesale Prices (Contd.).

	s.d. s.d.
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0

	s.d. s.d.
Pelargonium, other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 3 0
— Cox's Orange, ½ bushel	4 0- 8 0
— Cooking, per bushel	3 0- 4 0
— Californian Newtowns, case	7 6-10 6
— Gravensteins, per case	7 6 —
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Blackberries, peck	2 0- 2 6
Damsons, p. ½ bshl.	3 0 —
Dates, per dozen	7 0 —
Figs (Guernsey), per dozen	1 0- 1 6
— English	1 0- 1 6
— (Italian), boxes	0 8- 1 0
Cranberries, p.case	9 0-12 0
Grape Fruit, case:	
— 96's	16 0-24 0
— 80's	
— 64's	
— 54's	
— per dozen	6 0 —
Grapes (English), per lb.:	
— Hamburgh	0 6- 1 6
— Canon Hall	1 6- 5 0
— Muscats	1 3- 4 0
— Gros Colman	0 8- 2 0
— Black Alicante	0 6- 1 6
— Madresfield Court	1 6- 2 6
— Gros Maroc	1 0- 1 6
— Almeria, barrel	12 0-18 0
— Lisbon, case	7 0- 8 6
Lemons, per case:	
— Messina	10 6-12 0
— ordinary	6 0- 7 0
Lemons, per case:	
— Naples	20 0-30 0
Limes, per case	2 6 —

	s.d. s.d.
Medlars, per crate	4 0 —
Melons (Guernsey)	1 0- 2 6
— (English)	1 0- 2 6
— Canteloupe	2 0- 3 0
— (Spanish), case	7 0-12 0
— Bronzed, case	10 0-12 0
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt.	50 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 2-0 2½
— Walnuts per dozen lbs.	2 6-6 0
— — French, per bag	7 0- 8 0
— English doubles per dozen lbs.	8 0-12 0
Oranges:	
— Cape, per case	13 6-14 6
— Jamaica, case	12 6-16 0
Peaches	
— English, dozen.	
— selected	6 0-24 0
— best	4 0- 6 0
— seconds	
— Canadian, per box	3 0- 4 0
— Californian, p. tray	5 6- 6 6
Pears:	
— French, pr. box	3 0 —
— — per crate	6 0- 8 0
— English, ½ bus.	1 0- 3 0
— Dessert, per ½ bushel	3 0- 6 0
— Californian, p. case	8 6- 9 0
— Doyénné du Comice, p. case	12 0 —
— Dutch Catalac, ½ bushel	3 6 —
Pineapples, St. Michael	2 6- 4 6
Plums:	
— (Californian), crate	8 0-12 6
— Switzers, ½ sieve	2 6- 3 0
Pomegranates, per case	7 0- 8 0
— per box	2 6 —

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	4 0 —
Artichokes (Globe), per dozen	2 6 —
— English	2 0 —
— ground, ½ bus.	1 6 —
Aubergines, per dozen	2 0 —
Beans:	
— French, ½ bshl.	1 0- 1 3
— Scarlet Runners, per bushl.	1 0- 1 6
— — per bag	2 0- 2 6
Beetroot, per bushel	2 0 —
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	2 0- 2 6
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun.	1 6 —
— dirty, per bag	2 6 —
— washed, bag	3 6 —
Cauliflowers, per tally	4 0- 5 0
Celery, per dozen	12 0-15 0
— dirty	12 0-14 0
Cucumbers, per flat	4 6- 6 0
Endive, per dozen	1 6 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles	15 0-18 0
Leeks, per doz.	2 0 —
Lettuce (English), Cos, per box	3 0- 4 0
Cabbage, per dozen	0 3- 0 6

	s.d. s.d.
Marrows, per tally	4 0- 5 0
Mint, per dozen bunches	3 0 —
Mushrooms, cultivated, per lb.	2 0- 2 6
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag	3 6- 4 0
— Picklers, p. bag	4 0 —
— (Spring), per doz. bunches	3 0 —
— (Spanish). case	6 0 —
— Dutch, bags	2 9- 3 0
Parsley, ½ sieve	1 0- 1 3
— per doz. bun.	2 0 —
Parsnips, per bag	2 6- 3 0
Peas (English), per bushel	5 0- 6 0
— bags	10 0-12 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen	0 3- 0 6
Sage, per dozen	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel	1 6- 2 0
— bags	2 0- 2 6
Tomatos, per doz. lbs.:	
— (Guernsey),	2 6- 3 3
— (English)	2 6- 3 3
— seconds	1 0- 1 3
Turnips (English), per dz. bunches	2 0- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Watercress, p. dz. bunches	0 4- 0 6

Remarks.—English dessert and culinary Apples have been a shortage during the past week. Apples from Nova Scotia, Wenatchee and California comprised choice fruits of the following varieties:—Gravenstein, Jonathan, Blenheim Pippin, Ribston Pippin, and Winter Banana, a yellow sort. Fine samples of Pears from the same sources include Beurré Hardy, Duchess, Easter Buerré, Keiffer, and Doyenné du Comice. English Pears, obtainable in Covent Garden Market, consist of the following sorts: Durondeau, Pitmaston Duchess, Conference, Calabash, Beurré Clairgeau, and Doyenné du Comice, most of the fruits being of excellent quality. Californian growers are also sending some very fine samples of Switzer Prunes and Coe's Golden Drop Plums; these fruits are carefully graded and packed in trays, four in a box, the total weight being about 24 lbs. Grapes from home growers and the Channel Islands remain a very heavy supply, and sales are only effected at very low prices. English Tomatos continue a good supply; supplies of Dutch and French Tomatos are finished, but there will soon be consignments from the Canary Islands. Mushrooms, both field and cultivated, have been very scarce; the latter have realised from 2s. to 2s. 6d. per lb. English and Continental Nuts continue a full supply. The vegetable trade has shown a slight improvement during the past week. *E. H. R., Covent Garden, October 9, 1912.*

New Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 4 6
Kents	4 3- 5 3

	per cwt. s.d. s.d.
Blacklands	3 6- 4 0
Lincolns	4 0- 5 0

Remarks.—Prices and conditions of trade are the same as last week. *Edward J. Newborn, Covent Garden and St. Pancras, October 9, 1912.*

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending October 5, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather* was at first extremely unsettled, with heavy falls of rain in many parts of Great Britain; a thunderstorm occurred at Portsmouth on Monday, and at several of the Channel stations on Tuesday. After Tuesday a gradual change took place, and in the latter half of the week the weather was mostly fair and dry. With the improved conditions sharp ground frosts occurred nightly over a wide area, and a good deal of fog and mist was experienced in places.

The *temperature* was below the average, the deficit varying from less than 2° in Scotland N. to nearly 4° in England N.E. and N.W. and Ireland S., and to 4½° in England S.W. The highest readings were observed in the earlier half of the week when the thermometer rose slightly above 60° in most of the English districts and in Ireland S., and touched 65° at Jersey. The lowest readings occurred mostly on October 4 and 5 when the sheltered thermometer fell to 25°, or less in many districts, and to 21° in England S.W. (at Llangammarch Wells). In the English Channel it did not go below 40°. The lowest grass readings reported were 16° at Birmingham, 17° at Newton Rigg, and 18° at Blackpool.

The *mean temperature of the sea* remained below the average, considerably so in most places, and was again lower than in the corresponding week of last year.

The *rainfall* amounted to less than the normal in most of the western districts, and also in Scotland N.; elsewhere there was an excess, the fall in England E. being equal to more than three times, and in England S.E. to more than four times the average. Amounts exceeding an inch were recorded in many parts of southern England on September 29, and over a large portion of Great Britain on September 30; at Wisley, Hastings and Eastbourne the total for the two days amounting to as much as 2·7 inches. Over an inch was recorded also at a few of the Channel stations on October 1.

The *bright sunshine* was generally in excess of the average, but was deficient in Scotland N. and E. Over a large portion of England the mean daily duration amounted to at least 4½ hours, or to about 40 per cent. of the possible. In Scotland N. the daily duration was less than two hours, only 17 per cent. of the possible.

THE WEATHER IN WEST HERTS.

Week ending October 9.

The sunniest week since the middle of July.—Another cold week, and the tenth in succession. On the 7th inst. the temperature in the thermometer screen exceeded the average for the time of year by 3°, making this the first unseasonably warm day since July 27, or for 72 days—more than 10 weeks. The nights have all been very cold, and on six of them the exposed thermometer showed from 8° to 18° of frost. In the last 26 years there have been only four instances in October of such a low reading as that last named, and none so early in the month. The ground is at the present time 3° colder at 2 feet deep, and 4° colder at 1 foot deep, than is seasonable. No rain at all fell during the week, but on three nights there was a measurable quantity of dew deposited on the funnel of the rain-gauge. For the last two days there has been no measurable percolation through either of the soil gauges. The sun shone on an average for 6½ hours a day, or for 3 hours a day longer than is usual at the same period in October. In fact, there was more sunshine in the past week than in any week since the middle of July, or for 12 weeks. Light airs and calms have alone prevailed. The mean amount of moisture in the air at 3 o'clock in the afternoon fell short of a seasonable quantity for that hour by as much as 14 per cent. My Dahlias were killed by frost on the night preceding the 6th inst., which is 30 days earlier than the average date of their destruction in the previous 27 years, and the earliest date since October, 1888, or for 24 years.

The Summer Rainfall.

During the summer half of the present drainage year, ending September, 15 inches of rain fell, which is 1½ inches in excess of the average for the same six months in the last 56 years. The rainfall in April and July was below the average, but all the other months were wet, and August exceptionally so. *E. M., Berkhamsted, October 9, 1912.*

SCHEDULE RECEIVED.

Blackpool and Fylde Horticultural Society.—The sixteenth annual Chrysanthemum show will be held in the Winter Gardens, Blackpool, on Wednesday and Thursday, November 13 and 14. A silver Rose bowl, valued at 15 guineas, is offered in the class for a table of Orchids, arranged with foliage plants. Secretary, Mr. J. C. Bolton, 87a, Church Street, Blackpool.

DEBATING SOCIETIES.

READING GARDENERS'.—The inaugural meeting for the autumn session was held on the 23rd ult.; Mr. F. G. Drew presided. A lecture on "Common Sense in the Cultivation of the Apple" was delivered by Mr. W. Camm, gardener at Cliveden, Taplow. Mr. Camm exhibited shoots of different varieties of Apples, showing how, in some sorts, fruit buds are produced freely on the wood of the current year, whilst in others fruit buds are formed chiefly on short, stubby spurs along the sides of the unshortened shoots of the previous year. He pointed out how any severe cutting back of these shoots generally produced growth instead of fruit buds. Examples were also shown where the fruit buds are produced at the ends of short lateral shoots. Mr. Camm pointed out that the natural habit of the tree must be considered, especially its method of fruit-bud production, before any system of pruning is adopted.

STIRLING & DISTRICT HORTICULTURAL.—A meeting of this society was held on the 1st inst., Mr. Wm. Watt, Bridge of Allan, presiding. Mr. W. W. Ritchie (late of Polmaise) delivered a lecture on "Apples." The history and propagation of the Apple by seeds, cuttings, layers, suckers, grafting, and budding were described, and information given on stocks, scions, suitable soil and situation, forms of trees, and planting. The lecturer suggested that the Apple tree might be planted more frequently in public parks and pleasure grounds than it is at present; also that proprietors might encourage the planting of orchards on farms and crofts, and so help to keep people on the land.

BOLTON HORTICULTURAL.—The first meeting of the new session was held at the Spinners' Hall, Bolton, on the 3rd inst., when Mr. R. G. Waterman, County secretary for Lancaster of the Royal International Horticultural Exhibition, 1912, gave an interesting description of that great flower show. Mr. W. Holmes, gardener to J. McCartney, Esq., who was a successful exhibitor at the Show, Mr. H. Shone, treasurer, and Mr. G. Corbett, secretary of the society, also spoke as to the merits and extent of the exhibition.

CHELMSFORD & DISTRICT GARDENERS'.—The first meeting of the winter session was held in the County Laboratories on the 4th inst, when the president, Mr. E. H. Christy, occupied the chair. An exhibition of fruit was held previous to the lecture. The entries were not very numerous. Mr. Heath gained the 1st prize, Mr. Kirby the 2nd, and Mr. Overall the 3rd. After the exhibition Mr. F. J. Chittenden, director of the Royal Horticultural Laboratories at Wisley, gave a lecture on "Some Plant Diseases," asking the members to select certain diseases for him to deal with. Before treating of the diseases named by his audience Mr. Chittenden gave a brief survey of the functions of the root, stem, and leaf of a plant. Dealing with the streak disease of Sweet Peas, Mr. Chittenden said that it was caused by a fungus attacking the roots when the latter are enfeebled by overwatering and bad cultivation.

CARDIFF GARDENERS'.—The opening meeting of the 1912–13 session, held at the Queen's Hotel on the 1st inst., was well attended by the members. The chair was taken by the president, Mr. J. J. Neale. Mr. R. W. Treseder, of Messrs. Wm. Treseder, Ltd., Cardiff, gave an interesting review of the newer Roses, dealing with those introduced since 1909. About 75 vases of the newer varieties, principally H.T.'s and T.'s, were displayed by Mr. Treseder. The speaker said that Roses of the H.T. type were the most profitable, as they continue in flower from June till November. Mr. Treseder gave a comprehensive description of the newer Roses, with interesting remarks as to their merits and demerits.

CROYDON & DISTRICT HORTICULTURAL.—At the meeting of this society, held on the 1st inst., Mr. H. H. B. Shepherd, F.I.C., F.C.S., delivered a lecture on "The Use of Artificial Fertilisers for Flower, Fruit and Vegetable Culture." The forethought of Mr. Dickinson in having printed copies of the lecture to distribute amongst the audience gave the members opportunity to grasp technicalities accruing from a lecture of this description. The lecturer illustrated his remarks with lantern slides.

WARGRAVE & DISTRICT GARDENERS'.—A meeting of this association was held on the 2nd inst. Five new members were elected and splendid exhibits were staged by Mr. Richardson, of the Wargrave Plant Farm, Ltd., and by Mr. Hall, Shiplake Court Gardens. The former consisted of a collection of early-flowering Chrysanthemums of the newer varieties, and the latter of a large vase of Carnations and numerous small vases of double white Stocks. He also staged several varieties of Apples and Pears. Most of the flowers were sent to the Royal Berks. Hospital the following morning. The subject for the evening's discussion was "Rambling Roses and their Uses," introduced by Mr. W. H. Scott, of the Hermitage Gardens, Twyford.

GARDENING APPOINTMENTS.

Mr. D. Calthorpe, for the past 4 years Gardener to J. D. Crosbie, Esq., Ballyheigue Castle, Co. Kerry, as Steward and Gardener to Lt.-Col. Wm. Dugald Stuart, Dowestown, Navan, Co. Meath.

Mr. Frank A. Edwards, for 2 years and 3 months Gardener to A. H. Harman, Esq., Lower Grayswood, Haslemere, as Gardener to Miss Christy, Upton, Alresford, Hants. (Thanks for 2s. for the R.G.O.F.—Eds.)

Mr. G. Rowland, for the past 9 years Gardener to David John, Esq., Glasfryn, Llanelly, South Wales, as Gardener to Lady Stepney, The Dell, Llanelly, South Wales. (Thanks for 1s. 6d. for the R.G.O.F. box.

Mr. J. J. Teasdale, for the past 7 years Gardener at Milton Hill, Steventon, Berkshire, as Travelling Representative of Messrs. R. Tucker & Sons, Nurserymen, Faringdon, Berkshire.

Mr. Henry George Garforth, late Foreman at The Hall, Cliff's End, Ramsgate, and at Warren Hill, Loughton, and previously at Aldenham House Gardens, Elstree, as Gardener to Alfred Moseley, Esq., C.M.G., West Lodge, Hadley Wood, Barnet.

CATALOGUES RECEIVED.

Phipps & Ireland, Barnham, Sussex—Alpines, Rock Plants, Hardy Perennials, &c. How to make, plant, and keep a rockery.

W. Wells & Co., Ltd., Merstham, Surrey—Chrysanthemums.

Clibrans, Hale, Altrincham—Herbaceous Alpine Plants; and Roses.

J. R. Pearson & Sons, Lowdham, Notts.—Hardy Fruits and Roses.

W. Fells & Son, Hitchin—Bulbs and Flower Roots.

The Wargrave Plant Farm, Ltd., 10, The Arcade, Liverpool Street, London—Roses and Bulbs.

Charles Turner, Slough—Roses.

Frank Cant & Co., Colchester—Roses.

Geo. Shutt & Co., Stanningley, Leeds—The "Easiwork" Garden Frames and Pits.

H. Cannell & Sons, Swanley, Kent—Plants, Fruit Trees, Roses, Trees and Shrubs, Seeds for Autumn Sowing, Cacti, &c.

Robert Veitch & Son, Exeter—New Calceolarias.

Bees Ltd., Liverpool—Roses, Shrubs, Clematis, Fruit Trees, Hardy Plants, &c.

J. C. Soutar, Clutha Place, Uddingston—Patent Moss Extractor for Lawns.

W. Knight & Sons, Heathfield, Sussex—Nursery Stock.

James Veitch & Sons, Ltd., Chelsea, London—Carnations and Picotees; Roses.

J. A. Cooper, Lissadell, Sligo, Ireland—Alpine and Herbaceous Plants, Shrubs, &c.; Seeds.

W. Drummond & Sons, Ltd., 57 & 58, Dawson Street, Dublin—Fruit Trees, Roses, Shrubs, Forest and Ornamental Trees, &c.

Watkins & Simpson, Ltd., 12, Tavistock Street, Covent Garden, London—Vegetable and Flower Seeds.

FOREIGN.

F. C. Heinemann, Erfurt, Germany—Plant Novelties.

Gemen & Bourg, Luxemburg (Grand Duchy)—Roses.

Fredrick Roemer, Quedlinburg, Germany—Novelties in Flower Seeds.

V. Lemoine & Fils, Rue du Montet, 134 bis, Nancy, France—Nursery Stock.

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PRIVATE.

G. KENT, Brocket Gardens, Hatfield, wishes to Thank those Young Men who replied to his advertisement; the Vacancies are now Filled.

WANTED, GARDENER (Head of three), Berkshire; capable and hard-working man; wife to attend to Poultry; state wages and full particulars of experience and reason for leaving.—Write, B. W., care of Willing's, 33, Knightsbridge, S.W.

WANTED, GARDENER (Head Working) for public Pleasure Ground; experienced in Landscape Gardening, Lawns, Glass, and Flower Gardening; salary £100 per year, subject to one month's notice; applications, with full particulars and with copies of three recent testimonials, to be sent to the TOWN CLERK, Bury St. Edmunds, by the 26th inst. Canvassing or sending copies of applications to members of the Town Council will be disqualified.

WANTED, for Russian Poland, GARDENER, who thoroughly understands Flower Gardening, and in especial Herbaceous Borders, Landscape arrangements and Hothouse Fruit; must understand the climatic conditions, and, preferably, know German, but latter not a necessity.—KELWAY & SON, Langport.

WANTED, GARDENER (Second); Lawn and Kitchen Garden; middle November; duty alternate week; £1 week, cottage, firing, light; wife good laundress for small family, paid extra.—Apply, GARDENER, Bushey Lodge, Teddington, Middlesex.

WANTED, GARDENER (SECOND of six) for Gardens near Haywards Heath, Sussex; must have good experience in Glasshouse and Propagating work; active and capable, with good all-round knowledge; age not less than 26; wages 21s. weekly, Bothy, fire, light, and vegetables.—Apply, stating previous experience and copy references, to J. S., Box 19, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN in Charge, for Rock Garden, Herbaceous Borders, Pleasure Grounds, Plant Houses, House and Table Decoration.—Apply, stating age, experience, and wages required with Bothy, to D. HAZELWOOD, Parlington Gardens, Aberford, Leeds.

WANTED, smart, energetic FOREMAN (Pleasure Grounds); must have held similar position before in large, well-kept establishment; age not under 30; must be well up in Herbaceous Plants, Bush and Rambling Roses, Creepers, Deciduous, Evergreen, and Ornamental Trees and Shrubs in variety; extensive Bedding and Water Gardening and Lawns; must be good manager of large staff of men; wages 25s. per week; good Bothy.—E. CARR, The Gardens, Elveden, Suffolk.

WANTED, FOREMAN (INSIDE); age not under 25; good Carnation Grower essential; wages 19s. per week with Bothy, &c.—Apply, with full particulars, JOHN C. POPE, Winsford Gardens, Beaworthy, N. Devon.

WANTED, FOREMAN for Houses.—Can any Gardener recommend a trustworthy, smart, energetic Man with a thorough knowledge of Plant and Fruit Growing, House and Table Decorations? Wages 20s., Bothy, milk and vegetables; four in houses.—Apply, with full particulars, to ADDISON, Lyme Park Gardens, Disley, Cheshire.

MESSRS. JAMES VEITCH & SONS, LTD., require for a good private place in Hampshire a first-class JOURNEYMAN, about 25, for Hardy Fruit, Wall, Orchard, and small fruits; wages 19s. to 20s. per week, with Bothy and vegetables.—Apply, with full particulars of experience and copies of testimonials, to "H. W.," Royal Exotic Nursery, Chelsea, S.W.

WANTED, JOURNEYMAN for Pleasure Grounds; wages 18s., Bothy, &c.; Sunday duty and overtime paid extra; preference may or may not be given to good cricketer; none but smart, energetic men need apply.—Apply by letter only, giving height, experience, and full particulars, to WHITELAW, Hever Castle Gardens, Hever, Kent.

WANTED, JOURNEYMAN for Inside and Out, to take charge, attend to fires, and make himself generally useful; age about 21; wages 15s. per week and Bothy.—Height and particulars to W. KENT, Brambletye, East Grinstead.

WANTED, smart, active MAN, married, to take LEAD in Flower and Kitchen Gardens, Pleasure Grounds, &c.; must be well up to his work; wages 18s. per week.—Apply, stating age, experience, with copies of testimonials, DOW, Gardens, Amport St. Mary, Andover.

WANTED, a strong, active MAN for Kitchen Garden; duty every third week; wages 18s. per week and Bothy.—MORGAN, Dale Ford, Sandiway, Cheshire.

WANTED, good VEGETABLE GROWER to assist with Lawns and able to take duty; wages 22s., no Bothy; duty 2s. extra.—Apply by letter to R. HEBSON, St. Monica's, Kingswood, Epsom, Surrey.

WANTED, strong, active MAN, age 22, for Outside and take duty; 16s. and Bothy.—J. WINCHESTER, Windle Hall Gardens, St. Helens, Lancs.

WANTED, YOUNG MAN to manage small range of Glass, age about 24, and to help Outside when necessary; wages 17s. per week, Bothy, milk and vegetables.—F. CHASE, Forest Mere, Liphook, Hants.

WANTED, strong, active YOUNG MAN, 24-26, for Pleasure Grounds; good references; wages 18s., Bothy.—Write particulars to T. KING, The Gardens, Gadsden, Hayes, Kent.

WANTED, two YOUNG MEN, about 20, for Kitchen Garden, Pleasure Grounds, and Herbaceous Borders; wages 17s. per week, with Bothy; duty every third week.—Apply, with full particulars, to C. PEARCY, Headley Court, Epsom.

WANTED, young, active, single Man, about 25, mostly for Lawns; wages £1 per week; no Bothy; no duty.—J. PITTS, The Gardens, Pett Place, Charing, Kent.

WANTED, a strong, active YOUNG MAN, age about 19, for Pleasure Grounds and Kitchen Garden; duty every third week; wages 12s. a week, Bothy, milk, &c.—WM. HOLDEN, Heveningham Hall Gardens, Yoxford, Suffolk.

WANTED, YOUNG MAN for Kitchen Garden and Pleasure Grounds; strong and active; duty every other week; must be well recommended; good wages to suitable man.—Apply, with copies of references, to HARE, Blyth Hall Gardens, Coleshill, Birmingham.

WANTED, strong, active YOUNG MAN for general Garden work; must be capable of taking duty; wages 16s. per week, Bothy, milk and vegetables.—Apply, stating age, and copies of references, to W. GILLAM, Ridgehurst Gardens, Shenley, Herts.

WANTED, YOUNG MAN for Pleasure Grounds, 22-24, assist Winter Garden; duty alternate week; 15s. and Bothy; abstainer.—H. W. DUDMAN, The Gardens, Norman Court, Salisbury.

WANTED, YOUNG MAN to take lead in Pleasure Grounds; charge of Winter Gardens, and House Decorating; duty alternate week; 25 to 28, 18s. and Bothy; abstainer,—H. W. DUDMAN, The Gardens, Norman Court, Salisbury.

TRADE.

WANTED, GROWER; must have had thorough experience in an up-to-date Market Nursery; chief work will be the growing of flowers, both under glass and in the open, also Tomatos for Retail trade; good wages and progressive position for thoroughly competent man.—Appy, stating age, wages, and all other particulars, G. G., Box 4, 41, Wellington Street, Covent Garden, W.C.

WANTED, at once, experienced GROWER for Cucumbers, Tomatos, Bedding Stuff and Bulbs.—NORMAN, Keyworth, Notts.

GEO. PYNE has a vacancy for KNIFESMAN under Foreman; must be good Budder and Trainer of Fruit Trees and capable of conducting visitors and booking orders. Apply, stating age, experience and wages required.—Denver Nurseries, Topsham, Devon.

WANTED, a YOUNG FELLOW well up in Carnations, Ferns, and general Nursery work.—Apply, with references and state wages required, to LEWIS & SON, Nurserymen, Malvern.

WANTED, a YOUNG MAN for Outside Nursery, with some experience in Budding, Grafting, &c.—Apply, giving full information as to previous experience and stating wages expected, to COWAN'S, LTD., Gateacre Nurseries, Gateacre, near Liverpool.

WANTED, YOUNG MAN used to Jobbing work.—Apply, W. CLINTON, Aberdeen Park Nursery, Highbury Grove, London, N.

WANTED, two YOUNG MEN for Bedding Plants, Chrysanthemums, Bulbs, Liliums, Tomatos, Cucumbers; also reliable SECOND HAND for Ferns, Cucumbers, Carnations, Roses, &c.—FOREMAN, St. Ann's Nursery, Kirkstall, Leeds.

WANTED, a Young Man as IMPROVER for Indoor and Out; willing and obliging; wages 15s. per week.—JOHN RICHARDS & CO., The Nurseries, Dursley, Gloucestershire.

WANTED immediately, YOUNG MAN, smart, respectable and intelligent, to take charge Outside Nursery Department and assist in Greenhouses and Gardens; must be accustomed to Budding, Grafting, Raising Fruit Trees and Bushes and general routine Nursery work.—Apply, with original references and photo., H. HAMMOND SCOTT, Wholesale Nurseryman, King's Lynn, Norfolk.

VACANCY for Pupil; up-to-date Fruit and Flower Growing under Glass; Perpetual-flowering Carnations a speciality; premium required; references exchanged.—VAN DER SLUYS, F.R.H.S., Ramee, Guernsey.

WANTED, a MAN for Outdoor Nursery as Packer; one willing to make himself useful in other ways.—Apply, stating age, experience, and wages expected, to WILLIAM RANDALL, West of England Nurseries, Exeter.

WANTED, ASSISTANT PACKER for Provincial Nursery; used to Pot Plants, Trees, Shrubs, &c.—State wages, age, experience, references, &c., to F., care of Hurst and Son, 152, Houndsditch, London.

WANTED, energetic YOUNG MAN with knowledge of Seed and Nursery Trades, to solicit locally orders of Gardeners, Farmers, &c. (home counties); good character essential; cyclist; abstainer preferred; constant place for suitable man.—Apply, stating age, experience, wages expected, &c., S. E., Box 10, 41, Wellington Street, Covent Garden, W.C.

TOOGOOD & SONS, The King's Seedsmen, Southampton, have vacancies for a few smart MEN used to the rapid execution of garden seed orders.—Apply by letter.

WANTED, an energetic MAN, with thorough knowledge of general Nursery Stock and its value, to take and execute orders, advise customers as to planting and give estimates.—State age, experience and wages required to W. FROMOW & SONS, Sutton Court Nursery, Chiswick, W.

SEED TRADE.—MANAGER of Wholesale House requires ASSISTANT; must have had some experience of Wholesale Trade.—Apply, M., Box 1, 41, Wellington Street, Covent Garden, W.C.

WANTED for Liverpool, JUNIOR ASSISTANT for Seeds, Bulbs and Plants; one used to quick counter trade.—Full particulars as to experience and wages required to B. J., Box 15, 41, Wellington Street, Covent Garden, W.C.

WANTED, smart COUNTERMAN for Wholesale Vegetable Department.—Write, S. H., Box 21, 41, Wellington Street, Covent Garden, W.C.

WANTED, Man as CLERK; age not under 28; experienced in Nursery Trade; good references.—JOHN PIGG, Nurseries, Royston, Herts.

WANTED, CLERK (Seed Trade); good writer; quick, accurate at figures; thoroughly reliable with highest references; state experience, wages required.—W. E., Box 5, 41, Wellington Street, Covent Garden, W.C.

WANTED, CORRESPONDENCE CLERK; shorthand and typist; knowledge of plant names; able to assist in general office work.—Apply to PAUL & SON, The Old Nurseries, Cheshunt, Herts.

WANTED, a CLERK-DRAUGHTSMAN and JUNIOR CLERK, with a knowledge of typewriting preferred.—State experience, age, and wages required, to GEO. JACKMAN & SON, Woking Nurseries, Surrey.

WANTED, JUNIOR CLERK; must be neat, quick, and clean writer; good references.—Apply by letter, stating age, copies of references, and wages required.—BARR & SONS, The Nurseries, Taplow, Bucks.

FLORIST.—An APPRENTICE wanted for high-class Court Florist; must be refined and lady-like; comfortable home; small premium.—Apply by letter to "VIOLET," Box 24, 41, Wellington Street, Covent Garden, W.C.

SITUATIONS WANTED.

Twenty-six words for 1/6, & 6d. for each succeeding Eight words or less.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

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PRIVATE.

Gardeners, Farm Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application.

CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

CAPTAIN W. PEPYS wishes to highly recommend his GARDENER (Head, where two or more are kept); thoroughly experienced in all branches; Glass and Garden; married, no family.—Apply, G. BURROWS, Barford, Warwick.

MR. AMOS PERRY, Hardy Plant Farm, Enfield, can with confidence recommend a thoroughly experienced GARDENER (Head) where first-class gardening is required.—Full particulars on application.

MR. W. A. COOK, Head Gardener to Sir Edmund G. Loder, Bart., can strongly recommend a Man as GARDENER (Head); one that has been used to all kinds of Outside work, and thoroughly capable of providing a choice lot of Fruit and Vegetables the year round; age 35; married.—G. WYATT, Waverley, Western Road, Haywards Heath.

LADY ST. CYRES will be pleased to recommend W. Butler as GARDENER (Head) to any Lady or Gentleman requiring the services of an efficient and trustworthy Man; 12 years as Head; age 38; married, no family.—BUTLER, care of Mr. John Coss, Waddesdon, Bucks.

C. B. ELLIOTT, Blyth Hall Gardens, Rotherham, Head Gardener to Major Willey, highly recommends John Blakemore, age 29, as Head in good establishment; 5½ years as General Foreman here; excellent references.

THE HON. ROBT. MARSHAM TOWNSHEND, Frognal, Sidcup, Kent, wishes to highly recommend W. McIlwrick as GARDENER (Head, where others are kept); three years present place as Foreman; age 30.

GARDENER (Head) in good establishment; most successful Grower of choice Fruit, especially Grapes; seven years exemplary character and highest recommendation from last situation; disengaged through place being let; married, no family.—KENT, Box 23, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head, where five or six and upwards are kept); 25 years' practical experience in all branches, Inside and Out; thoroughly reliable and highly recommended; married, without encumbrance.—F. WOODHOUSE, Blackboys, near Uckfield, Sussex.

GARDENER (Head).—Mr. KING, Avon Castle Gardens, Ringwood, Hants, can confidently recommend his Foreman, Thomas Sidwell, to any Lady or Gentleman requiring the services of a thoroughly efficient and trustworthy man as above; first-class experience in all branches Inside and Outside, including Orchids; age 30; married, one child.

GARDENER (Head); thoroughly experienced in all branches, including Orchids and Forestry; excellent references; late Head Gardener at Middleton Park 8½ years.—Apply, A. PERRY, care of Mr. Sherwood, Shurlock Row, Twyford, Berks.

GARDENER (Head of two or three); age 31; 16 years' experience in good establishments; good references; married when suited.—J. W., 5, Graham Street, Derby.

GARDENER (Head, where two are kept); life, practical and all-round experience, both Inside and Out, also Herbaceous Plants; excellent character.—H. GARDENER, 124, Hampstead Road, London, N.W. (No Circulars.)

GARDENER (Head, where two or more kept) seeks Re-engagement; life experience in all branches Inside and Out; excellent references; married.—SIMS, Havelock House, Northtown, Aldershot.

GARDENER (Head); an all-round experienced man, including Orchids, Landscape work, Rockwork Making, Planting, &c., Land and Stock Buying and Selling; good references.—J. HAYNES, 18, Ingersoll Road, Bush, London, W.

GARDENER, good (Head or Single-handed); 32; 10 years' character; indoors or out; any distance.—E. W., 27, St. Dunstan's Hill, City.

GARDENER (Head or good Single-handed); experienced in all branches; 10 years present situation; well recommended; age 33; married.—W., 144, Castlemain Road, Stourfield Park, Bournemouth.

GARDENER (Head or Single-handed with help); life experience in all branches; present place 2½ years; age 30; married; good references.—HOOK, 46, Allen Street, Maidstone.

GARDENER (Head or good Single-handed); age 28; single; experienced Inside and Out; first-class references; present place five years as Second; well recommended.—BILLING, The Grange Lodge, Branch Hill, Hampstead, N.W.

GARDENER (Head Working); 25 years' experience, all branches; disengaged October 19th; age 39; married, no family; good references.—DOMAN, The Gardens, Ongar Place, Addlestone, Surrey.

GARDENER (Head Working, where two or three are kept); well up in Vines, Peaches, Melons, and Inside and Outside work; age 40; married, one child; excellent references from present place.—Apply, D. JONES, The Gardens, Stanford Court, Worcester.

GARDENER (Head Working); practical experience in all branches; age 42; married, no family; six and ten years Head; highest references.—W. TESTER, 20, Maldon Road, Brighton.

GARDENER (Head Working, where two or more are kept; life experience Inside and Out; Flower, Fruit, Vegetables, Orchids; married, no family.—E. W., 2, Tamworth Park, Mitcham.

GARDENER (Head Working); age 38; life experience in all branches; married, two children, ages nine and seven; five years last place.—TROWBRIDGE, New Road, Spencer's Wood, near Reading, Berks.

GENTLEMAN wishes to highly recommend his GARDENER (Head Working, where one or two are kept); life experience in all branches; wife first-class laundress or capable in house if required; please state wages.—W. KAZER, Shelley Hall Lodge, Hadleigh, Suffolk.

GARDENER (Head Working); age 40; life experience in all branches; Vines, Peaches, Stove and Greenhouse Plants, Hardy Fruits, Kitchen Gardens, or would undertake a new place; 6½ years last situation; good references; married; disengaged.—R. PARKER, Firs, Upper Holland Road, Sutton Coldfield, Warwickshire.

GARDENER (Head Working of four or more).—W. GODDARD, Langley House Gardens, Abbots Langley, Herts, highly recommends his FOREMAN to any Lady or Gentleman requiring a thorough capable and trustworthy man; 16 years practical experience in all branches; abstainer.

GARDENER (Head Working); experienced in all branches; age 26; married; highly recommended by Mr. FRIEND, Head Gardener; leaving through death.—A. BALLS, Wroxham Hall Gardens, Norwich.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park Gardens, highly recommends H. Stedman as above; 19 years' practical experience in all branches; age 35; married, two children; life abstainer; excellent references; disengaged when suited.—H. STEDMAN, Bicester Lodge, Kirtlington Park, Oxford.

C. C. SIBTHORP, Esq., Sudbrooke Holme, Lincoln, will be pleased to recommend Young Man as GARDENER (Head Working); life experience Fruit, Vegetables and Flowers; excellent references; age 30; disengaged.—Apply, H. OUTRIM, Elmhurst, Lichfield.

JAS. POUND, Mongewell Park Gardens, Wallingford, wishes to recommend Percy Rolfe to any Lady or Gentleman requiring a GARDENER (Head Working); well versed in the various branches of the profession; can be well recommended as an intelligent, energetic and capable man; five years present place as Foreman; age 30.

LADY highly recommends her late GARDENER (Head Working, where three or more are kept); life experience Inside and Out, including Orchids; 20 years as Head in good establishments; married; no encumbrance; disengaged; left through estate being sold; four years last situation.—R. BEGG, care of Mr. Nunn, 45, Hargwyne Street, Brixton, London.

GARDENER (Head Working, where several are kept); life experience in Vines, Peaches, Nectarines, Melons, Pleasure Grounds, Kitchen and Flower Garden, Stove and Greenhouse Plants; also well up in Herbaceous Plants; especially good at Gloxinias and Herbaceous Calceolarias; highly recommended by present employer, H. E. REID, Esq.; 13 years Head in present place and 11 previous; age 47; life abstainer; one boy (15).—G. MARLOW, The Oaks Gardens, Walton Heath, Surrey.

GARDENER (Head Working); life experience Inside and Out; highly recommended; Head in present place; age 33; married.—BAKER, 23, Greenham Road, Muswell Hill, N.

GARDENER (Head Working or good SECOND); age 30; married, no family; 14 years good practical, all-round experience; wife would undertake laundry or Bothy if required.—M. T., Box 25, 41, Wellington Street, Covent Garden W.C.

GARDENER (Head Working).—Mr. BANKS, Landguard Manor, highly recommends W. Hughes; life experience Inside and Out; excellent references; age 33; married when suited.—W. HUGHES, The Gardens, Landguard Manor, Shanklin, Isle of Wight.

GARDENER (Head Working) seeks Re-engagement; life experience gained in good establishments; age 40; married, no family; abstainer.—W., care of Haskell, 2, Alma Cottages, Eagle Road, Guildford.

A. BRIERLEY, Esq., Hillside, South Godstone, is anxious to find a Situation for his GARDENER (Head Working); a thoroughly competent, trustworthy man; has been with him 10 years; age 38; no family.

GARDENER (Head Working); life experience Inside and Out; highest testimonials; past 12 years as Head; left through death; age 38; married, one child, age eight.—GARDENER, Mizpah Villa, Wellington Street, Hertford, Herts. (No circulars.)

MR. CHURCH, Poles Gardens, Ware, Herts, will be pleased to recommend A. Stacey for Inside and Out; nearly 10 years' experience; age 25; South preferred.

GARDENER; good all-round experience, both Inside and Out; good references; disengaged; age 31; married.—F. VENN, care of W. Stocks, Verulam House Gardens, St. Albans, Herts.

GARDENER; practical experience in all branches; Jobbing not objected to; good reference.—Address J. H., 32, Norfolk Road, East Ham.

GARDENER; Kitchen Garden; nine years last situation; can be well recommended.—A. ROBERTS, 3, Brooklyn Cottage, Cheapside, Ascot.

GARDENERS, two (one married) seek Situations (Outside) in Kitchen Gardens; Flowers or Pleasure Grounds; both good references and experience; disengaged when suited.—W. H., Box 22, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Single-handed); 12 years' experience Inside and Out; age 27; married when suited; abstainer; disengaged; excellent references.—H. DUNMALL, Station Road, Wadhurst, Sussex.

GARDENER (Single-handed or Lead); Kitchen Garden and Pleasure Grounds; 14 years' experience in good places; excellent references; South preferred.—G. SIMS, Dunham Gardens, Massey Hall, Altrincham, Cheshire.

GARDENER (Single-handed or Second, Inside and Out); age 25; good references.—Apply, E. SLATER, Bhylls Cottage, Bhylls Lane, Compton, near Wolverhampton.

GARDENER (Single-handed or with help); good all-round experience; age 40; married, one child; excellent reference; six years last place.—GARDENER, 439, York Road, Wandsworth, S.W.

GARDENER (Single-handed or with assistance); good general experience Inside and Out; age 28; married, no family.—J. SEARS, 23, High Street, Seal, near Sevenoaks, Kent.

GARDENER (Single-handed) wants Situation; age 23; willing to make himself useful; three years excellent reference present situation.—H. S., 37, Churchill Road, South Croydon, Surrey.

GARDENER (Second, chiefly Inside); 10 years' experience in all branches; age 25.—H. WAITE, Mount Road, Tettenhall Wood, Wolverhampton.

GARDENER (Second, Inside or Inside and Out); 12 years' experience; good references; age 27; Bothy preferred.—G. JEFFRIES, 5, St. Philips Road, Surbiton, Surrey.

GARDENER (Second, Inside and Out); 26; single; good references.—J. BETTS, Grove Park Gardens, Kingsbury, Middlesex.

GARDENER (Second) or JOURNEYMAN (First) seeks Situation; experienced Inside and Out; age 24; abstainer; references; disengaged.—H. C. BOWYER, 19, Mary Street, Blaenavon, Mon.

GARDENER (Second) or JOURNEYMAN (First, Inside) seeks Situation; 8½ years experience; age 24; disengaged.—Apply, F. PAXTON, 31, Stamford Road, Fulham, London, S.W.

GARDENER (Under) seeks Situation Inside and Out; age 21; life abstainer.—E. CARPENTER, Old Road, Kempsey, Worcester.

GARDENER (Under) seeks Situation in Kitchen Garden and Pleasure Grounds; used to machines; could take charge of horse; age 30; married, no family; highly recommended.—J. BOYCE, Prospect Cottage, Albany Road, Old Windsor, Berks.

GARDENER (Under) seeks Situation; willing to learn; good references.—Apply, ALFRED GORTON, Upper Oddington, Moreton-in-Marsh.

FOREMAN or SECOND (Inside).—Mr. HALL wishes to recommend A. Freeman; five years present place; good experience in Plants and Fruit; age 24.—A. FREEMAN, The Gardens, Harewood, Leeds.

FOREMAN (Inside) or good SECOND.—Mr. J. V. MACDONALD, Whetstone Gardens, Edgbaston, Birmingham, wishes to recommend T. Evans as above; good experience in Fruit and Plant Houses; age 27.

FOREMAN (Inside); good practical knowledge of Fruit and Plants and the general routine of a good establishment; age 25.—C. BRAYBROOK, Hillside, Lower Stondon, Shefford, Beds.

FOREMAN (Inside); age 23; thorough practical experience Vines, Peaches, Carnations, Chrysanthemums, Decorating and general routine of good establishments; disengaged.—T. YARWOOD, Pyon House Gardens, Hereford.

FOREMAN (Inside); age 26; life experience in Fruit and Plants in good establishments, including Kingswalden Bury, Iwerne Minster, and Castle Hill (Devon); well recommended.—H. GEEN, The Gardens, Valance, Westerham.

FOREMAN (Inside); age 25; 11 years' experience; well recommended.—Address, "W.," care of Secretary, B.G.A., Ulysses, Fortune Green, London, N.W.

FOREMAN (Inside); 13 years' experience in Stove, Greenhouse Plants, Fruit Houses, House and Table Decorations, Retarded Plants; abstainer.—M. DEVEREUX, Aston Hall Gardens, Preston Brook, Warrington.

J. W. BENTON, Witham Hall Gardens, Bourne, Lincs, can confidently recommend H. Cole as FOREMAN (Inside); 9½ years' experience Fruits and Plants.—Apply as above.

FOREMAN (Inside) seeks Situation; 13 years' experience in Fruit, Plants, and Decorating; excellent references from first-class establishments, including Highnam Court, Waddesdon Manor, and Warren House; age 27; disengaged.—H. BALDWIN, Wilderness Gardens, Mitcheldean, Gloucestershire.

FOREMAN (Inside or General); life experience in first-class establishments, from which can produce excellent references; good Decorator; age 29.—T. JONES, Holmwood Park Gardens, Tunbridge Wells.

W. JACKSON, Dalton Hall Gardens, Beverley, E. Yorks, can highly recommend his Foreman, F. Ironside, as a thoroughly reliable man; also two Youths; strong; good workers.

JOURNEYMAN (Inside) in good establishment; four years' experience; age 20; height 5 ft. 10 in.—HOPKINS, The Gardens, High Cross, Framfield, Sussex.

JOURNEYMAN (First, Inside) seeks Situation; age 24; 9½ years' experience; disengaged.—Apply, J. NICHOLLS, 31, Stamford Road, Fulham, S.W.

JOURNEYMAN (First, Inside); 25; good experience; Stove and Greenhouse Plants, Fruit, Cucumbers, Chrysanthemums; good references; disengaged.—H. ASHLEY, Porch Cottage, Weston, near Ross, Herefordshire. (No circulars.)

JOURNEYMAN (First, Inside).—Mr. J. E. PARKER, Staunton Harold Gardens, Ashby-de-la-Zouch, wishes to highly recommend F. Swanwick as above; 8½ years' good all-round experience; age 24.

H. HUTCHINGS, Brick House, Tiverton, Devon, seeks Situation as JOURNEYMAN (Inside); age 24; nine years' experience; good references; Bothy preferred; disengaged.

JOURNEYMAN (Inside).—Mr. HOLDEN can highly recommend A. Harrison as above; 4½ years in Fruit and Plant Houses; aged 19; excellent references.—A. HARRISON, Heveningham Hall Gardens, Yoxford, Suffolk.

C. BRAY, Upper Breinton, near Hereford, seeks Situation as JOURNEYMAN under Foreman; Inside preferred; age 20; well recommended.

JOURNEYMAN (Inside and Out) seeks Situation; age 22; six years' experience; Bothy preferred.—H. SMITH, No. 4, Church Lane, Midsomer Norton.

JOURNEYMAN, under Gardener, seeks Re-engagement for his Son; has had four years' experience in good Gardens; Bothy preferred.—Address, G. MUNNINGS, Newland Park Gardens, Chalfont St. Giles, Bucks.

MR. F. CLARKE, The Gardens, Lowther Castle, Penrith, Cumberland, wishes to highly recommend J. Travis as JOURNEYMAN on Pleasure Grounds; eight years' experience; age 24; two years and seven months here.

YOUNG MAN (22) seeks Situation in Kitchen Garden; seven years' experience.—W. SILVER, Ridgehurst Gardens, Shenley, Herts.

YOUNG MAN seeks Situation on Lawns and Herbaceous Borders; age 19; strong and willing to work; good references.—T. FAIRS, 3, Peacocks Row, Partridge Green, Sussex.

YOUNG MAN seeks Situation as SECOND or THIRD (Inside and Out); nine years' experience; good references; Bothy preferred.—J. HOARE, West Lavington, near Devizes, Wilts.

YOUNG MAN (23) seeks Situation; Kitchen Garden and Pleasure Grounds; good references; abstainer.—H. [illegible]UNNELL, Newton Park Gardens, Burton-on-Trent.

YOUNG MAN, age 23, seeks Situation as FOREMAN (Kitchen Garden); good experience; well recommended.—J. LONGHURST, The Gardens, Knott Park, Oxshott, Surrey.

W. WOODLEY, The Gardens, Gayton House, Blisworth, Northants, can recommend Young Man, age 18, for Inside or Out; 12 months here.—Apply as above.

YOUNG MAN age 18, seeks Situation as IMPROVER (Inside or Inside and Out); four years' good references; Bothy preferred.—P. HARVEY, Knole Park Gardens, Sevenoaks, Kent.

IMPROVER, age 16; a strong Lad seeks Engagement as above; had some experience; Bothy preferred; abstainer; disengaged.—Apply, W. RYE, Great Mowshurst Farm, Edenbridge, Kent.

A. BROWN, Melchet Court Gardens, Romsey, wishes to recommend Thomas Hamblin as IMPROVER (Inside); 2½ years here; age 17½.

A. JEACOCK, The Gardens, Sharpham House, Totnes, Devon, will be pleased to recommend strong, active Youth (18) as IMPROVER; four years' experience Inside and Out; Bothy.

CHARLES JONES, Gardener to Sir Wm. Anson, Bart., Pusey House, Faringdon, Berks, wishes to place his Son under first-class Gardener; age 15; tall and strong; Bothy preferred.

MIDDLE-AGED MAN seeks Situation as CARETAKER; see after a few Cows; fill up time in Garden; 12 years' reference.—ARTHUR PRIOR, Hatfield Heath, Harlow, Essex.

ELECTRICIAN seeks Situation; experienced with steam, gas or oil engines, running repairs; age 27; single; or as SECOND in large private establishment.—H. C., Box 20, 41, Wellington Street, Covent Garden, W.C.

TRADE.

MANAGER (Working) desires Re-engagement in an up-to-date Market Nursery; thoroughly experienced in Forcing, Chrysanthemums, Roses, Tomatos, Cucumbers, Carnations, Bedding Plants and general Cut Flower trade; wholesale and retail; keen manager of men; married; age 30.—TOMATO, Box 17, 41, Wellington Street, Covent Garden, W.C.

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MANAGER or FOREMAN (Working); 20 years experience Market and Retail Nurseries; Propagating and Growing Tomatos, Cucumbers, Grapes, Plants, Chrysanthemums, Bulbs, &c., and general produce; excellent references; married; age 37.—D. G., Box 14, 41, Wellington Street, Covent Garden.

MANAGER or FOREMAN (Working); life experience in Market Nurseries; Cucumbers, Tomatos, Chrysanthemums, Rhubarb, and Mint Forcing; good references.—W. LILLEY, 89, Cleave Road, Gillingham, Kent.

SEEDSMAN'S MANAGER or ASSISTANT; all departments; 17 years' experience; wholesale, retail, seed growing, packing, and warehousing; highest references.—W., Box 13, 41, Wellington Street, Covent Garden, W.C.

FOREMAN (Working); experienced in Cucumbers, Tomatos, Chrysanthemums; slight knowledge of Grapes, Valley and Palms.—A., 14, Roman Street, Hoddesdon, Herts.

FOREMAN and GROWER; produce required Market and Shop Sale; all Soft-wood and Bedding Stuff; Cut Bloom, Ferns, Palms, Chrysanthemums, Fruit, Bulbs; branches routine; Forcing, Propagating, &c.; good references.—Ivy Cottages, Leigh, Chelmsford.

FOREMAN (Working); life experience in large Market Nurseries; well up in Tomatos, Cucumbers, Chrysanthemums, Vines, and Bedding Stuff; age 31; married; able to take charge.—L. P., Box 6, 41, Wellington Street, Covent Garden, W.C.

FOREMAN (Working); life experience in Market Nursery; Tomatos, Cucumbers, Chrysanthemums, Bulb Forcing, Bedding Stuff, and Cut Flowers, &c.; married; age 29; abstainer.—"BULBS," Box 16, 41, Wellington Street, Covent Garden, W.C.

FOREMAN; 28 (Inside); 11 years' experience; Cucumbers, Tomatos, Chrysanthemums, Cyclamen, Carnations, Ferns, Routine Forcing, Bedding, general Pot Stuff, Propagating; highest references.—Rose Cottage, Cambridge Terrace, Basingstoke, Hants

FOREMAN (Outside) requires Situation; well up in Fruits, Roses, Shrubs, &c.; expert Budder and Grafter; married.—T., 5, Heathfield Avenue, King's Heath, Birmingham.

FOREMAN; life experience in Market Work, Palms, Ferns, Liliums, Chrysanthemums and all Soft-wooded Stuff, Bulb and Valley Forcing, Cucumbers and Tomatos; age 31.—P. C., Box 21, 41, Wellington Street, Covent Garden, W.C.

GARDENER and FLORIST seeks Situation; first-class practical experience Inside and Out; single; quick and hard-working; intelligent; age nearly 30.—A. BERGER, 58, Doughty Street, Guilford Street, W.C.

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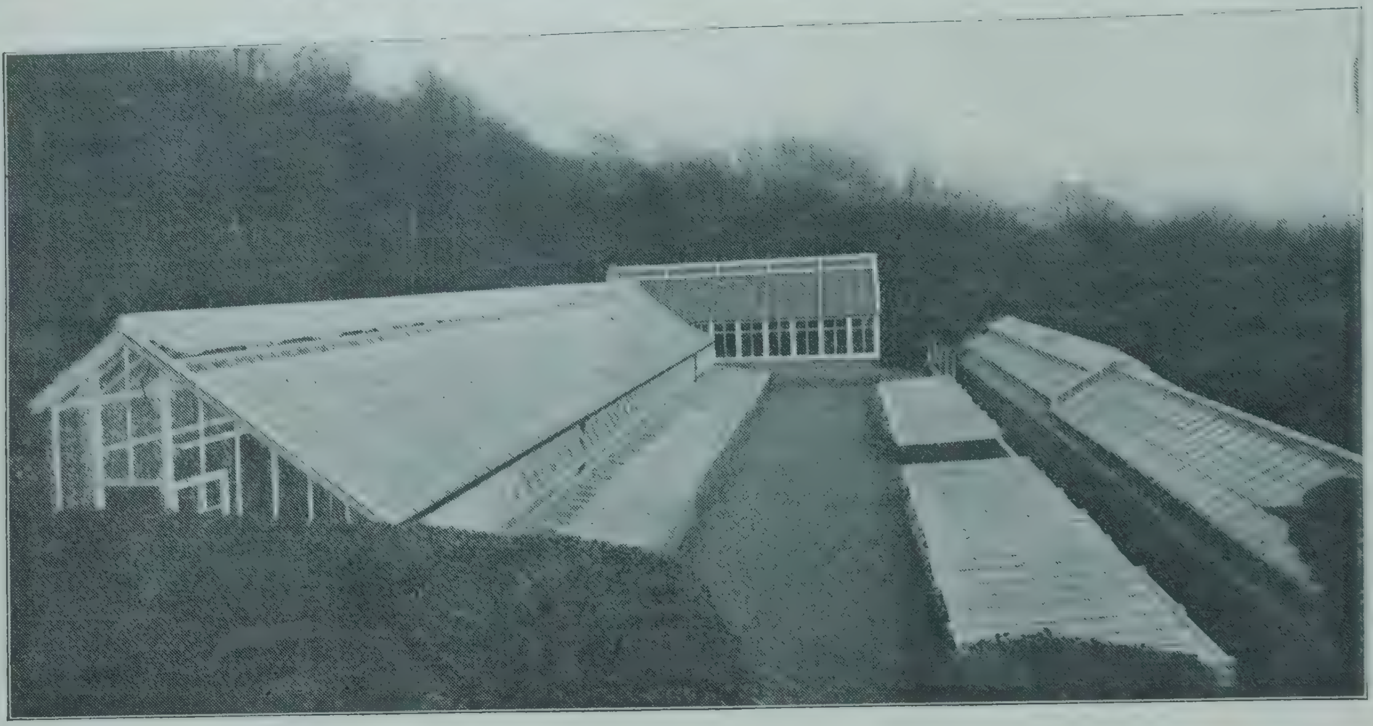

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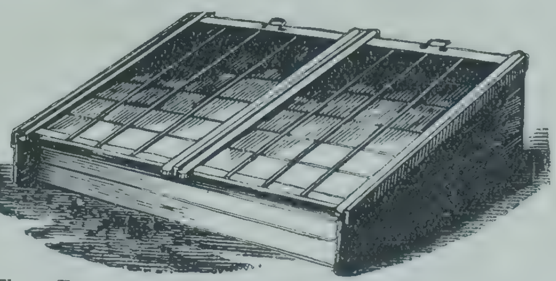

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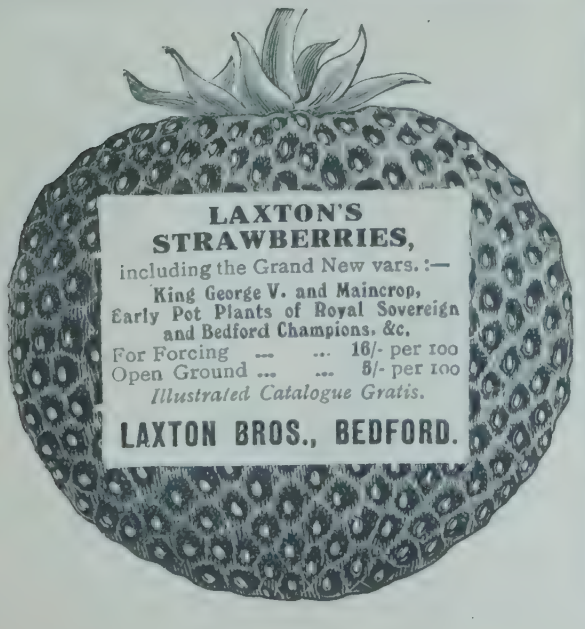

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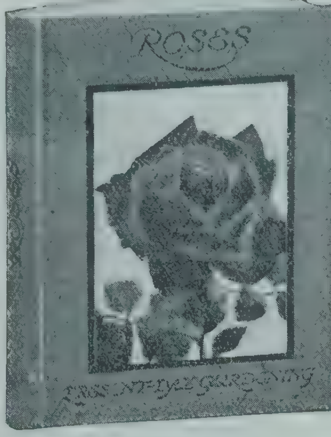

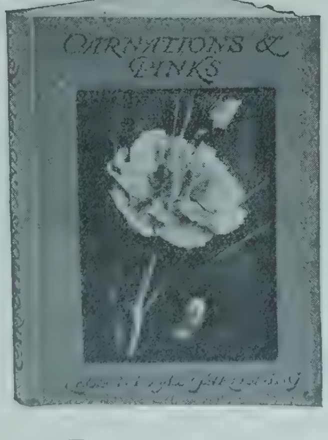

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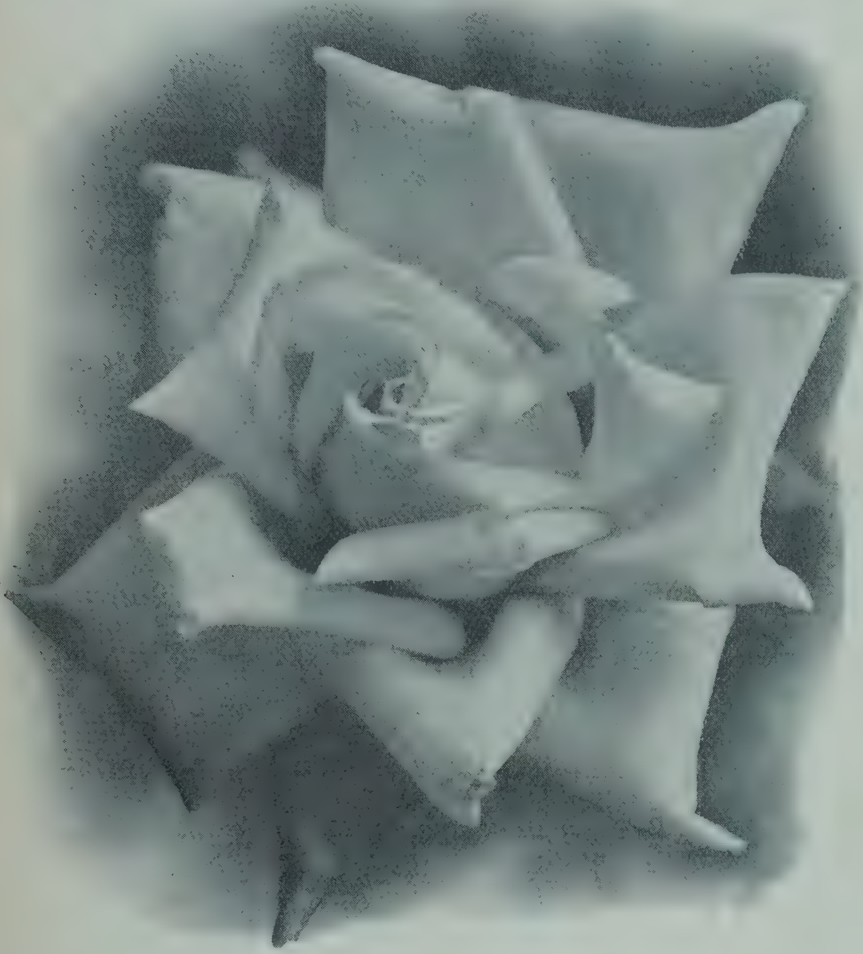

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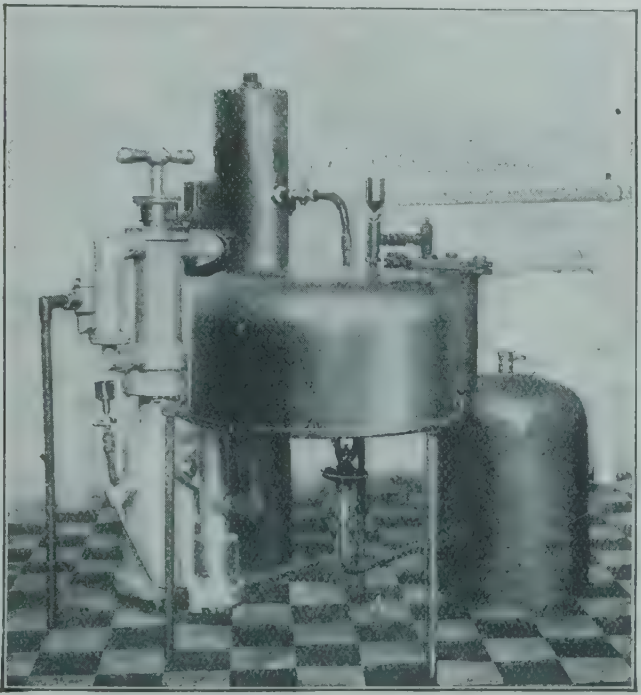

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Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	3 0- 4 0
Bouvardia, per dz. bunches ...	6 0- 7 0
Carnations, per dozen blooms, best American varieties ...	1 6- 2 6
— smaller, per doz. blooms ...	12 0-15 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaisons, p. doz. blooms:	
— — pink ...	8 0-15 0
Chrysanthemums, per dozen:	
— white	1 0- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze... ...	1 0- 2 6
— white, per doz. bunches ...	5 0- 8 0
— coloured ...	4 0- 8 0
Daisies (Michaelmas), various	3 0- 4 0
Eucharis, per dozen	2 0- 2 6
Gardenias, per box of 15 and 18 blooms... ...	1 6- 2 6
Lapagerias, white, per dozen ...	2 0- 2 6
Lilium auratum, per bunch ...	4 0- 5 0
— longiflorum, per doz., long	2 0- 2 6
— — short ...	2 0- 2 6
— lancifolium alba, long ...	1 3- 1 6
— — short ...	1 3- 1 6
— speciosum rubrum, per doz.:	
— long	1 3- 1 6
— short	0 9- 1 0
Lily of the Valley, pr. dz. bnchs.:	
— extra special ...	15 0-18 0
— special... ...	10 0-12 0
— ordinary ...	8 0 —
Marguerite, per doz. bunches:	
— white	3 0- 4 0
— yellow	1 0- 1 6

	s.d. s.d.
Mignonette, per doz. bunches...	3 0- 4 0
Myosotis (Forget-me-not), p. dz. bunches ...	3 0- 4 0
Orchids, Cattleya, per doz. ...	12 0-15 0
— Cattleya Harrisonæ, p. doz.	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum ...	3 0- 4 0
Pelargoniums, p. doz. bunches	4 0- 5
— Double Scarlet	4 0- 6 0
Physalis, per doz. bunches ...	5 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 6
— C. Mermet ...	0 9- 1 6
— Frau Karl Druschki ...	1 0- 1 6
— Liberty ...	1 6- 3 0
— Madame A. Chatenay ...	1 6- 3 0
— Niphetos ...	1 0- 1 6
— Richmond ...	1 6- 3 0
— Sunburst ...	3 0- 5 0
— Sunrise ...	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 3
— Franz Deegen	1 0- 1 6
— Kaiserine ...	1 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches ...	5 0- 6 0
Statice, per dozen bunches:	
— mauve ...	2 0- 2 6
— white & yellow	2 0- 2 6
Stephanotis (72 pips)	3 6- 4 0
Stock, p. d. bnchs:	
— white	5 0- 6 0
Tuberose, p. doz. blooms, long...	0 8- 0 9
— — short ...	0 6- 0 7
Violas, small blue, p. doz. bunches	1 0- 1 6
Violets, per dozen bunches ...	1 6- 4 0
— double, pr. dz. bunches ...	3 0- 5 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches ...	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches ...	12 0-18 0
— Sprengeri ...	10 0-12 0
Carnation foliage, doz. bunches...	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch ...	1 0- 1 6
Moss, per gross bunches ...	6 0 —
Myrtle, dz. bchs. (English), small-leaved...	6 0 —
— French ...	1 0 —
Smilax, per bunch of 6 trails ...	1 0- 1 8

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen ...	18 0-21 0
Asparagus plumosus nanus, per dozen... ...	10 0-12 0
— Sprengeri ...	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated ...	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen ...	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each ...	2 6-10 6
Croton, per dozen	18 0-30 0
Cyclamens, 48's ...	10 0-12 0
Cyperus alternifolius, per dozen	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen ...	10 0-12 0
Erica nivalis ...	15 0-18 0
— — 60's ...	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's ...	12 0-15 0

	s.d. s.d.
Ferns, in thumbs, per 100... ...	8 0-12 0
— in small and large 60's ...	12 0-20 0
— in 48's, per dozen	6 0 —
— choicer sorts per doz. ...	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each ...	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen ...	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen ..	15 0-18 0
— lancifolium alba. in pots, per dozen ...	15 0-18 0
— longiflorum, p. dozen	12 0-15 0

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen ...	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's ...	4 0- 5 0

	s.d. s.d.
Pelargonium, other varieties ...	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 5 0
— Cox's Orange, ½ bushel ...	4 0-10 0
— Cooking, per bushel	3 0- 4 0
— Californian Newtowns, case	9 0-10 0
— Nova Scotian, per barrel ...	14 0-18 6
Bananas, bunch:	
— Doubles ...	10 0 12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0 14 0
— Loose, per dozen	0 6- 1 0
— Red coloured...	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.) ...	4 0- 5 0
Blackberries, peck	2 6- 3 0
Damsons, p. ½ bshl.	3 0 —
Dates, per dozen...	7 0 —
Figs (Guernsey), per dozen ...	1 0- 1 6
— English ...	1 0- 1 6
— (Italian), boxes	0 8- 1 0
Cranberries, p. case	9 0-12 0
Grape Fruit, case:	
— 96's ... ... — 80's ... ... — 64's ... ... — 54's	16 0-24 0
— per dozen ...	6 0 —
Grapes (English), per lb.:	
— Hamburgh ...	0 3- 1 3
— Canon Hall ...	1 6- 5 0
— Muscats ...	1 3- 4 0
— Gros Colman	0 8- 2 0
— Black Alicante	0 6- 1 6
— Gros Maroc ...	1 0- 1 6
— Almeria, barrel	12 0-18 0
— Lisbon, case...	7 0- 8 6
Lemons, per case:	
— Malaga ...	22 0 —
— ordinary ...	6 0- 7 0
Lemons, per case:	
— Naples ...	28 0 —
Medlars, per crate	4 0 —

	s.d. s.d.
Melons (Guernsey)	1 6- 2 6
— (English) ...	1 6- 3 0
— Canteloupe ...	2 0- 3 0
— (Spanish), case	7 0-12 0
— Bronzed, case	10 0-12 0
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt....	50 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.... ...	0 2-0 2½
— Walnuts per dozen lbs.	2 6—6 0
— — French, per bag ...	7 0- 8 0
— English doubles per dozen lbs.	6 0-10 0
Oranges:	
— Cape, per case	18 0-20 0
— Jamaica, case	12 6-16 0
Peaches	
— Canadian, per box	3 0- 4 0
— Californian, p. tray	5 6- 6 6
Pears:	
— French, pr. box	3 0 —
— — per crate ...	6 0- 8 0
— English, ½ bus.	1 0- 3 0
— Doyenné du Comice, dozen	2 0- 7 0
— Dessert, per ½ bushel	3 6- 6 6
— Californian, p. case	7 0-12 0
— Doyénné du Comice, p. case	12 0 —
— Dutch Catalac, ½ bushel ..	3 6 —
Pineapples, St. Michael ...	2 6- 4 6
Plums:	
— (Californian), crate	8 0-12 6
— Switzers, ½ sieve	2 6- 3 0
Pomegranates, per case ...	7 0- 8 0
— per box ..	2 6 —
Quinces, ½ bushel	3 6- 4 6

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	4 0 —
Artichokes (Globe), per dozen ...	2 6 —
— English ...	2 0 —
— ground, ½ bus.	1 6 —
Aubergines, per dozen... ...	2 0 —
Beans:	
— French, ½ bshl.	1 0- 1 3
— Scarlet Runners, per bushl.	1 0- 1 6
— — per bag ...	2 0- 2 6
Beetroot, per bushel ...	2 0 —
— pr. doz. bnchs.	1 6 —
Cabbages, p. tally	2 0- 2 6
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun....	1 6 —
— dirty, per bag...	2 6 —
— washed, bag ...	3 6 —
Cauliflowers, per — tally	4 0- 5 0
Celery, per dozen	12 0-15 0
— dirty	12 0-14 0
Cucumbers, per flat	5 0- 6 0
Endive, per dozen	1 6 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles ...	15 0-18 0
Leeks, per doz. ...	2 0 —
Lettuce (English), Cos, per box ...	3 0- 4 0
Cabbage, per dozen	0 3- 0 6

	s.d. s.d.
Marrows, per tally	4 0- 5 0
Mint, per dozen bunches ...	3 0 —
Mushrooms, cultivated, per lb.	1 6- 2 3
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag ...	3 6- 4 0
— Picklers, p. bag	4 0 —
— (Spring), per doz. bunches	3 0 —
— (Spanish), case	6 0 —
— Dutch, bags ...	2 9- 3 0
Parsley, ½ sieve ...	1 0- 1 3
— per doz. bun.	2 0 —
Parsnips, per bag	2 6- 3 0
Peas (English), per bushel	5 0- 6 0
— bags	10 0-12 0
— shelled, per quart	1 0- 1 6
Radishes (English) per dozen ...	0 3- 0 6
Sage, per dozen ...	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel...	1 9- 2 3
— bags	2 6- 3 0
Tomatos, per doz. lbs.:	
— (Guernsey), ...	3 0- 3 6
— (English) ...	3 0- 4 0
— seconds ...	1 0- 1 3
Turnips (English), per dz. bunches	2 0- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Watercress, p. dz. bunches ...	0 4- 0 6

REMARKS.—Home-grown Apples are not plentiful, but supplies are ample for ordinary requirements. Shipments of Apples from overseas last week consisted of 8,000 boxes of Newtown Pippin and 22,000 of Wenatchee, both choice essert varieties. There have also been received 1,000 boxes Doyenné du Comice Pears from the finest orchards in Rogue River Valley, Oregon. It is anticipated that consignments of Pears from this district will continue during the next six months. The area of cultivation comprises about 250,000 acres from the Wenatchee Valley to Oregon. The output will be about 2,000,000 cases of both Apples and Pears of a standard weight, 40lbs. to 42lbs. per case. The demand for best Grapes has shown an improvement, but inferior bunches are, as usual, very plentiful and have a poor demand. A few Melons are obtainable; English and Guernsey Figs are practically finished; Italian Figs are a full supply. Dried Figs and Dates are meeting with a good demand. Nuts are plentiful and cheap; the first consignment of Redon Chestnuts arrived this week. Fine fruits of the noted Californian Silver Prunes, also Coe's Golden Drop Plums are obtainable. Best Tomatos are scarcer; Teneriffe Tomatos are obtainable packed in bundles of four boxes, each containing about 12lbs. to 14lbs. of fruit. Tomatos are also arriving from Lisbon, Mushrooms from the Worthing district are much more plentiful, but there are none from out-of-doors. Paris Green Asparagus, Channel Island and French Beans in packets, are all obtainable. All other seasonable vegetables are a fairly good supply. *E. H. R., Covent Garden, October 16, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per cwt. s.d. s.d.
Bedfords	4 3- 4 9	Lincolns	4 0- 5 0
Kents	4 6- 5 3		per bag
		Dutch	3 6- 4 0
Blacklands ...	3 9- 4 3	German	3 9- 4 3

REMARKS.—Trade remains firm; consignments are light and include a few tubers from Holland and Germany. *Edward J. Newborn, Covent Garden and St. Pancras, October 16, 1912.*

DEBATING SOCIETIES.

WIMBLEDON GARDENERS'.—The opening meeting of the thirteenth session of this society took place on the 9th inst.; the president, Mr. W. Dowdon, occupied the chair, and there were present 60 members. Mr. E. J. Allard gave a lecture on "Plant Propagation," dealing with the subject from both the practical and scientific aspects. Vegetables of excellent quality were put up by the members and prizes were awarded. The next meeting is fixed for the 23rd inst., when Messrs. Cox and Townsend, of Messrs. Sutton & Sons, Reading, will lecture on "Annuals in Pots."

READING GARDENERS'.—The second meeting of the session took place in the Abbey Hall, on Tuesday, the 8th inst. There was again a large attendance, the President (Ald. F. B. Parfitt) occupying the chair. Mr. H. C. Loader, of Erlegh Park Gardens, lectured on "The Value of Observation to the Gardener." Addressing himself particularly to the younger members of the audience, Mr. Loader strongly advised them not to neglect the cultivation of the faculty of observation. Mr. Loader exhibited a collection of vegetables, and Mr. F. Townsend, Hillside Gardens, showed a fine specimen of Woodwardia radicans. Several new members were elected.

RUDDINGTON & DISTRICT GARDENERS'.—The first meeting of this society for the session 1912–13 took place on Tuesday last, when an address on "Garden Allotments" was given by Mr. Smith, of Loughborough, before a large audience. The lecturer recommended economical management, cropping in rotation, Celery growing for deep cultivation, and the planting of a few flowers "for the wife." The Chairman stated that he considered the growing of Salads was neglected. The President, Mrs. Wray Hunt, in proposing a vote of thanks to the lecturer, agreed with him about growing flowers in allotments, for this showed he had a perception of the beauty of things, and, as Wordsworth said, when he saw the fringe of Daffodils growing round Ullswater Lake:

"My heart with pleasure fills,
And dances with the Daffodils."

She also agreed with the Chairman, as Sir Joseph Paxton said, "Cucumbers should be eaten with the sun in them." A small collection of fruit and vegetables was exhibited; also a fruit of Peasgood's Nonesuch Apple weighing 1 lb. 7 ounces.

GARDENING APPOINTMENTS.

[Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. G. HENLEY, for the past 25 years Gardener to SYDNEY MORRIS, Esq., Wretham Hall, Thetford, as Gardener to the same gentleman at Earlham Hall, Norwich.

Mr. A. GIBSON, for 7 years Gardener at Ardsley House, Yorkshire, and 5 years at Zeals House, Wiltshire, as Gardener to Mrs. HERBERT MORRELL, Headington Hill Hall, Oxford. (Thanks for 2s. 6d. for R.G.O.F. box.—EDS.)

Mr. W. KNILLER, for the past 20 years Gardener to Col. HADAWAY, R.A., Grenville, Godalming, Surrey, and formerly Gardener to W. F. FAVELL, Esq., Down Place, Guildford, as Gardener and Forester to EDITH Countess of WINCHILSEA and NOTTINGHAM, Haverholme Priory, Sleaford, Lincoln. (Thanks for donation of 2s. for the R.G.O.F. box.—EDS.)

Mr. A. M'CRONE, Gardener to the Misses SETON WIGHTMAN, Courance, Lockerbie, Dumfriesshire, as Gardener to —. WEIR, Esq., Over Courance, Lockerbie.

Mr. H. WORKMAN, for nearly 4 years Foreman at Luscombe Castle, Dawlish, Devonshire, as Gardener to H. N. LLOYD, Esq., Chaddleworth House, Wantage, Berks.

Mr. FRANK LUCAS, General Foreman under Mr. FRANCE, Knockbrea, as Gardener to W. MAITLAND HERIOT, Esq., Whitecroft, Ruthwell, N.B. (Thanks for 2s. 6d. sent for R.G.O.F.—EDS.)

Mr. C. H. RYDE, for more than 8 years Gardener to G. GOODALL, Esq., J.P., Pine Ridge, Farnham, Surrey, and recently for 5 months Gardener to Gen. Sir WYKEHAM LEIGH PEMBERTON, K.C.B., Abbots Leigh, Haywards Heath, as Gardener to Mrs. HURST, Horsham Park, Horsham, Sussex.

Mr. W. FOOTE, for the past 18 months Gardener to Mrs. TENNENT, Adsdean, Chichester, as Gardener to E. H. CARTWRIGHT, Esq., Myskyns, Ticehurst, Sussex.

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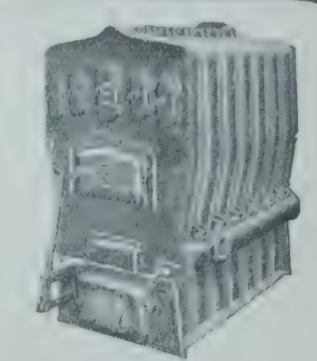

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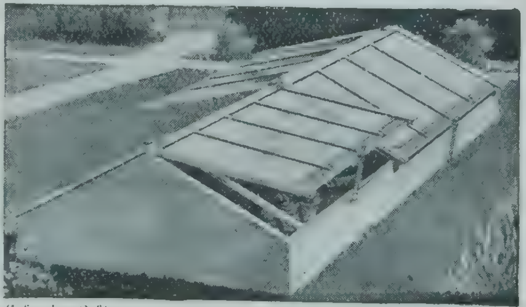

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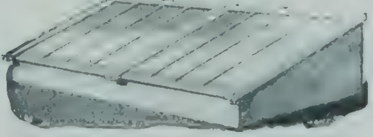

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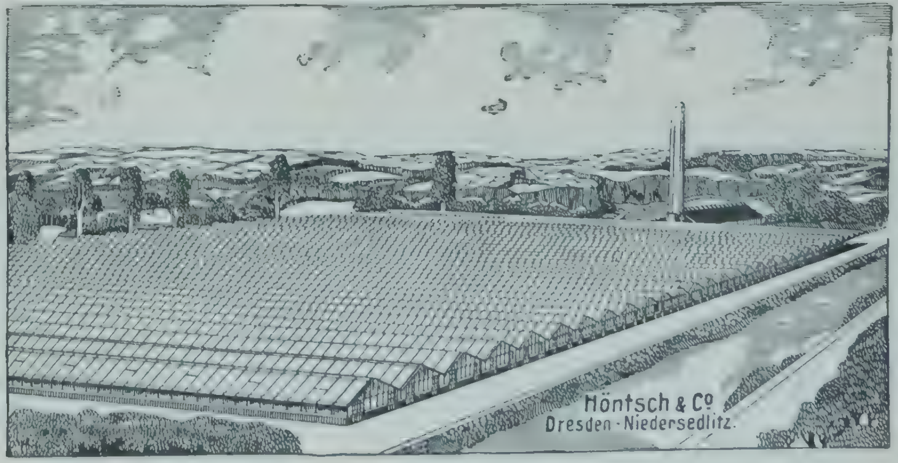

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The Gardeners' Chronicle

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POLICE RECRUITS are now required for the above force; applicants must be unmarried, about 22 to 26 years of age, of good physique, with sound teeth, about 5 ft. 10 in. in height, chest fully expanded about 38 inches, and able to procure excellent references as to character. Salary commences at taels 70 per month, equal to about £9; there are extra allowances for knowledge of modern languages, also for plain clothes men in the detective branch. Salaries rise steadily on promotion up to, in the case of Chief Inspectors, about taels 300 per month, equal to about £40. The value of the tael at present rate of exchange is about 2s. 9d., but it is liable to fluctuation. Agreement.—For three years with free passage to Shanghai, liberal superannuation scheme, free quarters, and bonus of £5 for outfit. The climate of Shanghai is much the same as in England, though both hotter and colder. Police work in Shanghai is the same kind of work as is done by any town police in the larger towns of the United Kingdom. The work in Shanghai is in no way like Colonial mounted work as done in the Colonies. Every facility is given in spare hours for enjoying all kinds of sports, such as cricket, football, cycling, &c. In addition men of good character may take a three weeks holiday per annum for the purposes of shooting, &c. Applicants for particulars must state their age, height, chest measurements, condition of teeth, particulars of trade or calling and references before terms of service and application forms will be issued to them. Apply by letter, giving these particulars in envelope marked "Police," to Messrs. JOHN POOK & CO., Agents for the Municipal Council of Shanghai, 63, Leadenhall Street, London, E.C.

WANTED, a good GARDENER (SINGLE-HANDED); Greenhouses, Stove, Wall Fruit, &c.; strong and active; age 35 to 40; married, no family preferred; churchman; £1 and cottage.—TURBUTT, Hinchley Wood, Ashbourne, Derbyshire.

WANTED, GARDENER (INSIDE); thorough knowledge of Carnations, Chrysanthemums, and early forcing of Melons, Cucumbers, &c.; age not less than 26; no Bothy; wages 23s.—Apply, GARDENER, Oakleigh, East Grinstead.

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WANTED, GARDENER (SECOND); chiefly for Glass; must be energetic and trustworthy; about 25 years of age; duty every third week.—State full particulars of experience, wages expected, with Bothy, HATTON, Badgemore, Henley-on-Thames.

WANTED, GARDENER (SECOND, INSIDE and OUT) that understands Peaches and Grapes, and could make himself generally useful; constant work; 18s. to start with.—Apply, D. W., Hundreds Gardens, Westgate-on-Sea.

WANTED, FOREMAN for Fruit and Plants, Chrysanthemums, House and Table Decorations; wages 18s. per week, with Bothy.—JAS. LAZENBY, Rigmaden Park, Kirkby Lonsdale.

WANTED, good, all-round GARDENER for Derbyshire; Wall Fruit, Greenhouses, &c.; age 35 to 40; married; £1 with cottage.—Mrs. TURBUTT, Filby House, Great Yarmouth.

WANTED, for Kitchen Garden, an active Man, about 40; wages £1 per week, milk and part firing; live in Lodge; Wife to attend gate.—H. DYSON, Park Gardens, Rickmansworth.

WANTED, experienced MAN (single) for Kitchen Garden, Fruit Trees, and Outside work.—Apply, with full particulars, A. BESTER, The Gardens, Preston Deanery Hall, Northampton.

WANTED, an energetic MAN (21-24), chiefly for Herbaceous Borders and Rose Gardens; must be well recommended for same; duty every third week; wages 17s. per week and good Bothy.—G. LOCKE, Cassia Gardens, Winsford, Cheshire.

WANTED, JOURNEYMAN (FIRST, INSIDE, five under); Glass; must have good experience Fruit and Plants and well recommended; 18s. per week, Bothy, milk and vegetables.—FORREST, Park Hall Gardens, Oswestry.

WANTED, good, smart JOURNEYMEN (Pleasure Grounds); ages 20 to 23.—State experience, age, height, &c., to
DICKSON & ROBINSON, Seedsmen, Manchester.

WANTED, strong active JOURNEYMAN for Inside; age about 23; 16s. per week, Bothy, milk and vegetables.—J. WALKER, Halston Gardens, Oswestry, Shropshire.

WANTED, JOURNEYMAN, about 22; Inside and Out, but chiefly Inside.—State wages, with Bothy, experience, references and height, to A. SMITH, Easton Neston Gardens, Towcester.

WANTED, JOURNEYMAN; chiefly Inside; good knowledge of Plants essential; abstainer; 17s. per week and lodgings.—SIMPSON, Mount, Compton, Wolverhampton.

WANTED, JOURNEYMAN; age about 22; must be smart and active; wages 17s. per week, Bothy, milk, &c.; full pay for Sunday duty, 1s. 6d. half duty; six Inside.—BEN ASHTON, Lathom Gardens, Ormskirk.

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WANTED, smart, intelligent YOUNG MAN for Houses and Rock Garden; one with previous experience preferred.—Apply, stating age and wages required, WHITHAM, Gardens, Heather Bank, Hindhead.

WANTED, a smart YOUNG MAN to take charge of large collection of Roses, Rose Gardens and Pergolas; must be thoroughly experienced in Pruning, Budding and growing for exhibition.—Apply, stating wages required, with Bothy, &c., F. FRANCE, Knockbrea Gardens, Kirkcudbright N.B.

WANTED active YOUNG MAN with knowledge of Kitchen Garden and Flower Borders; wages 16s. per week.—Particulars to H. BROWN, Trefye, Perranwell, Cornwall.

WANTED, YOUNG MAN; thoroughly qualified to take charge of a small collection of Orchids in Scotland.—Full particulars to "ORCHIDS, SCOTLAND," Box 2, 41, Wellington Street, Covent Garden, W.C.

WANTED, strong, active YOUTH, age not less than 18, for general Garden work; wage 13s. per week and Bothy.—Apply, stating age and experience to BLAKE, Clandon Park Gardens, Guildford.

WANTED, MAN and WIFE; age about 30; no family; abstainers preferred; he as thorough practical Gardener and Handy Man, wife as Cook-General; first-rate references required.—Apply (first by letter), G. TIMMS, Preston, Harrow.

TRADE.

HORTICULTURAL SUPERINTENDENT, with technical and scientific training, wanted for a large Fruit Farm; important position for well-qualified man of irreproachable character; applications to be sent, giving detailed particulars as to character, training, experience, age, salary, &c.—"FRUIT GROWER," Box 26, 41, Wellington Street, Covent Garden, W.C.

WANTED, NURSERY FOREMAN and FRUIT SPECIALIST; only men of first-class character and wide experience need apply; abstainer; expert Cultivator and Pruner; progressive salary to well-qualified man; state full particulars of training, duties in various positions occupied, experience in growing and packing fruit for wholesale market, age, &c.—"N. F.," Box 5, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN (Working) for Landscape Department; previous experience essential; must be capable of taking charge; able to control labour and to work from plans.—Full particulars of experience and wages required to CLIBRANS, Altrincham.

WANTED, at once, or by Christmas, a competent Man to produce Grapes, Cucumbers, Tomatos, Chrysanthemums, Bedding Plants, and general routine of Market Nursery; 11,000 ft. super. of glass at present; progressive situation.—State fullest particulars and wages to G. W. SMITH, The Vine, Dovercourt, Harwich.

WANTED, GROWER for small Nursery; must be used to Forcing of Bulbs and Shrubs and well up in Ferns and Palms; London district.—Write, X., Box 13, 41, Wellington Street, Covent Garden, W.C.

WANTED, by a firm of Landscape Gardeners, expert Rock Builders; preference given to those with a knowledge of Alpine Plants; only men with good experience and references need apply.—B. J., Box 3, 41, Wellington Street, Covent Garden, W.C.

WANTED, Man used to Landscape work, and who will make himself useful in Nursery when not so employed.—State age, wages required, and experience to JOHN JEFFERIES & SON, LTD., Cirencester.

GEO. PYNE has a vacancy for KNIFESMAN under Foreman; must be good Budder and Trainer of Fruit Trees and capable of conducting visitors and booking orders.—Apply, stating age, experience and wages required, Denver Nurseries, Topsham, Devon.

WANTED, MAN for General Market Nursery; one with experience of American Carnations and Chrysanthemums; to work under Foreman; state full particulars and wages expected.—MARKET, Box 1, 41, Wellington Street, Covent Garden, W.C.

FRUIT.—An experienced Fruit Tree Pruner wanted on Market Fruit Farm; active, reliable, teetotal; wife the same; no family.—"MANAGER," Box 4, 41, Wellington Street, Covent Garden, W.C.

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TOOGOOD & SONS, The King's Seedsmen, Southampton, have vacancies for a few smart MEN used to the rapid execution of garden seed orders.—Apply by letter.

WANTED, smart YOUNG MAN; Retail Seed Trade, with travelling experience preferred; state age, wage, experience.—WATSON, Seedsmen, Newcastle-on-Tyne.

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MESSRS. J. C. WHEELER & SON, LTD., Seedsmen and Nurserymen, Gloucester, require an ASSISTANT SHOPMAN.—State full particulars, salary required, &c.

WANTED, JUNIOR COUNTER HAND for London Wholesale House.—Reply, with full particulars, to W., Box 8, 41, Wellington Street, Covent Garden, W.C.

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CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

GARDENER (Head); thoroughly experienced in all branches, including Orchids and Forestry; excellent references; late Head Gardener at Middleton Park 8½ years.—Apply, A. PERRY, care of Mr. Sherwood, Shurlock Row, Twyford, Berks.

GARDENER (Head, where five or six and upwards are kept); 25 years' practical experience in all branches, Inside and Out; thoroughly reliable and highly recommended; married, without encumbrance.—F. WOODHOUSE, Blackboys, near Uckfield, Sussex.

GARDENER (Head, where two or more kept) seeks Re-engagement; life experience in all branches, Inside and Out; excellent references; married.—SIMS, Havelock House, North Town, Aldershot.

GARDENER (Head of two or three or good Single-handed with help); life experience; leaving through death; highly recommended.—E. STONE, Hertfordshire Cottage, Amersham, Bucks.

GARDENER (Head Working) in good establishment; competent Fruit, Cut Flower, Hardy Shrubs, Herbaceous and Vegetable Grower; excellent references; 13 years Head; age 40; wife experienced laundress if required.—"H.," 5, Mallinson Road, Clapham Junction.

GARDENER (Head Working).—Major PITT, Pett Place, Charing, Kent, can highly recommend F. Folkard to any Lady or Gentleman requiring a practical man well up in Flowers and Fruit; age 31; married when suited.

GARDENER (Head Working, where two or three are kept); well up in Vines, Peaches, Melons, and Inside and Outside work; age 40; married, one child; excellent references from present place.—Apply, D. JONES, The Gardens, Stanford Court, Worcester.

GARDENER (Head Working, where two or more are kept); life experience Inside and Out; Flowers, Fruit, Vegetables, Orchids; married, no family.—E. W., 2, Tamworth Park, Mitcham.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park Gardens, highly recommends H. Stedman as above; 19 years' practical experience in all branches; age 35; married, two children; life abstainer; excellent references; disengaged when suited.—H. STEDMAN, Bicester Lodge, Kirtlington Park, Oxford.

GARDENER (Head Working, where several are kept); thoroughly experienced in all branches; age 30; married when suited; excellent character.—R. SCRIVEN, Combe Hill, Barton St. David, Taunton.

JAS. POUND, Mongewell Park Gardens, Wallingford, wishes to recommend Percy Rolfe to any Lady or Gentleman requiring a GARDENER (Head Working); well versed in the various branches of the profession; can be well recommended as an intelligent, energtic and capable man; five years present place as Foreman; age 30.

GARDENER (Head Working); thoroughly experienced; Vines, Peaches, Stove and Greenhouse, Kitchen Garden, Herbaceous Borders, &c.; good character; teetotaller; age 37.—RANSBY, care of Long, North Stow, Culford, Bury St. Edmunds, Suffolk.

CAPTAIN GORDON highly recommends his GARDENER as Head Working, where two or more are kept; life experience; excellent references; age 31; no encumbrance.—GARDENER, Southend, Wickwar, Gloucestershire.

MRS. ANNESLEY, Otago House, Exeter, recommends her late GARDENER as Head Working of two; here about two years; life experience; age 30.—CLEAVE, 3, St. Loyes Terrace, Wonford, Exeter.

A. BRIERLEY, Esq., Hillside, South Godstone, is anxious to find a Situation for his GARDENER (Head Working); a thoroughly competent, trustworthy man; has been with him ten years; age 38, no family.

LADY highly recommends her late GARDENER (Head Working, where three or more are kept); life experience Inside and Out, including Orchids; 20 years as Head; four years in last situation; left through estate being sold; married, no encumbrance; disengaged.—ROBERT BEGG, care of Mrs. Nunn, 45, Hargwyne Street, Brixton, London.

GARDENER (Head Working) desires Re-engagement through place being let; most successful grower of choice Fruit and Plants, including Orchids, and used to the requirements of a well-kept place; seven years' exemplary character and highest recommendation; age 39; married, no family.—KENT, Box 23, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head Working, where several are kept); 17 years' good practical experience all branches; five years Head last place; highest references as to capabilities; age 34; married.—A. SPRINGHAM, Henbury, Bristol.

GARDENER (Head Working or good Single); life experience Inside and Out; four years' good reference; can be well recommended; age 43, one girl (13); wife useful if required.—BESANT, Leacroft, Leas Road, Guildford.

GARDENER (Single-handed or with assistance); good general experience Inside and Out; age 28; married, no family; disengaged.—J. SEARS, 23, High Street, Seal, Sevenoaks, Kent.

GARDENER, good all-round experience Inside and Out; ten years last situation; good references; disengaged; age 31; married.—F. VENN, care of W. Stocks, Verulam House Gardens, St. Albans, Herts.

GARDENER (Kitchen Garden, where three or more kept, or Single-handed with help); three years' reference; 23; single; abstainer; Kingston or Surbiton preferred.—A. WEST, Biggins House, Batts Corner, Farnham, Surrey.

EDGAR TAYLOR, Esq., highly recommends Young Man as GARDENER (Single-handed, or with help); 13 years' experience; eight years present place.—Apply, HENBEST, Colney Park, near St. Albans, Herts.

GARDENER (Single-handed); 12 years' experience Inside and Out; excellent references; age 27; abstainer; disengaged.—H. DUNMALL, Station Road, Wadhurst, Sussex.

GARDENER (Single-handed or with help); life experience in all branches Inside and Out; married; five years good reference.—J. JACKSON, Heath Common, Ashington, Pulborough.

GARDENER (Second Inside or Inside and Out); 12 years' experience; good references; age 27; Bothy preferred.—G. JEFFRIES, 5, St. Philips Road, Surbiton, Surrey.

GARDENER (Second or good Single-handed); life experience in all branches; age 30.—W. FREEMAN, 22, High Street, Roehampton, S.W.

GARDENER (Second, chiefly Inside); experienced in Vines, Peaches, Stove, Greenhouses, Plants and general routine; age 25.—H. WAITE, Tapton Bank, Sheffield.

GARDENER (Second); life experience Inside and Out; good references; can be well recommended; age 26.—J. BRISTON, 45, Whiteley Road, Upper Norwood, S.E.

GARDENER (Second, Inside or Inside and Out); 11 years' experience; good references; well recommended; age 26; married.—JUDD, The Garth Gardens, Tower Hill, Dorking, Surrey.

GARDENER (Second, Inside and Out); 15 years' experience in good establishments; good references and abstainer.—SALMON, Durrington House Gardens, Harlow, Essex. (No circulars.)

GARDENER (Under) seeks Situation; age 21; six years' experience; good character; abstainer.—Apply, A. BISHOP, Sunnyside, Bourton, Dorset.

GARDENER (Under) seeks Situation on Pleasure Grounds or to help Inside; Bothy preferred; good references.—Apply, E. ALDRIDGE, Touchen End, near Maidenhead, Berks.

FOREMAN or SECOND (Inside).—Mr. HALL wishes to recommend A. Freeman; five years present place; good experience in Plants and Fruit; age 24.—A. FREEMAN, The Gardens, Harewood, Leeds.

FOREMAN (Inside or General); life experience in first-class establishments, from which can produce excellent references; good Decorator; age 29.—T. JONES, Holmwood Park Gardens, Tunbridge Wells.

JAMES TULLY, Osmaston Manor Gardens, Derby, can with confidence recommend T. Baines as FOREMAN (Inside) in good establishment; three years here Journeyman (First); age 26.

FOREMAN (Inside); age 25; 11 years' experience; well recommended.—Address, W., care of The Secretary, British Gardeners' Association, Ulysses, Fortune Green, N.W.

FOREMAN (Inside) or good SECOND; 13 years' practical experience; can be well recommended from last and previous employers; excellent references; age 27; married; disengaged.—P. Box 7, 41, Wellington Street, Covent Garden, W.C.

J. W. BENTON, Witham Hall Gardens, Bourne, Lincs, can confidently recommend H. Cole as FOREMAN (Inside); 9½ years' experience Fruits, Plants, &c.—Apply as above.

FOREMAN (Inside) or GARDENER (Second).—Mr. J. V. MACDONALD, Whetstone Gardens, Edgbaston, Birmingham, wishes to recommend Thomas Evans as above; age 27; good experience in Fruit and Plant Houses.

FOREMAN (Inside or General); thorough practical experience in Stove and Greenhouse Plants, all Fruits, House and Table Decorations, Carnations, and Chrysanthemums, Roses, and Herbaceous Borders, Early and Late Forcing; excellent references.—J. WALKER, Kirtlington, Oxford.

FOREMAN (Pleasure Grounds) seeks Situation; age 30; good experience in Lawns, Roses, Herbaceous, Hardy Fruit; good references.—Apply, A. JOSLIN, Brook Street, Brentwood, Essex.

FOREMAN (married) or good SECOND; age 28; 13 years' first-class experience Inside and Out; excellent testimonials.—BARNES, Castle Coffee House, North Road, Highgate, N.

JOURNEYMAN, age 20.—JAMES CYPHER & SONS recommend young man as above; good knowledge Orchids and Soft-wooded Plants; very steady and reliable.—Address, GREEN, Exotic Gardens, Cheltenham.

JOURNEYMAN (First, Inside); age 24; eight years' experience; good references; Bothy preferred.—G. WOOD, Ribbleton Hall Gardens, Preston, Lancashire. (No circulars.)

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MR. SUTTON, Millichope Park Gardens, Craven Arms, can confidently recommend D. Barker as JOURNEYMAN (Inside and Out); age 20.

JOURNEYMAN (Pleasure Grounds) seeks Situation; seven years' experience; age 21; good references.—H. J., Box 6, 41, Wellington Street, Covent Garden, W.C.

MR. AUTON, Brougham Gardens, Penrith, highly recommends W. Mounsey as an energetic and reliable JOURNEYMAN; eight years' experience Inside and Out; age 22.—Apply as above.

B. H. BROOKS, Brantham Court Gardens, near Manningtree, Essex, highly recommends H. Smee as JOURNEYMAN (Second) in good establishment; age 23; five years' experience; Bothy preferred.

YOUNG MAN (27) seeks Situation; private or otherwise; life experience in all branches.—Apply, H. HUTCHINS, 3, Station Villas, Mill Hill, Middlesex.

YOUNG MAN (21) seeks Situation as JOURNEYMAN (Inside or Inside and Out); 5½ years' good references; Bothy preferred; Wales preferred.—JOHN HOBBS, Mounton Road, Chepstow.

YOUNG MAN, age 20 years, seeks Situation in private gardening; good references; six years' experience; Bothy preferred.—B. C., Box 10, 41, Wellington Street, Covent Garden, W.C.

YOUNG MAN seeks Situation in Kitchen Garden and Pleasure Grounds; six years' experience; good references; age 23.—J. MORGAN, The Gardens, Fulham Palace, London, S.W.

YOUNG MAN (26), single, requires Situation in Garden, Kitchen Garden or Pleasure Grounds; 12 years' previous experience.—W. JENNINGS, The Gardens, Hampton Court House, Hampton Court.

YOUNG MAN, age 28, single, requires Situation; Kitchen Garden and Pleasure Grounds; strong, active, and well recommended; disengaged.—WARR, Chartridge, near Chesham, Bucks.

YOUNG MAN (22) seeks Situation in Kitchen Garden or Inside and Out under Foreman; abstainer; excellent references; 2½ years' experience; Surrey preferred.—E. MUNDY, Tower House, Tidworth, Hants.

YOUNG MAN, age 21, seeks Situation Inside and Out; excellent references; 5½ years present situation; disengaged November 2nd.—Apply, HEAD GARDENER, Moushill Manor, Milford, Godalming.

MR. CHURCH, Poles Gardens, Ware, Herts, will be pleased to recommend A. Stacey for Inside and Out; nearly 10 years' experience; age 25; South preferred.

IMPROVER, age 18, seeks Situation in private gardens (Inside and Out); good references; 3½ years' experience.—Apply, P. OSLER, Tylney Hall Gardens, Rotherwick, Winchfield, Hants.

MR. TANN, The Rookery Gardens, Brixworth, Northants, will be pleased to recommend Arthur Bray, age 17, as IMPROVER (Inside or Inside and Out); four years' experience; Bothy.

IMPROVER, 18 (Inside and Out); four years' experience; good references.—Apply, C. EDMEADS, 4, Fruen Road, Feltham, Middlesex.

A. BROWN, Melchet Court Gardens, Romsey, wishes to recommend Thomas Hamblin as IMPROVER (Inside); 2½ years here; age 17½.

STRONG LAD, age 17, seeks Situation in Gentleman's Garden as IMPROVER; two years' experience; highly recommended; near London preferred.—FEAR, 35, College Street, Chelsea.

SITUATIONS required in good establishments for two Lads, 16-17; have had training in all-round Gardening; both willing, respectable lads; anxious to learn; Bothy preferred.—Particulars to E. WAKEHAM, School of Handicrafts, Chertsey, Surrey.

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TRADE.

MANAGER, FOREMAN or DEPARTMENT FOREMAN (Outside or Inside); thoroughly experienced all branches; grown wholesale or retail; used to exhibiting; first-class Propagator and Forcer; highest references.—STAIRMAND, 3, Blair Grove, Norwood Avenue, Southport.

AS MANAGER or FOREMAN (Head); thoroughly experienced in Glasshouses, Tomatos, Cucumbers, Carnations, Asparagus, Vines, &c. —Apply, ALFRED GIRARD, care of 27, Shillington Street, Clapham Junction.

MANAGER or FOREMAN (Working); life experience in Cucumbers, Tomatos, Chrysanthemums, Mint and Rhubarb Forcing, and Market Garden produce.—W. LILLEY, 89, Cleave Road, Gillingham, Kent.

FOREMAN or GROWER; Soft-wooded Plants, including Gloxinias, Cinerarias, Primulas, Calceolarias, Cyclamen, Tomatos, Cucumbers if required; 12 years as grower to Messrs. Webb & Sons, Wordsley.—Address, S. KERSLAKE, Delbury, Hope Street, Wordsley, near Stourbridge.

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RICHARD WICKS, formerly in the employ of Messrs. Wench & Son, Seedsmen, London, about 1899, or his relatives are asked to communicate at once with LEA BLEAKMORE (Investigator), 311, Delta Buildings, Los Angeles, California, U.S.A.

EXHIBITIONS.

CRYSTAL PALACE.

THE GREAT AUTUMN SHOW OF : : : :

CHRYSANTHEMUMS

WILL BE HELD BY THE

National Chrysanthemum Society,

— AT THE —

CRYSTAL PALACE,

On October 29th, 30th & 31st, 1912.

No extra charge to view this magnificent show.

Schedule and all particulars to be obtained post free from the Secretary, Mr. RICHARD A. WITTY, 72, Savernake Road, Gospel Oak, London, N.W.

Kent County Chrysanthemum Society.

THE 25TH GRAND ANNUAL EXHIBITION

will be held in the CONCERT HALL, BLACKHEATH, on Wednesday & Thursday, Oct. 30th & 31st, 1912.

Schedules and all particulars of the Hon. Sec., F. FOX, The Gardens, The Cedars, Lee, S.E.

The Bournemouth Horticultural Society.

THE TWENTY-SIXTH

EXHIBITION OF AUTUMN FLOWERS

will be held at the Winter Gardens Pavilion,

on Tuesday & Wednesday, Nov. 5th & 6th 1912.

Will be opened on TUESDAY at 12 noon by

SIR ALBERT KAYE ROLLIT,

LL.D., D.C.L., Litt.D., F.R.H.S., President of the National Chrysanthemum Society.

CHILDREN'S SECTION: Prizes in this section will be presented on the second day (Wednesday) at 12.0 by

LADY MORRIS.

W. SHAVE, Secretary, The Cottage, Northleigh, Wimborne.

Royal Botanical & Horticultural Society of Manchester and the Northern Counties.

PATRON: HIS MAJESTY THE KING.

CHRYSANTHEMUM and Autumn Exhibition,

TO BE HELD IN THE

TOWN HALL, MANCHESTER, on November 12th, 13th, and 14th.

SPLENDID PRIZE LIST.

This will be the most important Exhibition held in Manchester in recent years, and His Majesty has graciously approved the design of New Medals which will be awarded to competitive and non-competitive Exhibitors in various sections. Schedules and particulars of space, etc. free on application to P. WEATHERS, *Secretary*, Old Trafford, Manchester.

YORK Chrysanthemum Show,

November 13th & 14th next.

ENTRIES CLOSE NOVEMBER 7th.

Schedules from CHAS. W. CLACK, Secretary, 12, New Street, York.

An importation from Singapore of

14,200 Dendrobium Phalænopsis Schroderiana,

300 Cypripedium Niveum, and 50 Vanda Gigantea.

The Consignor writes, that owing to the impending restrictions which may become more stringent regarding the exportation of Orchids from Singapore, it is possible that the above may be one of the last consignments to this country.

MESSRS. PROTHEROE and MORRIS

will sell the above by Auction, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on

FRIDAY NEXT, NOVEMBER 1st, at 12.45 o'clock.

On view morning of Sale.

Catalogues on application.

BIRMINGHAM GREAT CHRYSANTHEMUM SHOW,

BINGLEY HALL,

Tuesday, Wednesday and Thursday, November 5th, 6th and 7th.

ALFRED NOAKES, Sec., 148, Bristol St., Birmingham.

WINDSOR CHRYSANTHEMUM SOCIETY.

THE TWENTY-FIRST

Annual Exhibition

FRIDAY, November 8th, 1912,
At the ROYAL ALBERT INSTITUTE, WINDSOR.

For particulars and schedules apply to G. E. KEER, Hon. Secretary, Meadowlea, Datchet.

BUXTON AND DISTRICT CHRYSANTHEMUM SHOW,

Wednesday, November 13th, 1912.

For Schedule and List of Prizes, address—
S. SHUFFLEBOTHAM, Secretary, Torr Street, BUXTON.

Scottish Horticultural Association CHRYSANTHEMUM EXHIBITION.

The Association will hold its next **Great Chrysanthemum Exhibition** in the **Waverley Market, Edinburgh,** on **November 14th, 15th** and **16th.** Copies of the Prize List, which contains all particulars as to prizes, conditions of competition, &c., may be obtained on application to the Secretary, A. D. RICHARDSON, 19, Waverley Market. Entries close on November 6th. Application for space for non-competitive exhibits should be made without delay.

SHEFFIELD

GREAT CHRYSANTHEMUM SHOW.

29th Annual Exhibition

will be held in CORN EXCHANGE,
Thursday, Friday & Saturday, Nov. 14th, 15th & 16th.
Silver Challenge Shield, Cups, Gold and Silver Medals, and £170 in Cash.

Schedules gratis. J. W. PITT, 56, Tasker Rd., Sheffield.

LEEDS PAXTON SOCIETY.

The ANNUAL CHRYSANTHEMUM SHOW

will be held at
THE ALBERT HALL, LEEDS.
On Friday & Saturday, November 15th and 16th, 1912.
Entries close November 6th, 1912.

For Forms and Schedules, apply J. WATERTON, Secretary, 4, Walmsley Road, LEEDS.

BOLTON.

The 26th Great Exhibition of Chrysanthemums, Orchids, Fruit, etc.,

November 15th and 16th, 1912. **In the Albert Hall.**

Upwards of **£150** Cash Prizes, 5 Silver Cups, 4 Gold and Silver Medals, and Valuable Orchids as Special Prizes. Entries close November 9th. Schedules on application to the Secretary.

GEO. CORBETT, Heaton Grange, Bolton.

HULL AND EAST RIDING

CHRYSANTHEMUM SOCIETY'S SHOW

in the City Hall, Hull,

November 20th and 21st.

Entries close November 13th, 1912.

Schedules on application to JAMES DIXON, Hon. Secretary, County Buildings, Hull.

PLANTS, &c., WANTED.

WANTED, large Kentia Fosteriana Palms, from 5 to 25 feet in height; large well-coloured Dracænas and Crotons; for cash or exchange. —ROBERT GREEN (1911), LTD., 28, Crawford Street, London, W.

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WANTED, supplies APPLES and PEARS; banker's references.—
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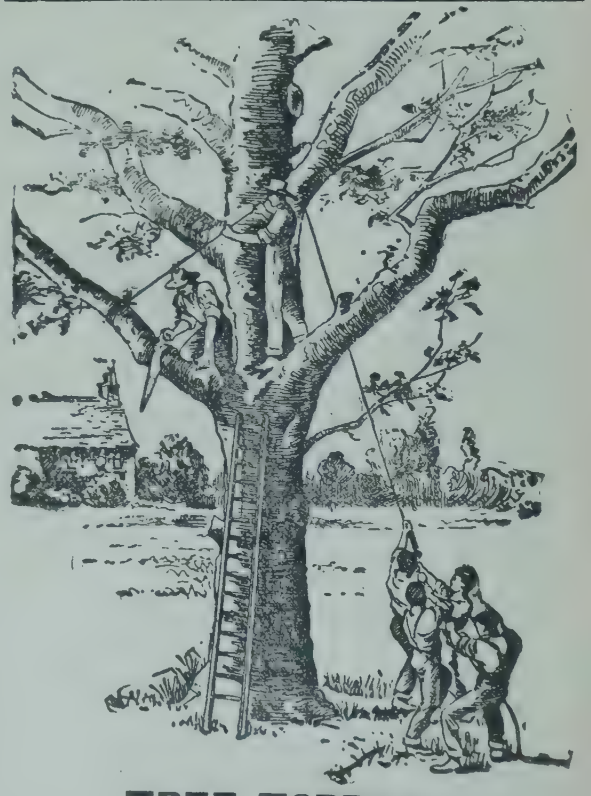

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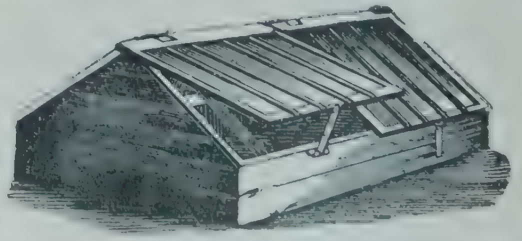

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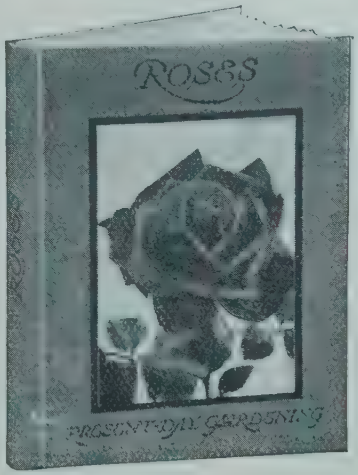

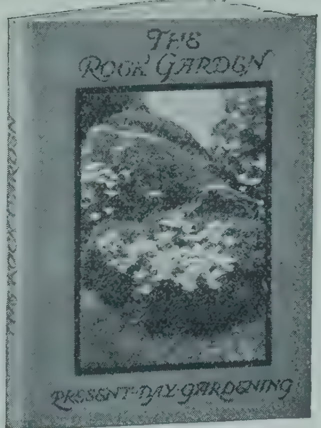

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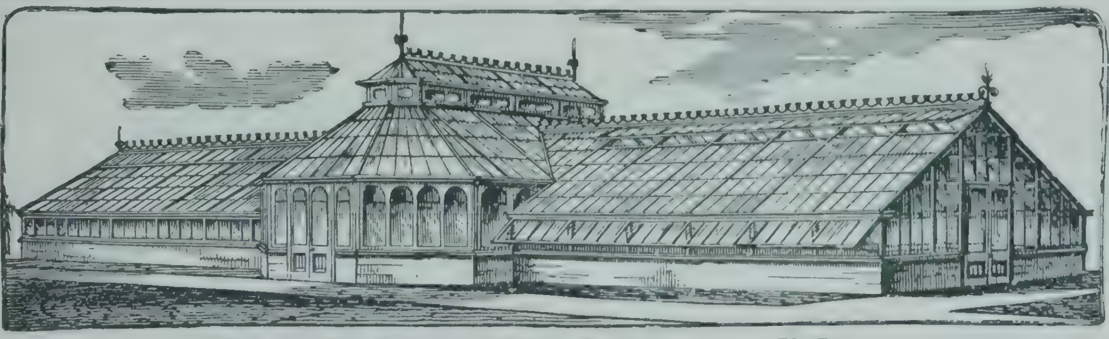

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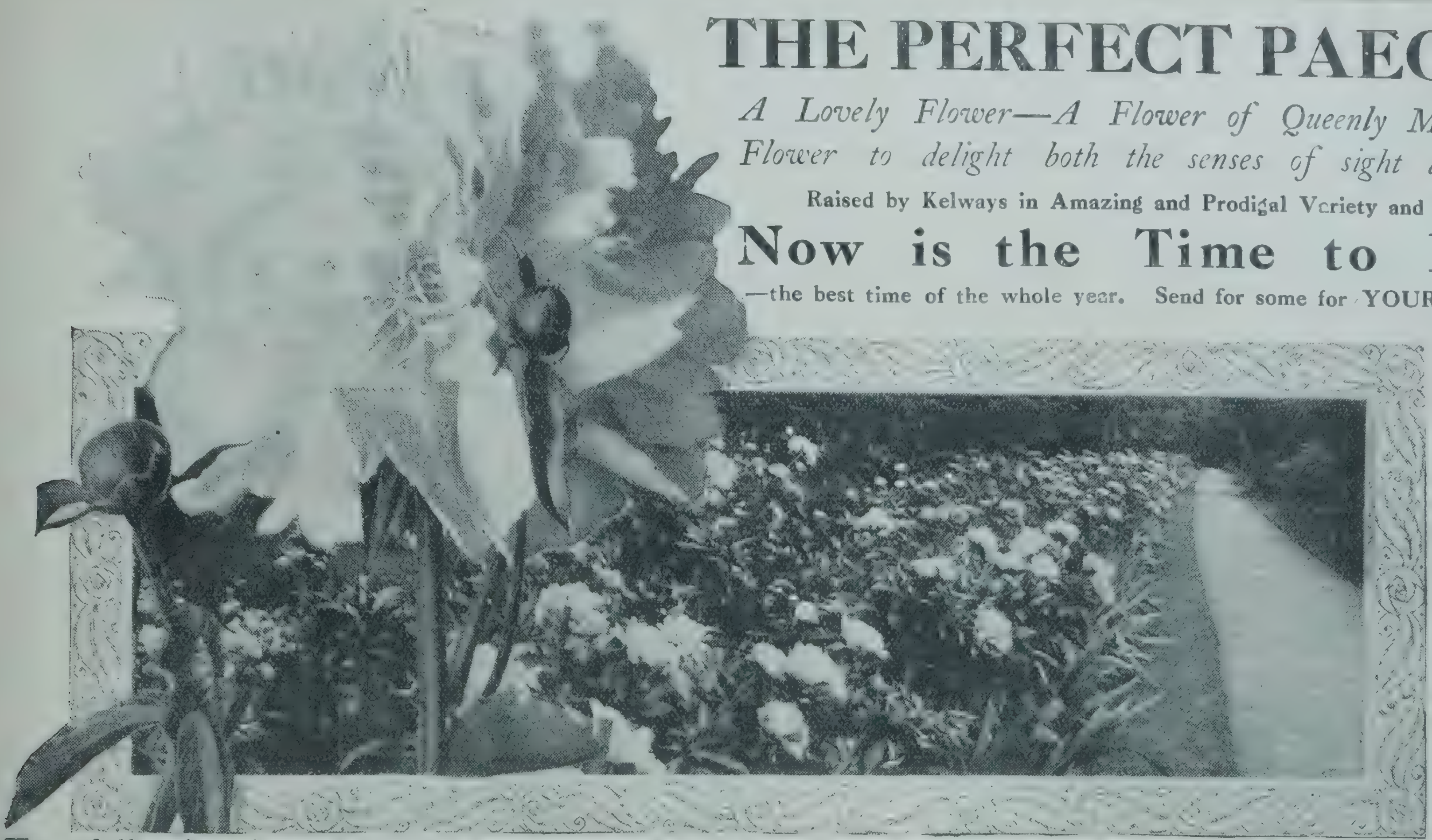

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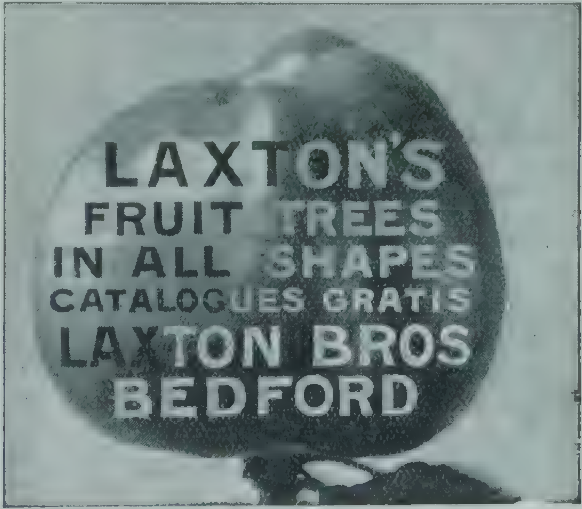

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Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	3 0- 4 0
Azalea, per dozen bunches	5 0- 6 0
Bouvardia, per dz. bunches	6 0- 7 0
Carnations, per dozen blooms, best American varieties	1 6- 2 6
— smaller, per doz. blooms	12 0-15 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaison, p. doz. blooms:	
— — pink	8 0-15 0
— Singles in variety, per doz. bunches	15 0-21 0
Chrysanthemums, per dozen:	
— white	1 6- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze	1 0- 2 6
— white, per doz. bunches	5 0- 8 0
— coloured	4 0- 8 0
Daisies (Michaelmas), various	3 0- 4 0
Eucharis, per doz.	2 0- 2 6
Gardenias, per box of 15 and 18 blms	2 0- 3 0
Lapagerias, white, per dozen	2 0- 2 6
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 0- 2 6
— — short	1 9- 2 0
— lancifolium alba, long	1 3- 1 6
— — short	1 3- 1 6
— speciosum rubrum, per doz.:	
— long	1 3- 1 6
— short	0 9- 1 0
Lily of the Valley, pr. dz. bnchs.:	
— extra special	15 0-18 0
— special	10 0-12 0
— ordinary	8 0 —
Marguerite, per doz. bunches:	
— yellow	1 6- 2 0

	s.d. s.d.
Mignonette, per doz. bunches	3 0- 4 0
Myosotis (Forget-me-not), p. dz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	12 0-15 0
— Cattleya Harrisonæ, p. doz.	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum	3 0- 4 0
Pelargoniums, p. doz. bunches	4 0- 5 0
— Double Scarlet	4 0- 6 0
Physalis, per doz. bunches	5 0- 6 0
Roses, 12 blooms:	
— Bridesmaid,	0 9- 1 6
— C. Mermet	0 9- 1 6
— Frau Karl Druschki	1 0- 1 6
— Liberty	1 6- 3 0
— Madame A. Chatenay	1 6- 3 0
— Niphetos	1 0- 1 6
— Richmond	1 6- 3 0
— Sunburst	3 0- 5 0
— Sunrise	1 0- 1 6
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 0- 1 3
— Franz Deegen	1 0- 1 6
— Kaiserine	1 6- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve	2 0- 2 6
Stephanotis (72 pips)	3 6- 4 0
Stock, p. d. bnchs:	
— white	5 0- 6 0
Tuberose, p. doz. blooms, long	0 8- 0 9
— — short	0 6- 0 7
Violas, small blue, p. doz. bunches	1 0- 1 6
Violets, per dozen bunches	1 6- 4 0
— double, pr. dz. bunches	3 0- 5 0
— Parma, large bunches, each	1 9- 2 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, dz. bnchs.	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Carnation foliage, doz. bunches	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, per gross bunches	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	1 0- 1 8

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6
Croton, per dozen	18 0-30 0
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, per dozen	5 0- 6 0
— laxus per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0

	s.d. s.d.
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, per dozen	6 0 —
— choicer sorts per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0-18 0
— lancifolium alba. in pots, per dozen	15 0-18 0
— longiflorum, p. dozen	12 0-15 0

Plants in Pots, &c.: Average Wholesale Prices *(Contd.)*.

	s.d. s.d.
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0

	s.d. s.d.
Pelargonium, other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, doz.	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 5 0
— Cox's Orange, ½ bushel	4 0- 8 0
— Cooking, per bushel	3 0- 4 0
— Californian Newtowns, case	9 0-10 0
— Nova Scotian, per barrel	14 0-18 6
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Blackberries, peck	2 6- 3 0
Dates, per dozen	7 0 —
Figs (Italian), bxs.	0 8- 1 0
Cranberries, p. case	9 0-12 0
Grape Fruit, case:	
— 96's	16 0-24 0
— 80's	
— 64's	
— 54's	
— per dozen	6 0 —
Grapes (English), per lb.:	
— Hamburgh	0 3- 1 3
— Canon Hall	1 6- 5 0
— Muscats	1 3- 4 0
— Gros Colman	0 8- 2 0
— Black Alicante	0 6- 1 6
— Gros Maroc	1 0- 1 6
— Almeria, barrel	12 0-18 0
— Lisbon, case	7 0- 8 6
Lemons, per case:	
— Malaga	22 0 —
— ordinary	6 0- 7 0
Lemons, per case:	
— Naples	28 0 —
Medlars, per crate	4 0 —
Melons (Guernsey)	1 9- 3 0
— (English)	1 9- 3 0

	s.d. s.d.
Melons Canteloupe	2 0- 3 6
— (Spanish), case	7 0-12 0
— Bronzed, case	10 0-12 0
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt.	50 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 2-0 2½
— Walnuts per dozen lbs.	2 6—6 0
— — French, per bag	7 0- 8 0
— English doubles per dozen lbs.	6 0-10 0
Oranges:	
— Cape, per case	18 0-20 0
— Jamaica, case	12 6-16 0
Peaches	
— Canadian, per box	2 6- 3 6
— Californian, p. tray	4 0- 5 0
Pears:	
— French, pr. box	3 0 —
— — per crate	6 0- 8 0
— English, ½ bus.	1 0- 3 0
— Doyenné du Comice, dozen	2 0- 4 0
— Dessert, per ½ bushel	3 6- 6 6
— Californian, p. case	7 0-12 0
— Doyénné du Comice, p. case	12 0 —
— Dutch Catalac, ½ bushel	3 6 —
Pineapples, St. Michael	2 6- 4 6
Plums:	
— (Californian), crate	8 0-12 6
— Switzens, ½ sieve	2 6- 3 0
Pomegranates, per case	7 0- 8 0
— per box	2 6 —
Quinces, ½ bushel	3 6- 4 6

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Aubergines, per dozen	2 6 —
Asparagus, Paris green	4 0 —
Artichokes (Globe), per dozen	2 6 —
— English	2 0 —
— ground, ⅓ bus.	1 6 —
Beans:	
— French, ½ bshl.	1 0- 1 3
— — per bag	2 0- 2 6
Beetroot, per bushel	2 0 —
Cabbages, p. tally	3 6- 4 0
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun.	2 6 —
— dirty, per bag	2 6 —
— washed, bag	3 6 —
Cauliflowers, per — tally	4 0- 5 0
Celery, per dozen	12 0-15 0
— dirty	12 0-14 0
Cucumbers, per flat	5 0- 6 0
Endive, per dozen	1 6 —
French p. doz.	2 0 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles	12 0 —
Leeks, per doz.	2 0 —
Lettuce (English),	
Cos, per box	3 0- 4 0
Cabbage, per dozen	0 3- 0 6
French p. doz.	1 2 —

	s.d. s.d.
Marrows, per doz.	3 0 —
Mint, per dozen bunches	3 0 —
Mushrooms, cultivated, per lb.	0 10- 1 6
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag	3 6- 4 0
— per bushel	2 0 —
— Picklers, p. bag	4 0 —
— (Spring), per doz. bunches	3 0 —
— (Spanish), case	6 0 —
— Dutch, bags	2 9- 3 0
Parsley, per doz. bunches	2 0 —
Parsnips, per bag	2 6- 3 0
Radishes (English) per dozen	0 10- 1 0
Sage, per dozen	2 0 —
Spinach, ½ bushel	1 6 —
Sprouts, ½ bushel	1 6- 1 9
— bags	2 0- 2 6
Tomatos, per doz. lbs.:	
— (Guernsey),	3 6- 3 9
— (English)	3 0- 4 0
— seconds	1 0- 1 3
— (Canary) per bundle	10 0-12 0
Turnips (English), per dz. bunches	2 0- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Watercress, p. dz. bunches	0 4- 0 6

REMARKS.—Supplies of English Apples have increased and the fruits are meeting with a firmer demand. Good samples of the following varieties of Pears from home growers have been on sale this week: Conference, Pitmaston Duchess, and Doyenné du Comice. Supplies of French Pears show a decrease. Shipments of fruit from Wenatchee and California amounted to about 70,000 cases of dessert Apples and Doyenné du Comice Pears, the bulk consisting principally of Apples. Twelve hundred cases of Peaches have arrived from Ontario. Black varieties of Grapes continue a heavy supply. Bunches of Muscat of Alexandria and Canon Hall Muscat of the best grades are selling better. Almeria Grapes in barrels are arriving in a good keeping condition, and are being purchased for storing until later in the season. Of Plums, a few Berkshire and Switzen Prunes are still obtainable. Californian Plums have arrived in an excellent condition. Blackberries are still obtainable. Nuts are plentiful all round; English Walnuts are keeping very badly. Supplies of Melons and Figs are finishing. Cultivated Mushrooms show a considerable increase in supplies, and their prices have depreciated in consequence. English Tomatos have been a better supply, and the fruits have sold freely. A few Tomatos are still arriving from the Channel Islands. Teneriffe Tomatos are now to hand. Dwarf Beans are arriving from Guernsey, Madeira, and France. English Scarlet Runner Beans are practically finished. Paris Green Asparagus is arriving in excellent condition, in bundles of about 40 heads each. *E. H. R., Covent Garden, October 23, 1912.*

New Potatos.

	per cwt. s.d. s.d.		per bag. s.d. s.d.
Bedfords	4 0- 4 9	Dutch	3 3- 4 0
Kents	4 6- 5 3	Belgian	3 6- 3 9
Blacklands	3 9- 4 3	German	3 9- 4 3
Lincolns	4 0- 5 0		

REMARKS.—Trade is still very steady, and prices are about the same as last week. A large quantity of Dutch, Belgian and German Potatos are arriving this week. *Edward J. Newborn, Covent Garden and St. Pancras, October 23, 1912.*

GARDENING APPOINTMENTS.

[Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. A. HARDY, for the past 7 years Foreman at Ribston Hall Gardens, Wetherby, as Gardener to the Hon. E. H. DAWNAY, West Heslerton Hall, York.

Mr. T. HOBBS, for the past 5 years and 9 months Gardener to VIVIAN PHILLIPPS, Esq., and formerly for over four years gardener to RUPERT KETTLE, Esq., Crofton Court, Orpington, Kent, as Gardener to F. HARRILD, Esq., Sherlies, Orpington, Kent. (Thanks for 2s. 6d. received for R.G.O.F. box.—EDS.)

Mr. R. J. WILLIS, as Gardener to E. G. MONRO, Esq., Highfield, Bushey Heath, Hertfordshire.

Mr. E. C. ALLNUTT, Foreman at Wilton Park, Beaconsfield, Bucks., as Gardener to Major FOOT, White Hill, Berkhamsted, Herts. (Thanks for 1s. for R.G.O.F. box.—EDS.)

Mr. F. SIVELL, for nearly 4 years Gardener to Capt. CHAMBERLAYNE, Chichester, Gipsy Hill, Pinhoe, Devon, as Gardener to Mrs. R. P. MORGAN, Brynhyfryd, Neath, South Wales. (Thanks for donation to the R.G.O.F. box.—EDS.)

Mr. E. NETLEY, until recently for 18 months Second Gardener at Broadstone, Forest Row, Sussex, as Gardener to Miss ROBERTS, Davenies Barn, Beaconsfield, Bucks.

Mr. JOHN W. HATTON, late Foreman at Bromham House, Bedford, and previously at Wrest Park, Ampthill, Beds., as Gardener to J. W. COOPER, Esq., J.P., Dashwood, Gravesend, Kent.

Mr. A. BECKETT, recently Gardener to Major STAPYLTON-Myton Hall, Yorkshire, and previously Foreman to Sir EDWARD COATES, Bart., M.P., Helperby Hall, Yorkshire, as Gardener to J. DYMOND, Esq., Burntwood Hall, Barnsley. (Thanks for donation to the R.G.O.F. box.—EDS.)

Mr. LEWIS SMITH, for 11 years Gardener to ROBERT FELLOWES, Esq., Shotesham Park, Norwich, as Gardener to MALDWIN DRUMMOND, Esq., Cadland, Southampton.

SCHEDULES RECEIVED.

The Huntingdonshire Daffodil and Spring Flower Society's exhibition, to be held on Thursday, April 17, 1913. Hon. secretary, Miss Linton, Stirtloe House, Buckden, Huntingdon.

Nottingham and Notts. Chrysanthemum Society's exhibition, to be held on November 8 and 9, in the Mechanics, Large Hall, Nottingham. Secretaries: Mr. G. E. Skelhorn, 26, Sneinton Road, Nottingham, and Mr. H. Atkin, 27 Ashfield Road, Nottingham.

Hertford Horticultural Society's twenty-first exhibition of Chrysanthemums, fruit and vegetables, to be held in the Corn Exchange and Market, on Wednesday and Thursday, November 6 and 7.

Hull and East Riding Chrysanthemum Society.—The twenty-first Chrysanthemum show will be held in the New City Hall, Victoria Square, Hull, on Wednesday and Thursday, November 20 and 21. Secretary, Mr. James Dixon, 2, County Buildings, Hull.

Dover Horticultural Society.—The autumn show of Chrysanthemums and fruit will be held in the Town Hall, Dover, on Wednesday, November 6. Secretary, Mr. C. P. Tomlin, 65, Folkestone Road, Dover.

CATALOGUES RECEIVED.

JAMES COCKER & SONS, Aberdeen, Scotland—Roses.

W. SMITH & SON, Westburn Road, Aberdeen—Forest and Ornamental Trees, Shrubs, Conifers, Fruit Trees, and Roses.

W. & T. SAMSON, 8 and 10, Portland Street, Kilmarnock—Trees.

GEO. COOLING & SONS, Bath—Roses, Fruit and Ornamental Trees, Shrubs, and Climbing Plants.

E. P. DIXON & SONS, Ltd., Paragon Square, Hull—Nursery Stock.

FOREIGN.

SLUIS & GROOT, Enkhuizen, Holland—Vegetable, Flower, and Agricultural Seeds.

M. HERB, Via Trivio, 24, Naples, Italy—New Plants.

(We are retaining this column week by week to take our readers on "flying visits" to our new Exhibition Warehouses and Testing Grounds at Raynes Park, Wimbledon, which are always open to the public.
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* * * *

So the Visitors' Book in the spacious marble Entrance Hall tells us. Here are pages of visitors from places so far apart as Burma and Belgium, Kansas City and Johannesburg, Sweden and Sydney, Germany and the Azores, Budapest and Canada, sparsely leavened with visitors from Mayfair.

* * * *

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(Next week: "Five Minutes with the Bulbs.")

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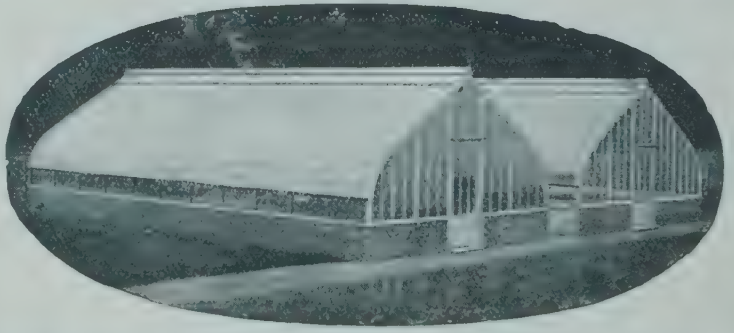

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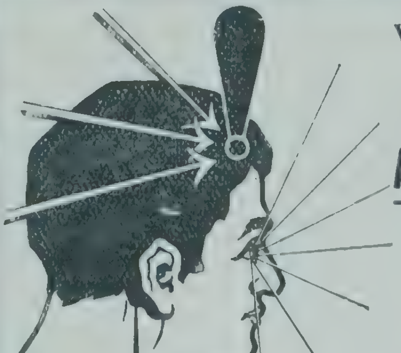

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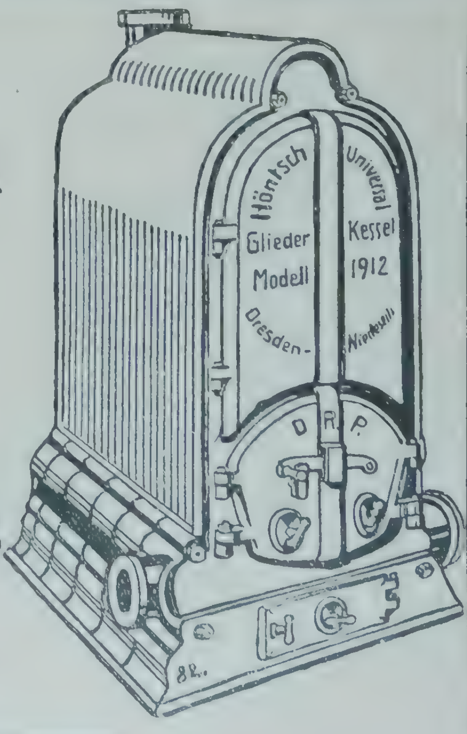

WRITE OR CALL AT ONCE FOR FURTHER PARTICULARS.
PAUL HANSCHITZ, St. Catherine's, Guildford.
(Agent for all Countries.)

THE WEATHER.

The Following Summary Record of the weather throughout the British Islands, for the week ending October 19, is furnished from the Meteorological Office:—

GENERAL OBSERVATIONS.

The *weather*.—In Ireland and the north and northwest of Britain rain was experienced almost daily over a large area, but in the south and east of the Kingdom rain was less frequent, and several days were fair to bright.

The *temperature* was above the average generally, but only equal to it in England E., and slightly below it in England S.E. In Ireland the excess amounted to more than 2½°. The highest of the maxima occurred at most stations on the 13th and 14th, and ranged from 65° in the Midland Counties and the English Channel to 59° in Scotland N. and W. The lowest of the minima, which were generally registered either on the 15th or later in the week, varied from 25° in Scotland E., 26° in England S.W. and 29° in England S.E., to 36° in England, N.E., and to 43° in the English Channel. The lowest grass readings were 20° at Crathes, 21° at Birmingham, 22° at Hampstead, Balmoral, and West Linton, and 24° at Kew and Newton Rigg. The ground thermometers remained below the average, both at the depth of 1 foot and 4 feet.

The *mean temperature of the sea.*—At every station except Kirkwall, Aberdeen and Cleggan the water was colder than the average, but in several localities it was warmer than during the corresponding week of last year; so much as 4° at Lerwick and Cleggan. The values ranged from 56° at Plymouth and Salcombe to less than 50° on many parts of the Northern coasts, and to 47 degrees at Berwick.

The *rainfall* was less than the average in the greater part of England, and also in Scotland E. and Ireland S., but exceeded it in Scotland N. and W., England N.W., and Ireland N. Falls of an inch or more were recorded on the 13th at Castleberg, Fort William, and Crieff, and on the 15th at many places in Scotland; 1·3 in. at Rothesay and 1·7 in. at Fort William. At a few places in the Midlands and Eastern and Southern England rain fell on only 2 days, and at Dungeness on only 1 day.

The *bright sunshine* was less than the normal generally, but more in England E. and S.E. and the English Channel In this last district the mean daily duration was 4.9 hours and in England S.E. 4·6 hours. In Scotland it was less than 2 hours. The percentage of the possible duration ranged from 46 in the English Channel and 44 in England S.E. to 14 in Scotland N.

THE WEATHER IN WEST HERTS.

Week ending October 23.

The three coldest days as yet this month —During the fortnight ending the 20th, the days were nearly all more or less warm for the time of year, but on the 21st there occurred a fall in temperature. In fact, the last three days have remained very cold—the coldest as yet this month. The night temperatures have been mostly very low since the month began, and are still low for October. The ground is at the present time 3° colder at 2 feet deep, and 4° colder at 1 foot deep, than is seasonable. Rain fell on five days during the past week, and to the total depth of half an inch. For the first time for a fortnight there has been a little percolation through both of the soil gauges. The sun shone on an average for 3¾ hours a day, which is about three-quarters of an hour a day longer than is usual in the middle of October. Light airs and calms as a rule prevailed, but on one day the wind was higher than it had previously been this month, but even then the mean velocity for the windiest hour only amounted to 12 miles The average amount of moisture in the air at 3 o'clock in the afternoon fell short of a seasonable quantity for that hour by four per cent. *E. M., Berkhamsted, October 23, 1912.*

DEBATING SOCIETIES.

BRISTOL AND DISTRICT GARDENERS'.—A meeting of this association was held on the 10th inst., when Mr. Thoday presided over a moderate attendance of the members. Mr. Garnish gave a lecture on "Chrysanthemums for Cutting."

CROYDON AND DISTRICT HORTICULTURAL.—The meeting of this society on Tuesday, 15th inst., was well attended. A bottled fruit competition took place amongst four exhibitors; the first prize was won by Mr. F. J. Hainge, and the second by Mr. H. Boshier. Mr. H. Alderman, of Morden Hall Gardens, Mitcham, read a paper on "Gardening and Gardeners—Past and Present."

BATH GARDENERS'.—The opening meeting for the new session was held on 14th inst. A lecture on "The Apple," was delivered by Mr. Boulter, a member of the Midsomer Norton Gardeners' Society. Mr. Boulter gave details on the preparation of the ground and the planting of the trees. He also dealt with insect pests, and showed how Apple trees may be kept clean and healthy.

WARGRAVE AND DISTRICT GARDENERS'.—A meeting of the members of the above association took place on the 16th inst., when the Hon. Secretary, Mr. H. Coleby, gave a lecture, entitled "Certain Physical Phenomena Bearing on the Work of the Garden," illustrated with diagrams, pictures and experiments. The following were the points dwelt upon: The pressure of the air and the principle of the barometer; osmosis; the cold nature of water-logged soils; the use of lime in the soil and how to prove its presence there; and capillarity in soils. The Wargrave Plant Farm exhibited a collection of Michaelmas Daisies, not for competition. The flowers were forawarded to the Royal Berkshire Hospital the following morning. Four new members were elected.

HALESWORTH & DISTRICT GARDENERS'.—A general meeting of this new society was held on the 3rd inst., when the committee was elected. The Rev. A. R. Upster was appointed President, Mr. T. Simpson, Henham Gardens, Chairman, Mr. C. Goodwin Treasurer, and Mr. C Rudrum Secretary.

CARDIFF GARDENERS'.—The fortnightly meeting of this society was held on the 15th inst.; Mr. A. H. Cossom presiding over a good attendance of the members. Mr. H. Harriss, gardener at "Ty Gwyn," Lisvane, delivered a paper on "Sweet Peas for Exhibition and House Decoration." Mr. Harriss stated that in 1902 there were but 90 varieties classified, whereas in 1912 there were 190, not one of which was in the 1902 list. Mr. Harriss advocated autumn sowing, which results in earlier flowering and consequently an earlier seed harvest. He also advised deep trenching and the planting of some other crop before the Sweet Peas. Mr. Harriss staged several vases of clean, long stemmed flowers of the leading varieties, those of "John Ingman" being especially good.

DEVON AND EXETER GARDENERS'.—The annual meeting of this association was held at Exeter, on the 16th inst., under the chairmanship of Mr. G. Merrett. The Hon. Secretary and Treasurer (Mr. W. Mackay) read the annual report which was adopted. Mr. Trehawke Kekewich was re-elected president, and the Vice-Presidents were also re-elected. Mr. W. Mackay was re-elected hon. secretary and treasurer.

PANGBOURNE & DISTRICT GARDENERS'.—A meeting of this association was held on Wednesday, the 16th inst., in the small hall of the Constitutional Club. Mr. H. E. Du Cams Norris presided. A paper on the "Sweet Pea for Home and Exhibition" was read by Mr. A. Waring. Holme Lea, Goring-on-Thames. The preparation of the ground, seed sowing, disbudding the plants, diseases, and the best methods of cutting and packing the blooms for exhibition were all ably dealt with by the lecturer.

WATFORD HORTICULTURAL.—At a meeting of this association held on the 11th inst., a lecture on "Rock and Wild Gardening" was given by Mr. F. E. Newman. The lecture was illustrated by lantern slides. Later there was a discussion on the Viola. In a competition open to amateur members for Potatos, Mr. W. Sear was placed 1st, and Mr. J. Ford 2nd. Mr. W. Webb was awarded the 1st prize in competition for Apples and Pears.

CHELMSFORD & DISTRICT GARDENERS'.—The second meeting of the winter session was held in the Institute of Agriculture, Chelmsford, on the 18th inst; the president, Mr. E. W. Christy, presided, and about 60 members were present. Mr. Montague Allwood gave a lecture on "Perpetual-flowering Carnations." Mr. Allwood advised selecting the cuttings from the centres of half-ripened shoots, as cuttings taken at the base were too slow of growth, whilst those near to the flower were too weak. The cuttings, said Mr. Allwood, should be inserted in sand and not loam, as the latter held too much water. A compost of loam well opened with sand, and containing one-fifth its bulk of stable manure, together with a little lime rubble (if the soil is deficient in lime), would be suitable for potting the rooted cuttings. The method of stopping was fully explained; it was advised to stop fairly hard into the mature wood.

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Abroad	17/6 „

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41, WELLINGTON STREET,
COVENT GARDEN, LONDON, W.C.
Telegrams "Gardchron, Rand, London."
Telephone: Gerrard 1543.

SITUATIONS VACANT.

Four Lines 3s. (Head-line counted as Two), 6d. for each succeeding line.

PRIVATE.

Shanghai Municipal Council.

SHANGHAI POLICE FORCE.

POLICE RECRUITS are now required for the above force; applicants must be unmarried, about 22 to 26 years of age, of good physique, with sound teeth, about 5 ft. 10 in. in height, chest fully expanded about 38 inches, and able to procure excellent references as to character. Salary commences at taels 70 per month, equal to about £9; there are extra allowances for knowledge of modern languages, also for plain clothes men in the detective branch. Salaries rise steadily on promotion up to, in the case of Chief Inspectors, about taels 300 per month, equal to about £40. The value of the tael at present rate of exchange is about 2s. 9d., but it is liable to fluctuation. Agreement.—For three years with free passage to Shanghai, liberal superannuation scheme, free quarters, and bonus of £5 for outfit. The climate of Shanghai is much the same as in England, though both hotter and colder. Police work in Shanghai is the same kind of work as is done by any town police in the larger towns of the United Kingdom. The work in Shanghai is in no way like Colonial mounted work as done in the Colonies. Every facility is given in spare hours for enjoying all kinds of sports, such as cricket, football, cycling, &c. In addition men of good character may take a three weeks holiday per annum for the purposes of shooting, &c. Applicants for particulars must state their age, height, chest measurements, condition of teeth, particulars of trade or calling and references before terms of service and application forms will be issued to them. Apply by letter, giving these particulars in envelope marked "Police," to Messrs. JOHN POOK & CO., Agents for the Municipal Council of Shanghai, 63, Leadenhall Street, London, E.C.

WANTED, GARDENER (Head of two); must be competent man, who thoroughly understands Greenhouses and frames, also Flowers, Vegetables, and Fruit; cottage not supplied.—Write full particulars, with wages required and copies of testimonials, to GIBBINS, Garthmor, Neath, Glamorganshire.

WANTED.—Can a Gentleman or Head Gardener recommend a thoroughly good GARDENER (Head Working) with foreman, labourer, and three boys under him; must have a thorough knowledge of all kinds of Flowers and Glasshouses, Hardy Borders, Rockery?—Apply by letter only to DUCHESS OF WELLINGTON, Ewhurst Park, Basingstoke.

WANTED, GARDENER (married without family) to live in small lodge; total abstainer; one other man kept; must understand Carnations and Rose growing; not much glass; must have had good experience, and have good testimonials from last employer.—Address, Miss E., care of W. H. Smith & Son, The Library, Weston Hill, Upper Norwood, S.E.

WANTED, smart, active MAN, married, to take LEAD in Flower and Kitchen Gardens, Pleasure Grounds, &c.; must be well up to his work; wages 16s. per week and house.—Apply, stating age, experience, with copies of testimonials, DOW, Gardens, Amport St. Mary, Andover.

WANTED, good experienced MAN for Rock Garden, Herbaceous Borders, Roses, and Cut Flower Stuff; to fill up time Inside or Out as required.—Fullest particulars to F. W. CHILVERS, Sherrington Manor, Berwick, Sussex.

WANTED, ORCHID GROWER.—Young Man, thoroughly qualified to take charge of small collection in neighbourhood of Glasgow.—State age, experience, and remuneration expected, to "ORCHIDS," Glasgow, Box 15, 41, Wellington Street, Covent Garden, W.C.

WANTED for private establishment, thoroughly efficient GROWER under glass for Roses, Orchids, Chrysanthemums, Bedding Plants, Violets, Melons, Tomatos, Strawberries; highest references indispensable; wages 28s.; progressive; state height, age, references.—Apply, G. W. ASTRIDGE, Frimleigh, Summerdown Road, Eastbourne.

WANTED, for private establishment, thoroughly efficient GROWER under glass for Carnations, Cyclamen, Zonals, Florists' Flowers, Grapes, Melons, Peaches, Pot Fruits; all are specialities; wage 34s.; progressive; state age, height, references.—Apply, G. W. ASTRIDGE, Frimleigh, Summerdown Road, Eastbourne.

WANTED, GARDENER (Single-handed, help given); married; must have thorough knowledge Greenhouse, also Herbaceous, Roses and general Outside work; previous experience as Foreman large gardens preferred; wages 21s., with cottage.—Apply, with references, stating previous experience, ROLAND BURKE, Esq., Compton Lodge, Eastbourne.

WANTED, GARDENER (Second of six), chiefly for Glass; must be energetic and trustworthy; age about 23-24; wages 19s. per week, no Bothy; duty every other week.—State full particulars of experience to A. BLANCHARD, The Gardens, Stoneaston Park, near Bath.

WANTED, GARDENER (Second, Inside) for November 2nd; thorough knowledge of Fruit and Plant Culture; House and Table Decorations; £1 and Bothy, part vegetables; must be well recommended.—ROBINSON, Kingston Park, Dorchester, Dorset.

WANTED, energetic SECOND for Kitchen and Pleasure Gardens; must be quick and able to lead others; overtime expected; age 25.—Full particulars, copies testimonials, wages (no Bothy), F. E. COTTRELL, Lympne Castle Gardens, Hythe, Kent.

WANTED GARDENER (Second of four); work Inside and Out; age not under 25; single; no Bothy.—Write, with full particulars and wages expected, to GARDENER, Durrington Gardens, Harlow, Essex.

WANTED, as SECOND, smart Man, about 25, for Houses and Rock Garden; must be well up in Carnations, Chrysanthemums and Alpines and well recommended; wages 25s.—Write, with full particulars of previous experience, Whitham Gardens, Heather Bank, Hindhead.

WANTED, FOREMAN (Inside); must be well up in Fruit and Carnations; also JOURNEYMAN (First) for Fruit Houses.—Give full particulars to G. SMITH, Hutton Hall Gardens, Guisborough, Yorks.

WANTED, FOREMAN for Inside; age about 26; good experience in growing plants for Decorating, Carnations, Orchids, and Fruit; good character; 25s., no Bothy; eight kept.—Apply, with copies of testimonials, A. FRY, The Court, Llandaff, Cardiff.

WANTED at once.—Can any Gardener thoroughly recommend a good, steady Man as FOREMAN (Outside); well up in Alpines, Roses, &c.; also one as FOREMAN (Inside) where general stuff is grown; must be steady and hard-working; 20s. each per week and Bothy, &c.?—Apply, HEAD GARDENER, Poulton Priory, Fairford, Glos.

WANTED, FOREMAN for Pleasure Grounds; 22s. and Bothy; also JOURNEYMAN (Inside); 18s. and Bothy; must be experienced for large place in England; references.—DAVID W. THOMSON, 113, George Street, Edinburgh.

WANTED, JOURNEYMAN, age 20, to assist in Houses; abstainer and Nonconformist; must be active and experienced; 16s. per week, &c.—S. L. H., Box 16, 41, Wellington Street, Covent Garden, W.C.

WANTED, a smart, industrious Young Man as JOURNEYMAN for Plant Houses; Sunday duty and overtime paid for.—Please state age, wages, &c., and references to ROGERS, The Gardens, Hinton Admiral, Christchurch.

WANTED, JOURNEYMAN (First, Inside); experienced in Fruit and Plants; abstainer.—Write particulars to J. PODMORE, Manor Gardens, Little Berkhamsted, Hertford.

WANTED, a first-class JOURNEYMAN, about 26, for Hardy Fruit, also Fruit under glass; no Bothy.—Apply, stating wages, to Estate Office, Coldeast, near Southampton.

WANTED, a smart YOUNG MAN to take charge of large collection of Roses, Rose Gardens and Pergolas; must be thoroughly experienced in Pruning, Budding and growing for exhibition.—Apply, stating wages required, with Bothy, &c., F. FRANCE, Knockbrex Gardens, Kirkcudbright, N.B.

WANTED, YOUNG MAN (Inside) under Foreman; some experience; wages 18s.; no Bothy.—Apply, BUNGAY HARDWICK, Sedgefield, Ferryhill, co. Durham.

WANTED, smart YOUNG MAN, with some experience of Garden work, as SECOND of three; wages 15s.; no Bothy.—
Major ROBINSON, Rothley Grange, near Leicester.

WANTED, YOUNG MAN for General Garden work; assist duty alternate week; wages 14s. per week; Bothy, milk and vegetables, &c.—State age and experience to JAS. TREBBLE, Hendrefoilan Gardens, Sketty, S.O., Swansea.

WANTED, YOUNG MAN for Kitchen Garden and Lawn; able to take duty; 16s. with rooms; four in the gardens.—Apply,
HARRISON, Dorley Ash, Bovingdon, Herts.

WANTED, YOUNG MAN (single) for Pleasure Grounds; good knowledge of Herbaceous, Rock, Alpines, Roses, and Flowering Shrubs is essential; state age and wages required; no Bothy; duty every third week.—A. CHALK, The Gardens, Glanmawddach, Dolgelly.

WANTED, IMPROVER (Inside); wages 14s. per week and Bothy.—Apply, with full particulars, to W. GOODMAN, The Gardens, Shipley Hall, Derby.

WANTED, a smart YOUTH for all-round work; wages 12s.; Bothy, &c.—Apply, by letter only, stating particulars, to H. C. GARDNER, Ruxley Lodge Gardens, Claygate, Surrey.

WANTED, APPRENTICE for large Gardens; thorough training in all branches Inside and Out; premium.—Write, J. F., Box 17, 41, Wellington Street, Covent Garden, W.C.

TRADE.

HORTICULTURAL SUPERINTENDENT, with technical and scientific training, wanted for a large Fruit Farm; important position for well-qualified man of irreproachable character; applications to be sent, giving detailed particulars as to character, training, experience, age, salary, &c.—"FRUIT GROWER," Box 26, 41, Wellington Street, Covent Garden, W.C.

WANTED, MANAGER (Working) to take charge of Market Nursery, Grapes, Tomatos, few Shrubs; must be energetic; able to manage men; also SECOND HAND for Vine Work; good opening.—A. J. GUILBERT, Nurseryman, Guernsey.

WANTED, NURSERY FOREMAN and FRUIT SPECIALIST; only men of first-class character and wide experience need apply; abstainer; expert Cultivator and Pruner; progressive salary to well-qualified man; state full particulars of training, duties in various positions occupied, experience in growing and packing fruit for wholesale market, age, &c.—"N. F.," Box 5, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN (Working) for Landscape Department; previous experience essential; must be capable of taking charge; able to control labour and to work from plans.—Full particulars of experience and wages required to CLIBRANS, Altrincham.

WANTED, at once, FOREMAN (Working); one used to growing Raspberries and thoroughly understand planting up new land; state full particulars of experience and wages expected.—CANHAM, Seed Merchant, York.

WANTED, GARDENERS for Ontario (Canada) Fruit and Vegetable Farms in March; £4 to £6 monthly with board guaranteed; pay own fare.—COUNCILLOR RUMSEY, Shrewsbury.

WANTED, immediately, a MAN (unmarried), who thoroughly understands Maidenhair and Asparagus Ferns, Bulbs, and general Market Nursery work; must have undeniable references, be trustworthy, sober, and thoroughly reliable; work under Foreman; state age and wages required.—R. & E. DAY, Sutton Scotney, Hants.

WANTED, MAN to work in Nursery (Outside), also to attend to customers; one required for Jobbing and Nursery work; also strong Lad; used to Nursery; age about 16-18; to make himself generally useful.—Apply, stating experience, age, wages required, to F. JAMES, 1, Underhill Road, Dulwich, S.E.

WANTED, experienced JOBBING MEN; temporary work.—RUTSON BROS., 54, Cecile Park, Crouch End, N.

WANTED, at once, YOUNG MAN used to Tomatos, Cucumbers, and Bedding Stuff.—Write, E. S., Scripp's Advertising Offices, 13, South Molton Street, W.

WANTED, YOUNG MAN for temporary engagement; knowledge of Bulbs, &c.; able to make up.—EDWARDS & CO., Florists, Gold Street, Kettering.

WANTED, HEAD PACKER; good permanent position for smart man.—State experience, wages, and when disengaged, to J. M. T., Box 17, 41, Wellington Street, Covent Garden, W.C.

WANTED (Lancashire) a smart Young Man of good address for Seeds and Bulbs; good correspondent with up-to-date methods of postal trade; must be reliable, steady, and willing to work to extend business; state experience, and if able to invest capital, in confidence.—Z. Y., Box 27, 41, Wellington Street, Covent Garden, W.C.

SEED TRADE.—Wanted, a SHOP ASSISTANT at once.—State age, wages, and experience to MICHIE & CO., Nurserymen and Seedsmen, Alnwick.

WANTED, smart WINDOW DRESSER and SALESMAN.—GRIFFIN, Florist, Prince Albert Street, Brighton.

WANTED, ASSISTANT SHOPMAN, who thoroughly understands Seeds, Nursery, and Sundries; accustomed to brisk Counter Trade; preference given to a good Window Dresser; no other need apply; a progressive situation to a suitable man.—A. W., Box 24, 41, Wellington Street, Covent Garden, W.C.

WANTED Young Man as CLERK; experienced in general Nursery and Seed Trade; to fill up time helping in shop.—Apply by letter, stating age, experience, copies of references and wages required, to R. TUCKER & SONS, 16, George Street, Oxford.

WANTED, LADY FLORIST; must have ideas and originality in designing.—State age, experience and wages expected, to
JOHN PEED & SON, Nurserymen, West Norwood, S.E.

SITUATIONS WANTED.

Twenty-six words for 1/6, & 6d. for each succeeding Eight words or less.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal authorities and returned to the Sender

PRIVATE.

Gardeners, Farm Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application.

CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

GARDENER (Head); thorough knowledge; wide experience in all branches of Horticulture; expert cultivator of choice Fruit, Flowers, and Vegetables; capable and economical manager; exemplary character.—KING, care of Mr. Innes, Swains Hill, Hereford.

GARDENER (Head). — Mrs. TEMPLE, Leyswood, Groombridge, Sussex, wishes to highly recommend her Foreman, H. Thrussell, as above, where five or more are kept; past three years here; previously Foreman at Althorp Park and Easton Neston; life experience in all branches; age 30; married when suited. (No circulars.)

GARDENER (Head); thoroughly experienced in all branches, including Orchids and Forestry; excellent references; late Head Gardener at Middleton Park 8½ years.—Apply, A. PERRY, care of Mr. Sherwood, Shurlock Row, Twyford, Berks.

C. K. NORMAN, Esq., strongly recommends his GARDENER (Head, where three or more are kept); thoroughly experienced in all branches; age 33; single; disengaged November 16th.—Write, B. H. BROOKS, Court Gardens, Brantham, Manningtree.

GARDENER (Head of two or good Single-handed); life experience Inside and Out; excellent references; age 27; single.—W. JOHNSTON, care of Mrs. Coe, The Gashouse, Caterham Asylum, Surrey.

GARDENER (Head or good Single-handed); experienced Inside and Out; used to Poultry; good references; wife domesticated.—
A. COOK, Shord Hill Lodge, Kenley, Surrey.

GARDENER (Head or Single-handed); four years' personal character and testimonials; life experience in all branches; married, one daughter, age 12.—DEANEY, Ardmore, Oldwinton Road, Andover, Hants.

GARDENER (Head or good Single-handed); age 28; single; experienced Inside and Out; first-class references; present place five years as Second; well recommended.—BILLING, The Grange Lodge, Branch Hill, Hampstead, N.W.

GARDENER (Head Working); 25 years' experience in all branches; age 39; married, no family; disengaged; good references.—DOMAN, 31, Gospel Oak Grove, Haverstock Hill, N.W.

GARDENER (Head Working, where three or four are kept); life experience in all branches; over 3½ years as Foreman here; good experience with Carnations; well recommended; age 29; married when suited.—J. HOWLETT, Oakley Park, Eye, Suffolk.

GARDENER (Head Working, where several are kept); thoroughly experienced in all branches; age 30; married when suited; excellent character.—R. SCRIVEN, Combe Hill, Barton St. David, Taunton.

GARDENER (Head Working) seeks Re-engagement; gentleman highly recommends; life experience all branches Inside and Out; capable and trustworthy; excellent references; married.—SIMS, Havelock House, North Town, Aldershot.

GARDENER (Head Working, where two or more are kept); life experience Inside and Out; Flowers, Fruit, Vegetables, Orchids; married, no family.—E. W., 2, Tamworth Park, Mitcham.

GARDENER (Head Working).—Gentleman highly recommends his late GARDENER (Head); 22 years' excellent references; life experience; age 37; married.—SUTTON, 30, Basils Road, Stevenage, Herts.

GARDENER (Head Working, where several are kept); 17 years' good practical experience in all branches; five years Head last place; highest references as to capabilities; age 34; married.—A. SPRINGHAM, Henbury, Bristol.

GARDENER (Head Working) desires Re-engagement; thorough practical knowledge of all branches, including Orchids; expert Fruit and Chrysanthemum Grower; seven years' exemplary character, and highest recommendation from last employer; age 39; married, no family.—KENT, Box 23, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head Working).—Young Man, 27, seeks Situation as above about Christmas; good practical experience of Flowers, Fruit, and Vegetables, both Nursery and private; excellent character; single.—All particulars on applying to ESSEX, Box 1, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head Working); age 34; life experience in large places; Vines, Peaches, Stove and Greenhouse Plants, Hardy Fruits, Flower and Kitchen Gardens; present situation over five years as Head; total abstainer; highly recommended; married when suited; South preferred.—A. EVENDEN, care of Mr. Court, Bow Hill Farm, Yalding, Kent.

GARDENER (Head Working).—Mr. BANK, Landguard Manor, highly recommends W. Hughes; life experience Inside and Out; five years present; age 33; excellent references.—W. HUGHES, The Gardens, Landguard Manor, Shanklin, Isle of Wight.

CAPTAIN GORDON highly recommends his GARDENER (Head Working, where two or more are kept); life experience; excellent references; age 31; married, no encumbrance.—
GARDENER "Southend," Wickwar, Gloucester.

JAS. POUND, Mongewell Park Gardens, Wallingford, wishes to recommend Percy Rolfe to any Lady or Gentleman requiring a Gardener (Head Working) well versed in the various branches of the profession; can be well recommended as an intelligent, energetic, and capable man; five years present place as Foreman; age 30.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park Gardens, highly recommends H. Stedman as above; 19 years' practical experience in all branches; age 35; married, two children; life abstainer; excellent references; disengaged when suited.—H. STEDMAN, Bicester Lodge, Kirtlington Park, Oxford.

GARDENER (Head Working, where two or three are kept); life experience in all branches; life abstainer.—H. CARPENTER, Old Road, Kempsey, Worcester.

MRS. ANNESLEY, Otago House, Exeter, recommends her late GARDENER (Head Working of two); here about two years; life experience; age 30.—CLEAVE, 3, St. Loyes Terrace, Wonford, Exeter.

GARDENER (Head Working, where several kept); life experience all branches; age 50; married, no family; good references from previous and present employer.—GARDENER, Freston, Merrow, Guildford.

GARDENER'S (Working) place required; 12 years' experience in good gardens; Inside and Out; married, one child; can be well recommended.—H. HOAD, Avington, Alresford, Hants.

GARDENER seeks Situation; Pleasure Grounds, Herbaceous Borders, or good all-round man; can be highly recommended; married.—B. TOWN, White House Farm, Twyford, Berks.

GENTLEMAN, giving up establishment, highly recommends his late GARDENER, where more are kept, as a competent workman in all branches; married, no family.—F. J., Box 22, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Scotch) seeks Situation; age 27; experienced Vines, Fruits, Flowers, Plants, Vegetables; good reference; 11 years' experience; abstainer; married, no family.—DAWSON, Binnegar Lodge, Wareham, Dorsetshire.

GARDENER; Kitchen Garden or Pleasure Grounds; nine years' experience; age 24; excellent references.—E. BARNARD, Church Lodge, Crawley Down, Sussex.

ROCK-WORKER, artistic, wants private job; Rock-water and Japanese Gardens, Ferneries, Winter Gardens, &c.; hour or piece; life experience.—Apply, ROCK-WORKER, Thames Ditton.

GARDENER (Single-handed or with help); good experience; age 40; married, two children; good references; disengaged.—GARDENER, 91, Sandycombe Road, Richmond, Surrey.

GARDENER (Single-handed or Kitchen); married; no objection to Pony and Poultry; wife willing to help in house if required; good characters.—G. CREES, Westlands, Cowfold, Sussex.

GARDENER (Single-handed); age 33; thoroughly recommended; life experience; abstainer; married; disengaged.—HENRY KING, 18, Belgrave Terrace, Hendon, N.W.

GARDENER (Single-handed); single; 12 years' good general experience Inside and Out; good references.—Apply, S. M., 1, Newlands Lodge, Radlett, Herts.

LADY wishes to recommend good GARDENER (Single-handed or otherwise); experienced; long and very first-class character; married.—Apply, S. F., Cherry Close, Maidenhead Thicket.

GARDENER (Single-handed or with help); 12½ years' experience Inside and Out; age 26; single; abstainer; good references.—GRICE, Bourne Road, Colsterworth, Grantham.

MR. J. DIAPER, Ravenscar, Thicket Road, Anerley, S.E., can with confidence recommend a thoroughly experienced GARDENER (Single-handed); full particulars on application.

EDGAR TAYLOR, Esq., recommends Young Man as GARDENER (Single-handed or with help); 13 years' general experience; eight years present place.—Apply, HENBEST, Colney Park, near St. Albans, Herts.

GARDENER (Second) seeks Situation; experienced Inside and Out; can be well recommended; good references; single; age 26.—L. FORSTER, 26, Wilson Street, Winchmore Hill, Middlesex.

MR. R. CLARKE, Hall Gardens, Sutton Bonnington, Notts, can confidently recommend S. Beswick as SECOND of three or four; six years here; age 24.—Apply as above.

GARDENER (Second, chiefly Inside); experienced in Vines, Peaches, Stove, Greenhouse Plants, and general routine; age 25.—H. WAITE, Tapton Bank, Sheffield.

GARDENER (Second, Inside and Out); 15 years' experience in good establishments; good references and abstainer.—SALMON, Durrington House Gardens, Harlow, Essex. (No circulars.)

GARDENER (Second) or JOURNEYMAN (First); 10 years' experience Fruit and Plants; good references; age 24; disengaged; London district or North Midlands preferred.—HIBBINS, Southorpe, Stamford, Lincs.

GARDENER (Under, Inside or Out); age 20; take duty if required; good references; about four years present place.—J. ELLIS, Woodside Villa, Laughton, Shortgate, Sussex.

FOREMAN (married) or good SECOND; age 28; 13 years' first-class experience Inside and Out and Decorating; excellent testimonials.—BURNS, 56, North Road, Highgate, N.

FOREMAN or GARDENER (Second, Inside or Inside and Out); well up in Plants and Fruit, House and Table Decorations; age 28.—S., Llanberis, Honey Lane, Waltham Abbey.

FOREMAN; thorough practical experience; Stove and Greenhouse Plants, all Fruit, House and Table Decorations, Roses, Herbaceous Borders, Early and Late Forcing; excellent references. —WALKER, Kirtlington, Oxford.

FOREMAN (Inside); age 26; life experience in Fruit and Plants in good establishments, including Kingswalden Bury, Iwerne Minster, and Castle Hill, Devon.—H. GEEN, 2, Commercial Road, Exeter.

FOREMAN (Inside); good practical knowledge of Fruit and Plants gained in good establishments; 10 years' experience; age 25; disengaged.—C. BRAYBROOK, Hillside Cottage, Stondon, Shefford, Beds.

FOREMAN (Inside) seeks Situation; 13 years' experience in Fruit, Plants, and Decorating; excellent references from first-class establishments, including Highnam Court, Waddesdon Manor, and The Warren House; age 27; disengaged.—H. BALDWIN, Wilderness, Mitcheldean, Glos.

FOREMAN (Inside); age 25; 11 years' experience; well recommended.—Apply, "W.," care of Secretary, British Gardeners' Association, "Ulysses," Fortune Green, N.W.

JAMES TULLY, Osmaston Manor Gardens, Derby, can with confidence recommend T. Baines as FOREMAN (Inside) in good establishment; three years here Journeyman (First); age 26.

FOREMAN (Inside) or good SECOND.—Mr. J. V. MACDONALD, Whetstone Gardens, Edgbaston, Birmingham, wishes to recommend T. Evans as above; good experience in Fruit and Plant Houses; age 27.

FOREMAN (General); age 30; 16 years' experience in Vines, Peaches, Stove and Greenhouse Plants, Kitchen Garden, and Pleasure Grounds.—SONGHURST, Crypt Villas, Seaford, Sussex.

JOURNEYMAN (Inside) seeks Situation; 8½ years' experi nce; good references; Roman Catholic place preferred.—H. W., Box 19, 41, Wellington Street, Covent Garden, W.C.

B. H. BROOKS, Brantham Court Gardens, near Manningtree, Essex, highly recommends H. Smee as JOURNEYMAN (Second) in good establishment; age 23; five years' experience; Bothy preferred.

C. BRAY, Upper Breinton, Hereford, seeks Situation under Foreman as JOURNEYMAN; Inside preferred; age 20; well recommended.

JOURNEYMAN (Inside and Out) seeks Situation; age 19; four years' experience: Bothy preferred; recommended by Head Gardener, H. Cook.—Address, W. WILLCOCKS, Stoke Hill Gardens, Guildford.

MR. F. SLEIGHT, Conholt Park Gardens, Andover, wishes to recommend George Bick as JOURNEYMAN (Inside); age 19; 4½ years' character.—Apply, GEORGE BICK as above.

JOURNEYMAN (Second, Inside), seeks Situation; Bothy preferred; seven years' at present place.—Apply, W. HUNTER, Castle Gardens, St. Fagans, near Cardiff.

JOURNEYMAN (Inside) seeks Situation; eight years' experience; good references; disengaged.—J. BADNELL, 62, Greys Hill, Henley-on-Thames.

JOURNEYMAN age 19, seeks Situation in a good garden; four years' experience; can be well recommended.—J. WHITMAN, Newland Park Gardens, Chalfont St. Giles, Bucks.

MR. HOLLAMS would be glad to recommend Edward Frier to anyone requiring a good Lawn Man or Garden Hand; he is a quiet, industrious young fellow; age 18.—E. FRIER, The Gardens, Dene Park, Tonbridge.

MR. F. FRENCH will be pleased to recommend a Young Man, age 27, for Kitchen Garden or Pleasure Grounds; good experience; abstainer; Bothy preferred.—Apply, W. PENFOLD, Hamptons Gardens, Tonbridge.

YOUNG MAN (24) seeks Situation in Fruit and Plant Houses; 14 months in last place; longer references from previous places; seven years' experience.—A. CARD, Copseham, Esher, Surrey.

YOUNG MAN, age 23, seeks Situation as FOREMAN (Kitchen Garden); good experience; well recommended.—J. LONGHURST, The Gardens, Knott Park, Oxshott, Surrey.

YOUNG MAN, age 30, single, requires Situation; Pleasure Grounds or Kitchen Garden; good experience of all Outside work; well recommended.—A. J., Box 19, 41, Wellington Street, Covent Garden, W.C.

YOUNG MAN, 25, single, seeks Situation in Kitchen Garden and Pleasure Grounds; nine years' good experience; Bothy preferred.—H. McLEAN, School House, Morden, near Mitcham, Surrey.

YOUNG MAN seeks Situation for Kitchen Garden and Lawn work and look after Cows if required under Head Gardener; age 28.—F. BEAUCHAMP, Landford, Salisbury.

YOUNG MAN (24), single, seeks Situation in Garden, Kitchen Garden, or Pleasure Grounds; abstainer; strong and active; 11½ years' good references.—E. GREEN, Rectory, Southam, Rugby.

YOUNG MAN, age 23, seeks Situation in Kitchen Garden and Pleasure Grounds; good references; Bothy preferred.—J. MORGAN, The Gardens, Fulham Palace, London, S.W.

YOUNG MAN (22) seeks Situation under Foreman; Kitchen Garden or Inside and Out; 2½ years' experience; excellent references.—E. MUNDY, Tower House, Tidworth, Hants.

YOUNG MAN, age 20, seeks Situation in Kitchen Garden and Pleasure Grounds, with good references; Bothy preferred.—G. CRAFT, Miltons Cottage, Chalfont St. Giles, Bucks.

YOUNG MAN (24) as UNDER in Gentleman's Garden or Market Garden; near S.W. London preferred; good references.—Apply, ARTHUR SAYERS, Wendover Cottage, Westergate, near Chichester, Sussex.

TWO BROTHERS desire start in Garden; ages 18 and 20; strong and healthy; can be well recommended as good workers.—JOHNSON, North End, Worcester Park, Surrey.

IMPROVER seeks Situation in Garden; three years' experience; age 17; highly recommended by the Gardener for general work.—
W. PARSLEY, Mount Street, Diss, Norfolk.

R. LAWRENCE, Efford Gardens, Lymington, Hants, wishes to recommend C. Holland as IMPROVER (Inside); three years here; age 17; strong and active; Bothy preferred.

A. JEACOCK, The Gardens, Sharpham House, Totnes, Devon, will be pleased to recommend strong, active Youth, 18, as IMPROVER; four years' experience Inside and Out; Bothy.

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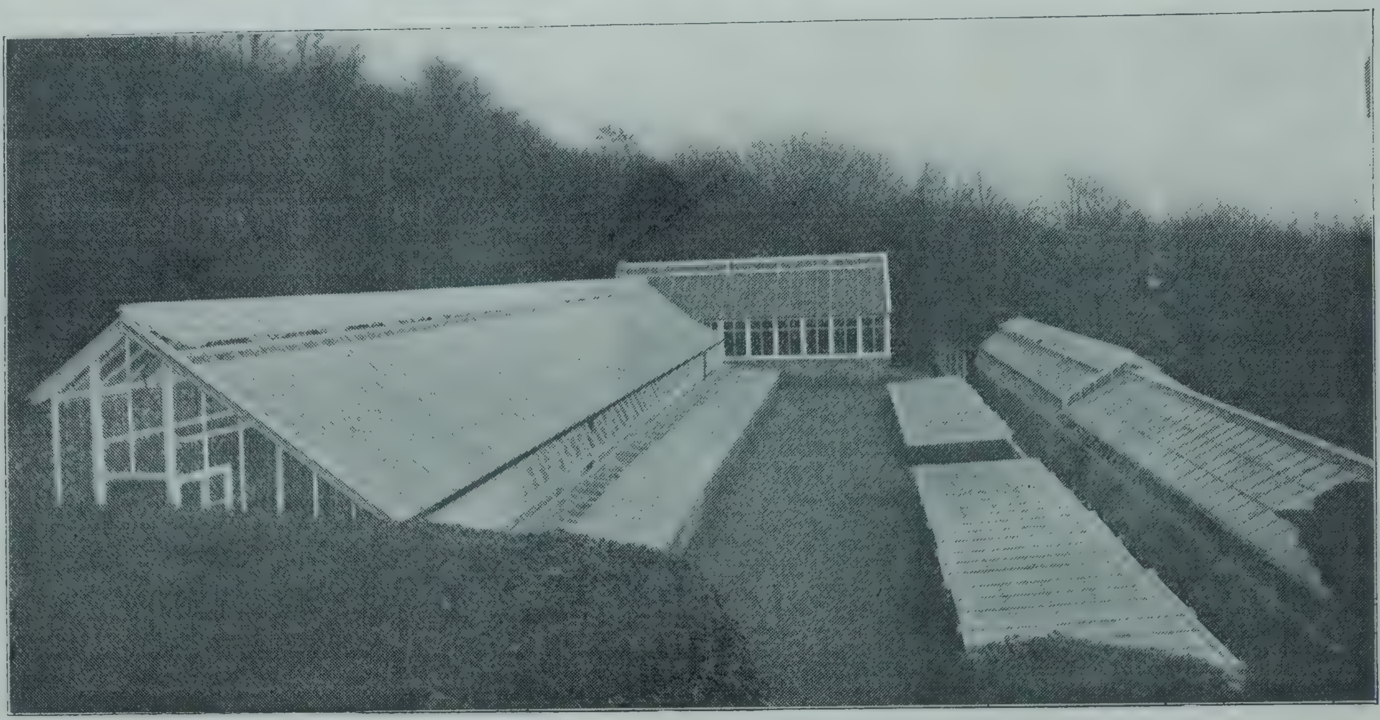

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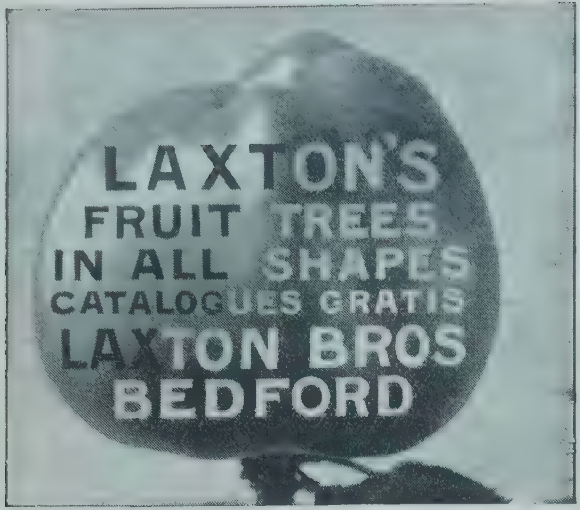

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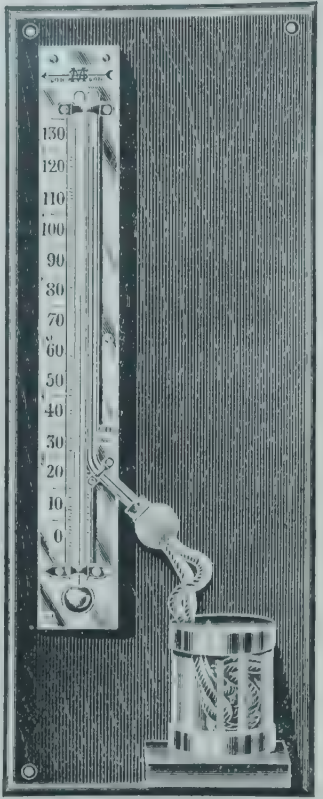

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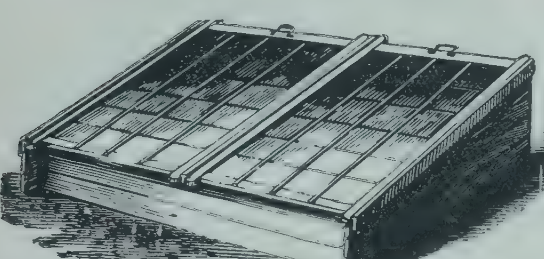

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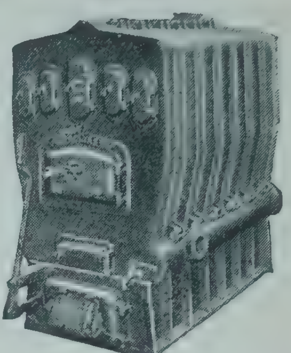

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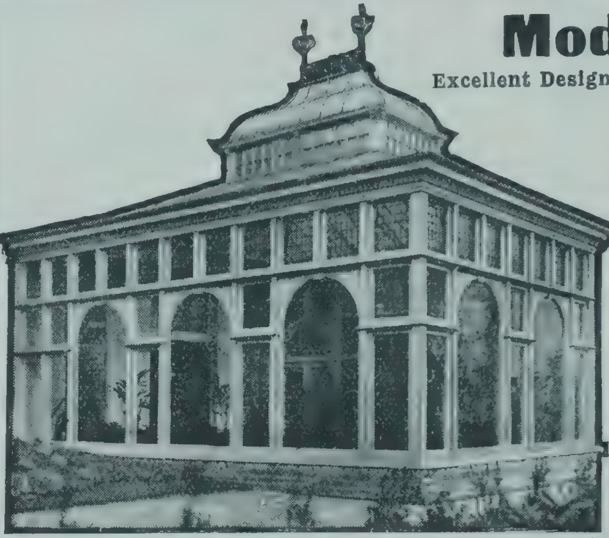

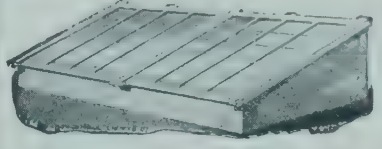

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Shanghai Municipal Council.

SHANGHAI POLICE FORCE.

POLICE RECRUITS are now required for the above force; applicants must be unmarried, about 22 to 26 years of age, of good physique, with sound teeth, about 5 ft. 10 in. in height, chest fully expanded about 38 inches, and able to procure excellent references as to character. Salary commences at taels 70 per month, equal to about £9; there are extra allowances for knowledge of modern languages, also for plain clothes men in the detective branch. Salaries rise steadily on promotion up to, in the case of Chief Inspectors, about taels 300 per month, equal to about £40. The value of the tael at present rate of exchange is about 2s. 9d., but it is liable to fluctuation. Agreement.—For three years with free passage to Shanghai, liberal superannuation scheme, free quarters, and bonus of £5 for outfit. The climate of Shanghai is much the same as in England, though both hotter and colder. Police work in Shanghai is the same kind of work as is done by any town police in the larger towns of the United Kingdom. The work in Shanghai is in no way like Colonial mounted work as done in the Colonies. Every facility is given in spare hours for enjoying all kinds of sports, such as cricket, football, cycling, &c. In addition men of good character may take a three weeks holiday per annum for the purposes of shooting, &c. Applicants for particulars must state their age, height, chest measurements, condition of teeth, particulars of trade or calling and references before terms of service and application forms will be issued to them. Apply by letter, giving these particulars in envelope marked "Police," to Messrs. JOHN POOK & CO., Agents for the Municipal Council of Shanghai, 63, Leadenhall Street, London, E.C.

WANTED, GARDENER (HEAD WORKING, six kept); near East Grinstead, Sussex; must have thorough all-round Garden experience, knowledge in carrying out alterations, planting, keeping accurate accounts, &c.; age 35 to 40; married, without family; comfortable cottage, fire, light, and vegetables.—Apply, giving full particulars as to past experience, age, wages required, and (copy) testimonials, to H. G., 24, Wellington Street, Strand, London.

WANTED, GARDENER; one used to Vegetable and Flower Growing and Glass, with occasional help; good situation for suitable man.—Address, W. DALRYMPLE, Kirby Muxloe, Leicester.

WANTED, GARDENER; clever, active Man; wife to do laundry; one child no objection; cottage in garden; wages for two, 25s.—G. G., Box 10, 41, Wellington Street, Covent Garden, W.C.

WANTED, unmarried GARDENER; small place, a little Glass; three kept.—Write, stating wages, &c., to T., care of W. H. Smith & Son, Market Square, Buckingham.

WANTED, at once, a thoroughly good all-round GARDENER for a country situation in the Newark district, Notts; small Vinery and Peach House; Gardener (Under) kept; advantageous if wife laundress; wages £1 per week and good cottage.—Reply with copies of references to Major H. J. TILNEY, Cloughton, near Scarborough.

WANTED, a MAN, about 25; thoroughly experienced in Alpine and Hardy Plants and to assist under Glass.—State age, experience, wages, W. EADES, The Grove Gardens, Harborne, Birmingham.

WANTED, MAN (INSIDE); age about 24; one capable of taking charge of a range of Houses and thoroughly up to his work; wages 17s. per week, Bothy, coals, and vegetables.—Apply, HEAD GARDENER, Cross Oak Gardens, Berkhamsted, Herts.

WANTED, Married MAN for Kitchen Gardens; wages 16s. a week and cottage. Also YOUNG MAN, age about 18 or 20, for Pleasure Grounds.—Full particulars to G. MORRIS, Houghton Lodge Gardens, Stockbridge, Hants.

WANTED, a young, unmarried MAN for Pleasure Grounds; good knowledge of Herbaceous and Rock Plants, Roses and Flowering Shrubs; duty every third week.—Please state age and wages required to A. CHALK, The Gardens, Glanmawdduch, Dolgelly, N. Wales.

WANTED, good MAN (INSIDE and OUT); good wages given; Bothy.—Apply, with full particulars, to F. T. ROSE, The Gardens, Nevill Holt, Market Harboro'.

WANTED, reliable, all-round GARDENER (SINGLE-HANDED) for private establishment; 1½ acres glass; Fruit, Vegetables, and Glass.—Apply, stating age, experience, and wages required (no cottage), E. J., Box 4, 41, Wellington Street, Covent Garden, W.C.

WANTED, GARDENER (SECOND of three, INSIDE and OUT); knowledge of Greenhouse Flowers, Carnations, &c., especially required; no Fruit except Melons; excellent personal references essential; wages £1, with cottage for married man.—Apply by letter to Mrs. HEATHCOTE, Betton Hall, Market Drayton, Shropshire.

WANTED, GARDENER (SECOND, INSIDE); must be energetic, and have thorough knowledge Fruit, Plants, &c.; age about 26; £1, Bothy, &c.; duty alternate weeks.—Particulars, BRIDGER, Stansted House Gardens, Stansted, Essex.

WANTED, GARDENER (UNDER); experienced in Mowing, &c.; married; wife to undertake laundry; wages 18s. and small cottage.—H. GOODACRE, Ullesthorpe Court, near Lutterworth.

WANTED, immediately, for Sussex, FOREMAN GARDENER (SECOND of four); married; must have had good experience under glass and in all branches of gardening; wages 17s. per week and cottage.—HEAD GARDENER, Box 12, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN (GENERAL) for the Houses; must be particularly well up in Fruit, Plants, Forcing, &c.; age not under 27; wages £1, with Bothy, &c.; none but thoroughly capable men need apply.—H. GANDY, Longleat Gardens, Warminster, Wilts.

WANTED, FOREMAN; age about 26; must be well up in Fruit growing, Carnations, Orchids, House Decorating, Mushrooms, &c.; four in Bothy; wages £1; duty once a month.—E. GOLDING, The Gardens, Tyringham House, Newport Pagnell, Bucks.

WANTED, FOREMAN for Pleasure Grounds; Roses, Alpines, Herbaceous Borders; age about 24; duty once a month; Bothy, &c.—Apply, with references, GARDENER, Havering Park, Romford, Essex.

WANTED, FOREMAN for Inside; good all-round man; five men in the Houses; wages £1 1s., Bothy.—State height, age, and full particulars to BASTIN, Buscot Gardens, Faringdon, Berks.

WANTED, smart JOURNEYMAN (INSIDE); wages 17s.; Bothy, milk, and vegetables.—F. C. PUDDLE, Scampston Hall Gardens, Rillington, York.

WANTED, JOURNEYMAN (INSIDE) for private place; wages 15s. per week and Bothy.—State age, height, experience, and send copies of testimonials, to G. G., care of PENNELL & SONS, Lincoln.

WANTED immediately, Young Man as SECOND, chiefly for Outside and assist Inside when required; duty alternate weeks; one who has some knowledge of Orchids preferred; no Bothy.—State all particulars to GARDENER, Wood Park, Windle Hill, Neston, Cheshire.

WANTED.—Will any Gardener recommend willing YOUNG MAN (Inside and Out), about 20, with good knowledge of Hardy Fruit, Vines and Chrysanthemums; wages commencing 18s.—Particulars by letter to C. A. FANE, Stone Hall, Oxted, Surrey.

WANTED, active YOUNG MAN for all-round Garden work; wages 15s. per week, Bothy, milk, vegetables.—Apply, stating age, height, experience, Mrs. MAJOR, Swalcliffe, Banbury.

WANTED, strong YOUNG MAN, about 20, for Kitchen and Flower Garden; 15s. per week and Bothy.—BILLINGTON, Rode Hall Gardens, Scholar Green, Cheshire.

WANTED, YOUNG MAN, age about 21, for Kitchen Garden and Pleasure Grounds; duty every third week; Bothy.—State age, wages expected and references, J. W. BENTON, The Gardens, Witham Hall, Bourne, Lincs.

WANTED at once, YOUNG MAN for general Garden work; good character essential; wages £1 per week, no Bothy.—GARDENER, North Court, Newport, I.W.

WANTED, good GARDEN LABOURER, with experience; good character; wages 16s. per week, cottage and garden.—Apply, D. NORMAN, Lea Castle Gardens, Kidderminster.

WANTED, LAD, about 16; chiefly Indoors; 12s., Bothy, vegetables.—LLOYD, Rushton Hall Gardens, Kettering.

WANTED, strong LAD for Kitchen Garden, &c.; 11s. a week and Bothy.—State age to HARRISON, Darley Ash, Bovingdon, Herts.

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"AUSTRALIA" returns Thanks for the gentlemen who recently applied for position advertised in the "Gardeners' Chronicle," and intimates that a selection has now been made.

WANTED, two or three really expert LANDSCAPE FOREMEN; well up in Rock Building and Alpines; only those with highest references need apply.—Full particulars and wages required to R. WALLACE & CO., Colchester.

WANTED, experienced LANDSCAPE FOREMAN (Working), with knowledge of Rockery Building.—Apply, stating experience and wages required, to GEO. JACKMAN & SON, Woking Nurseries, Surrey.

WANTED, FOREMAN; small nursery, shop; large jobbing trade; knowledge Outside stuff essential; must have held position of responsibility; to energetic man progressive situation; replies confidential.—Full particulars, A. J. CLIMPSON, Nurseryman, Harpenden.

WANTED, FOREMEN (Working) for Landscape Department, with some knowledge of Rock Building.—DICKSONS, Nurseries, Chester.

WANTED, GROWER for Herbaceous and Alpines; state experience and wages required.—J. ROBSON, Nurseryman, Altrincham.

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WANTED, GARDENERS for Ontario (Canada) Fruit and Vegetable Farms in March; £4 to £6 monthly with board guaranteed; pay own fare.—COUNCILLOR RUMSEY, Shrewsbury.

WANTED, MAN for Nursery who understands lifting and planting, also Landscape work; must be steady and reliable.—State age, experience and wages expected, with references, to FISHER, SON & SIBRAY, LTD., Royal Nurseries, Handsworth, Sheffield.

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GARDENER (Single-handed or with assistance); good general experience Inside and Out; age 28; married, no family; disengaged.—J. SEARS, Long Barn Hill, Weald, Sevenoaks, Kent,

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H. WAITE, Tapton Bank, Sheffield.

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GARDENER (Second, Inside and Out); 15 years' experience in good establishments; good references and abstainer.—SALMON, Durrington House Gardens, Harlow, Essex. (No circulars.)

GARDENER (Under, Inside or Out); age 20; take duty if required; good references; about four years present place.—J. ELLIS, Woodside Villa, Laughton, Shortgate, Sussex.

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JOURNEYMAN (Inside) seeks Situation; four years' experience; age 21; reference.—T. FALL, The Bothy, Notherwood Park, Lyndhurst.

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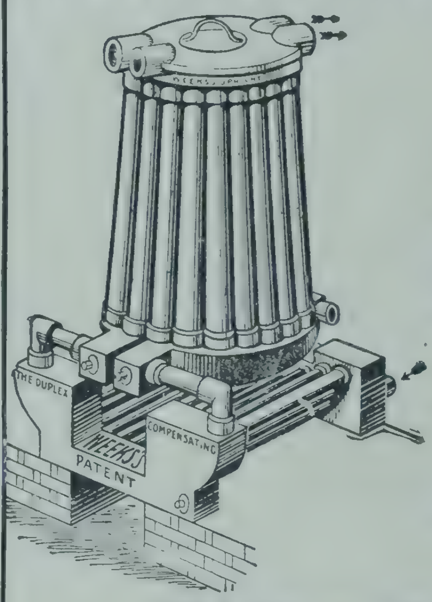

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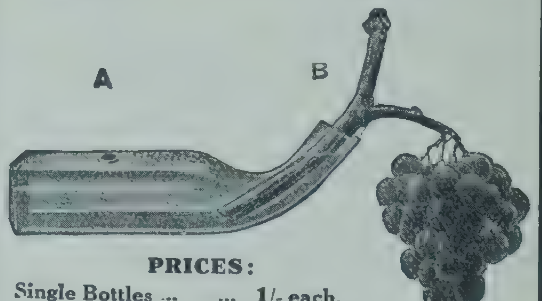

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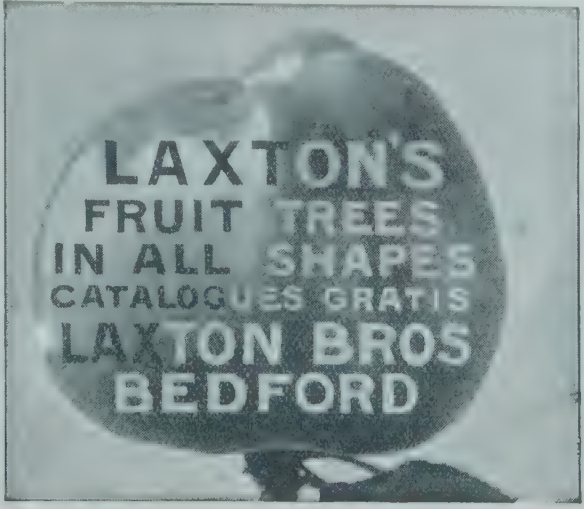

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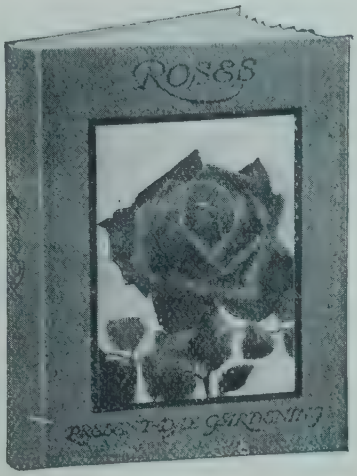

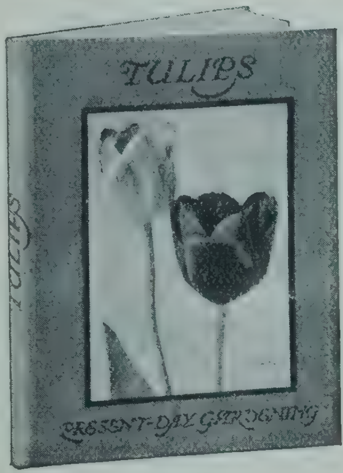

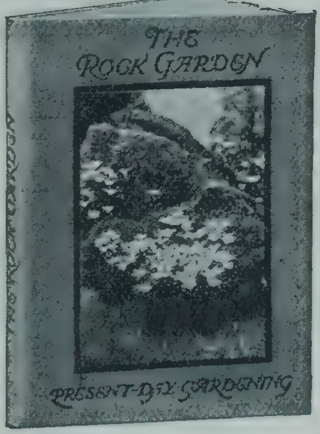

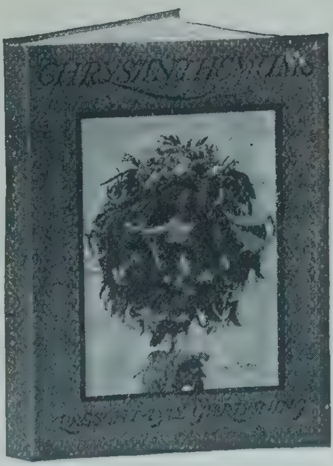

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Larch Poles for Pergolas, Arches, etc., 10 ft. long, 9 to 11 inches in circumference at base, 10/- per doz.

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Wm. Paul & Son, Waltham Cross
LTD.

respectfully invite attention to their magnificent stock of **ROSES** in all forms, of the best new and old varieties, for Autumn Planting. The quantity of plants is in advance of previous years, whilst the well-known quality of the Waltham Cross Roses is fully maintained. Priced descriptive Catalogue free on application.

Weeping Roses	**3/6 each and upwards.**		
Standards	**from**	**18/- per dozen,**	**140/- per 100**
Half Standards	**from**	**15/- ,, ,,**	**100/- ,, ,,**
Dwarfs or Bushes	**from**	**8/- ,, ,,**	**50/- ,, ,,**
Climbers	**from**	**8/- ,, ,,**	**50/- ,, ,,**

Roses, in pots, for Forcing and Greenhouse Culture, 24/- per dozen and upwards.

NEW ROSES, A LARGE COLLECTION, 2/- to 7/6 each.

WM. PAUL & SON also devote especial attention to the Designing and Formation of New

ROSE GARDENS

and to the renovation of old Rose Gardens. Plans and designs can be furnished on receipt of particulars and measurements of ground, and competent Rose Specialists can be sent to advise when desired.

BOOKS ON ROSES.—"The Rose Garden," by Wm. Paul, 10th edition, Royal 4to, with 21 coloured plates—post free **16/-.** "Roses in Pots," 9th edition—post free **2/-.** "Roses and Rose Culture," 11th edition—post free **1/-.**

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- **Deciduous Trees for Park, Roadside, and Garden Planting,** such as Limes, Planes, Elms, Oaks, Beech, Chestnuts, Birch, and others.
- **Ornamental Flowering and Foliage Trees and Shrubs,** such as Almonds, Cherries, Peaches, Crabs, Lilacs, Thorns (Pauls' Crimson and others), Purple Beech, Golden Oak, Silver Maples.
- **Flowering Shrubs prepared for forcing under glass,** including Peaches, Almonds, Crabs, Cherries, Laburnums, Thorns, and others.
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- **Cheap Evergreen and other Shrubs for Woods, Coverts and Hedges,** such as Spruce Firs, Laurels, Privet, Quick, etc.
- **Rhododendrons (from loam), for Garden, Park, and Wood Planting.**
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- **Standard Trees for Orchard and Garden Planting:** Apples, Pears, Plums, Cherries, and others. Extra strong fruiting trees are available of many kinds.
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- **Grape Vines and Figs in Pots.**
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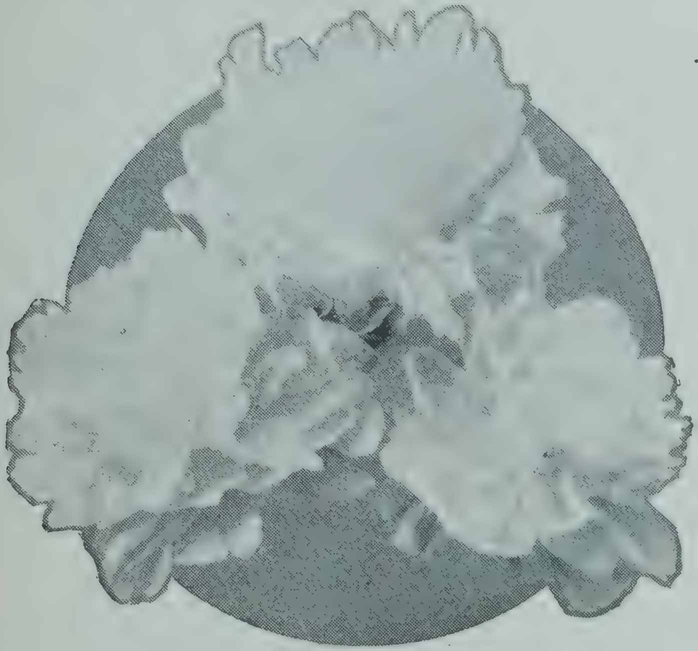

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	Each.
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,, Petraschii, A.M. ...	2/6
Sedum primuloides	2/6
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Verbascum Miss Willmott	1/-
Viola Purple Robe	1/6
Wahlenbergia vincæflora, A.M. ...	5/-

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WRITE FOR CATALOGUE.

GEORGE BUNYARD
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ROYAL NURSERIES,
MAIDSTONE.

MARKETS.

COVENT GARDEN, *November 6.*

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Wednesday, by the kindness of several of the principal salesmen, who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the way in which they are packed, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but occasionally several times in one day.—EDS.]

Cut Flowers, &c.: Average Wholesale Prices.

	s.d. s.d.
Arums (Richardias)	3 0- 4 0
Azalea, per dozen bunches	4 0- 5 0
Bouvardia, per dz. bunches	6 0- 7 0
Camellias, white, per dozen	2 0- 2 6
Carnations, per dozen blooms, best American varieties	1 6- 2 6
— smaller, per doz. blooms	12 0-15 0
— Carola (crimson), extra large	3 0- 4 0
— Malmaison, p. doz. blooms:	
— — pink	8 0-15 0
Chrysanthemums, per dozen:	
— white	1 6- 3 0
— pink	1 0- 2 6
— yellow	1 3- 3 0
— bronze	1 0- 2 6
— white, per doz. bunches	5 0- 8 0
— coloured	4 0- 8 0
— Singles in variety, per doz. bunches	15 0-21 0
Daisies (Michaelmas), various	3 0- 4 0
Eucharis, per doz.	2 6- 3 0
Gardenias, per box of 15 and 18 blms	3 0- 4 0
Gerbera Hybrid, p. doz.	1 0- 1 3
Honesty, per bunch	1 0- 1 6
Hyacinth Roman, per dz. bnchs.	10 0-12 0
Lapagerias, white, per dozen	2 6 —
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 6- 3 0
— — short	2 6- 2 9
— lancifolium alba, long	1 6- 1 9
— — short	1 6- 1 9
— speciosum rubrum, per doz.:	
— long	1 6- 1 9
— short	1 0- 1 3
Lily of the Valley, pr. dz. bnchs.:	
— extra special	12 0-15 0

	s.d. s.d.
Lily of the Vulley. pr. dz. bnchs.:	
— special	9 0-10 0
— ordinary	6 0- 8 0
Marguerite, per doz. bunches:	
— yellow	1 6- 2 0
Mignonette, per doz. bunches	3 0- 4 0
Mimosa (Acacia), per bunch	1 0 —
Orchids, Cattleya, per doz.	12 0-15 0
— Cattleya Harrisonæ, p. doz.	6 0 —
— Cypripedium	2 6 —
— Odontoglossum crispum	3 0- 4 0
Pelargoniums, p.doz. bunches	4 0- 5 0
— Double Scarlet	6 0- 8 0
Roses, 12 blooms:	
— Mrs. Ward	2 0- 2 3
— Bridesmaid,	1 6- 2 0
— C. Mermet	1 6- 2 0
— Liberty	2 6- 4 0
— Madame A. Chatenay	1 6- 3 0
— Niphetos	1 6- 2 0
— Richmond	2 6- 4 0
— Sunburst	3 0- 5 0
— Sunrise	1 6- 2 0
— Lady Roberts	1 0- 1 6
— Lady Hillingdon	1 3- 2 0
— Franz Deegen	1 6- 2 0
— Kaiserine	2 0- 3 0
Spiræa (Astilbe) japonica, per dz. bunches	5 0- 6 0
Statice, per dozen bunches:	
— mauve	2 0- 2 6
Stephanotis (72 pips)	3 6- 4 0
Stock, p. d. bnchs:	
— white	5 0- 6 0
Tuberose, p. doz. blooms, long	0 6- 0 8
— — short	0 3- 0 4
Violas, small blue, p.doz. bunches	1 0- 1 6
Violets, per dozen bunches	1 6- 4 0
— double, pr. dz. bunches	3 0- 5 0
— Parma, large bunches, each	2 6- 3 0

French Flowers: Average Wholesale Prices.

	s.d. s.d.
Anemone, double pink, per doz.	2 6- 3 0
Lilac, white, per bunch	3 6- 4 0
Mimosa, pr. bunch	0 9- 1 0
Narcissus, Paper White, pr. pad, 48 bunches	8 0- 9 0

	s.d. s.d.
Narcissus, Soleil d'Or, per doz.	3 0- 3 6
Ranunculus, dble. scarlet, per dz. bunches	8 0- 9 0
Violets, per pad of 48 and 60 bunches	4 0- 5 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Carnation foliage, doz. bunches	4 0 —

	s.d. s.d.
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, gross bnchs.	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Pernettias, per dz. bunches	6 0- 7 0
Smilax, per bunch of 6 trails	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen	9 0-12 0
Chrysanthemums, 48's	6 0-12 0
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6

	s.d. s.d.
Croton, per dozen	18 0-30 0
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, per dozen	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica hyemalis	15 0-18 0
— nivalis	15 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, per doz.	6 0 —

Plants in Pots, &c.: Average Wholesale Prices (*Contd.*).

	s.d. s.d.
Ferns, choicer sorts, per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	15 0-18 0

	s.d. s.d.
Lilium lancifolium alba. in pts., dz.	15 0-18 0
— longiflorum, p. dozen	12 0-15 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Solanum, 48's, per dozen	10 0-12 0
Spiræa japonica, per dozen pots	10 0-12 0
— pink	10 0-12 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 6- 5 0
— Cox's Orange, ½ bushel	4 0- 6 0
— Cooking, per bushel	3 0- 4 0
— American, brls.	18 0-20 0
— Californian Newtowns, case	9 0-10 0
— Nova Scotian, per barrel	13 6-17 0
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, per dozen	0 6- 1 0
— Red coloured	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 0
Blackberries, peck	2 6- 3 0
Dates, per dozen	7 0 —
Figs (Italian), bxs.	0 6- 1 0
Cranberries, p.case	9 0-12 0
Grape Fruit, case:	
— 96's — 80's — 64's — 54's	15 0-16 0
— per dozen	6 0 —
Grapes (English), per lb.:	
— Hamburgh	0 3- 1 3
— Canon Hall	2 0- 5 0
— Muscats	2 0- 5 0
— Gros Colman	0 8- 2 0
— Black Alicante	0 6- 1 6
— Gros Maroc	1 0- 1 6
— Almeria, barrel	12 0-18 0
— Lisbon, case	7 0- 8 6
Lemons, per case:	
— Malaga	22 0 —
— Messina, case	10 6-18 0
Lemons, per case:	
— Naples	28 0 —
Lychees, per box	1 6 —
Medlars, per crate	4 0 —
Melons (Guernsey)	1 9- 3 0

	s.d. s.d.
Melons (English)	1 9- 3 0
— Canteloupe	2 0- 3 6
— (Spanish), per case	14 0 —
— Bronzed, per case	10 0-12 0
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt.	48 0 —
— Spanish, per sack	40 0-42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 2½-0 3
— Walnuts per dozen lbs.	2 6—6 0
— — French, per bag	7 0- 8 0
— English doubles per dozen lbs.	6 0-10 0
Oranges:	
— Jamaica, case	10 0-13 0
Peaches	
— Canadian, per box	2 6- 3 6
— Californian, p. tray	4 0 —
Pears:	
— French, pr. box	3 0 —
— — per crate	6 0- 8 0
— English, ½ bus.	1 0- 3 0
— Doyenné du Comice, dozen	2 0- 4 0
— Dessert, per ½ bushel	3 6- 6 6
— Californian, p. case	7 0-12 0
— Doyénné du Comice, p. case	12 0 —
— Dutch Catalac, ½ bushel	3 6 —
— per barrel	7 0- 8 0
Pineapples, St. Michael	2 0- 4 0
Plums;	
— (Californian), crate	12 6-15 0
Pomegranates, per case	7 0- 8 0
— per box	2 6 —
Quinces, ½ bushel	5 0- 6 0

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	4 0- 4 3
Artichokes (Globe), per dozen	1 9- 2 6
— English	0 6- 1 0
— ground, ½ bus.	1 6 —
— Batavia, p. dz.	0 6- 1 6
Beans:	
— French, per lb.	0 6- 0 9
— Madeira, per handle	2 6 —
Beetroot, per bushel	1 0- 2 0
Cabbages, p. tally	2 6 —
— boxes	1 0- 2 0
— Red, per dozen	1 6 —
Carrots (English), pr. doz. bun.	2 6 —
— dirty, per bag	2 6 —
— washed, bag	3 0 —
Cauliflowers per — tally	5 0- 7 6
Celery, per dozen	12 0-15 0
— dirty	6 0-12 0
Celeriac, per doz.	2 0- 3 0
Cucumbers, per flat	5 0- 6 0
Endive, per dozen	0 6- 1 0
— French p. doz.	1 6 —
Greens, per bushel	1 0 —
— bags	1 3 —
Herbs (sweet), packets., per gross	7 0 —
Horseradish, 12 bundles	12 0 —
Leeks, per doz.	2 0 —
Lettuce (English), Cos, per box	1 0 —
Cabbage, per box	1 6 —

	s.d. s.d.
Lettuce, French, p. doz.	1 3 —
Mint, p. dz. bnchs.	3 0 —
Mushrooms, cultivated, per lb.	1 0- 1 9
Mustard and Cress, p. dz. punnets	0 10 —
Onions (English) per bag	3 6 —
— per bushel	2 0- 3 0
— Picklers, p. bag	4 0 —
— (Spring), per doz bunches	4 0 —
— (Spanish). case	5 0- 7 6
— Dutch, bags	3 0- 3 6
Parsley, per doz. bunches	2 0 —
Parsnips, per bag	2 6- 3 0
— per bushel	1 6 —
Radishes (English) per dozen	0 10- 1 0
Sage, per dozen	1 6 —
Seakale, punnets	2 0 —
Spinach, ½ bushel	1 0- 1 6
Sprouts, ½ bushel	1 0 —
— per bushel	1 6 —
— bags	1 6- 2 0
Tomatos, per doz. lbs.:	
— (Guernsey),	2 6- 3 6
— (English)	2 6- 3 6
— seconds	1 0- 1 3
— (Canary) per bundle	10 0-12 0
Turnips (English), per dz. bunches	1 3- 2 6
— per bag	2 0- 2 6
— unwashed, bag	2 0 —
Turnip tops, bushel	1 0 —
Watercress, p. dz. bunches	0 4- 0 6

REMARKS.—There is no change to report in the English Apple trade; the supply is still good. Large consignments of Apples are arriving from Nova Scotia, York Imperial being probably the best variety. There are also fairly large supplies of Apples from California and Washington, U.S.A.; the principal varieties from the latter district are Grime's Golden, Jonathan, Wine Sap, and Spitzenberg—which is much appreciated for its excellent colour and flavour. Californian Pears are arriving in good condition, and meet with a steady trade. Doyenné du Comice Pears from home growers, Jersey and the Colonies, are very plentiful, and meet with a steady demand. All varieties of Black Grapes are still very plentiful, but Canon Hall Muscat and Muscat of Alexandria will now be getting scarcer; selected samples are already in demand. Varieties of Californian Plums, including Coe's Golden Drop and Silver Prunes, are obtainable in limited quantities. Supplies of English Walnuts are shortening, but French Grenoble Walnuts are very plentiful, as also are Cobnuts and Chestnuts. There still continues to be a good supply of English Tomatos, the colour and general condition of the fruits, considering the time of the year, being excellent, Teneriffe Tomatos are an increasing supply. Mushrooms are exceptionally plentiful for the time of the year, especially from the Worthing district. The commoner vegetables are abundant. *E. H. R., Covent Garden, November 6, 1912.*

Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 4 6
Kents	4 0- 5 0
Blacklands	3 6- 4 0
Lincolns	3 6- 5 0

	per bag. s.d. s.d.
Dutch	2 9- 3 6
Belgian	3 0- 3 9
German	3 6 4 0

REMARKS.—Trade is very steady; best English Potatos are in demand, but inferior tubers are a slow trade. The market is glutted with Foreign Potatos and prices for these are lower. *Edward J. Newborn, Covent Garden and St. Pancras November 7, 1912.*

THE WEATHER.

THE WEATHER IN WEST HERTS.

Week ending November 6.

A change to warmer weather.—The weather was cold in the early part of the week, but the last three days have been warm for the time of year. The change in the night temperature was very sudden, for after four very cold nights when the exposed thermometer registered from 13° to 15° of frost the same thermometer on the following night only fell to 38°, making that night 21° warmer than the night before. The ground is at the present time 2° colder, at 2 feet deep, and 1° colder at 1 foot deep, than is seasonable. Rain fell on four days to the total depth of half-an-inch. During the week 2½ gallons of rainwater have come through the bare soil percolation gauge, and 3 gallons through that on which short grass is growing. The sun shone on an average for 2¾ hours a day, or for half-an-hour a day longer than is usual at the same period in November. On one day the sun was shining brightly for six hours, but on two other days no sunshine at all was recorded. On the first day of the week the wind was rather high, but since then light airs and calms have alone prevailed. The mean amount of moisture in the air at 3 o'clock in the afternoon fell short of a seasonable quantity for that hour by 7 per cent.

OCTOBER.

Very cold and calm, and rather dry, with a good record of sunshine.—This was, with one exception, the coldest October for 16 years. The days were, as a rule, only slightly below the average in temperature, but the nights were as much as 5° colder than is usual in October, and colder than in any October since 1888, or for 24 years. On the warmest day the temperature in the thermometer screen rose only to 63°, and on the coldest night the exposed thermometer registered 13° of frost. Both of these extreme readings are very low for the month, the highest maximum being, with one exception (1905), the lowest for 16 years, and the lowest minimum reading, with one exception (1905), the lowest for 17 years. Rain fell on 13 days, to the total depth of 2½ inches, which is half an inch below the average for October. Nearly the whole of the rainfall was deposited on the first day and last six days of the month, for very little fell during the intervening 24 days. The sun shone on an average for 3¾ hours a day, which is three-quarters of an hour a day longer than the average duration for the month—making this the brightest October since 1900, or for 12 years. Taken as a whole, this was a calm October, and in no hour did the mean velocity of the wind exceed 15 miles. The average amount of moisture in the air at 3 p.m. fell short of a seasonable quantity for that hour by 6 per cent. In fact, the air at that hour was drier than in any October for 24 years. *E. M., Berkhamsted, November 6, 1912.*

DEBATING SOCIETIES.

READING GARDENERS'.—The usual fortnightly meeting of this association was held on Monday, the 21st ult. Mr. F. G. Drew, chairman of the committee, gave a lecture on "Fruit Tree Stocks." The lecturer gave his experience as to the comparative values of various stocks on different kinds of soil. Trees in different stages of growth worked on Apple and Pear stocks were exhibited, and also specimens of the stocks themselves, showing their respective root systems and characteristic growth.

BRISTOL AND DISTRICT GARDENERS'.—A meeting of this society was held on the 31st ult. Dr. Shingleton Smith presided over a large attendance of the members. Mr. Powell, a member of the Reading Gardeners' Society, gave a practical demonstration in table and room decoration with flowers.

TRADE NOTICES.

ROYAL WARRANT.

Messrs. F. Scott and Sons, Horticultural Specialists, Woodside, London, have been granted a Royal Warrant of Appointment to His Majesty King George V.

CHANGE OF ADDRESS.

THE Standard Manufacturing Company, late of 37, Hillcrest Crescent, Leeds, has removed to Rowditch, Derby.

GARDENING APPOINTMENTS.

[Correspondents are requested to ***write the names of persons and places as legibly as possible.*** *No charge is made for these announcements, but if a small contribution is sent, to be placed in our collecting Box for the Gardeners' Orphan Fund, it will be thankfully received, and an acknowledgment made in these columns.]*

Mr. Wm. Hy. Stephens, late of Stanshawes Court, Gloucestershire, and formerly at Prescot House, Worcestershire, as Gardener to Judge Amphlett, Wychbold Hall, Droitwich, Worcestershire.

Mr. Herbert Stonebridge, for the past 7½ years Gardener to J. H. Cooper, Esq., Dashwood, Gravesend, as Gardener to W. R. Preston, Esq., Seend Park, near Melksham, Wiltshire. (Thanks for 2s. which has been placed in the R.G.O.F. box.—Eds.)

Mr. R. Dawe, late Gardener to Major Wait, R.E., as Gardener to W. A. Platt, Esq., Alverbank, Stokes Bay, Alverstoke, Gosport, Hampshire.

Mr. J. A. Peskett, for nearly 10 years Gardener to Gerald W. Bond, Esq., Creech Grange, Wareham, Dorset, as Gardener to Heath Harrison, Esq., Le Court, Liss, Hampshire.

Mr. T. Garrett, for upwards of 2 years general Foreman at Longleat Gardens, Warminster, and previously Foreman at Ammerdown Park, Radstock, as Gardener to Sir W. J. Hollams, Dene Park, Tonbridge.

Mr. Sidney Myers, for 10 years with Messrs. Smith Bros., Uitenhage, Cape Provence, previously with Messrs. H. B. May & Sons, London, and at Castle Ashby, Northampton, as Curator of the Municipal Park, Somerset East, Cape Provence. (Thanks for donation of 1s. for the R.G.O.F. box.—Eds.)

Mr. William F. Rowles, for the past year Gardener to Lord Ninian Crichton-Stuart, Falkland Palace, Fifeshire, and previously for 5 years Foreman in the gardens of the Marquis of Bristol, Ickworth, Bury St. Edmunds, as Gardener to H. Hoare, Esq., Ellisfield Manor, Basingstoke, Hampshire.

Mr. H. W. Bromley, for the past 18 years Gardener to Sir Frank Forbes Adam, Mere Old Hall, Knutsford, as Gardener to R. Dempster, Esq., Vale Royal, Hartford, Cheshire. (Thanks for 2s. for R.G.O.F. box.—Eds.)

(We are retaining this column week by week to take our readers on "flying visits" to our new Exhibition Warehouses and Testing Grounds at Raynes Park, Wimbledon, which are always open to the public.
JAMES CARTER & CO.,
The King's Seedsmen.)

BLOSSOMS FROM CHRISTMAS TO EASTER.

Were the founders of our old-established city firms to come back to life and pay a visit to the scenes of their enterprises, what of all the latter-day changes would most surprise them?

Possibly the marvels of the telephone; possibly the clattering typewriting machines or the wonders of the electric appliances; but, most probable of all, the "office-gardens"—the gay bowls and shapely glasses of delicately-scented Hyacinths, nodding Daffodils and graceful Narcissus, presenting so daring a relief to the sombre atmosphere of the offices.

* * * *

And if it be true that the spirits of our ancestors attend our Yuletide festivities, what must they think to see, in the depth of winter, windows, odd corners, and feast-laden tables beautifully decorated by a brave show of Lilies of the Valley and Roman Hyacinths?

* * * *

For winter is no longer blossomless. Be the world outside never so barren, unpromising or heavy with gloom, we may yet have the golden glory of the Daffodil, the waxen beauty of the Hyacinth, and the graceful charm of the Narcissus throughout the dreary months to Easter!

* * * *

Twenty-five years ago Messrs. James Carter & Co. received from their China agents the first parcel of the Chinese Sacred Lily. This happy chance was the birth of Indoor Gardening, the Chinese Sacred Lilies doing so well in drainless bowls that experiments were undertaken, and to-day we have a list of Daffodils and Narcissus which give a home-beautifying hobby which, every autumn, finds its captivated followers vieing with each other to possess the most beautiful display of blossoms.

* * * *

An almost inexhaustible variety of artistic bowls and glasses for indoor gardening attracts the admiring visitor to Raynes Park, and courteous members of the staff give him in a nutshell the whole of the fascinating story of indoor gardening.

(Next week Daffodils.)

JAMES CARTER & CO.

BOARD'S PATENT WIRE-TENSION GREENHOUSES

Light and Elegant.
Imperishable
Iron Frame Roof.
No Putty.
No Outside Roof Painting
Flat Glass.
No Drip.

A UNIQUE INSURANCE!

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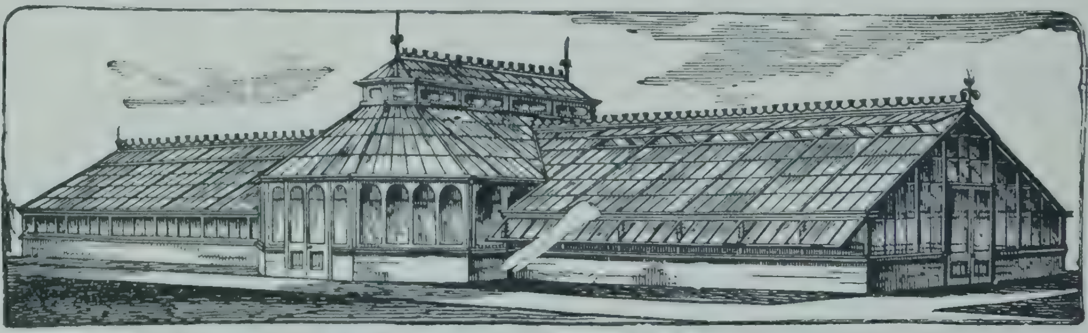
Horticultural Builders, **BRISTOL.** Heating Engineers.

HEATING APPARATUS OF ALL DESCRIPTIONS.
SECTIONAL OR TUBULAR BOILERS.

Five 1st Prize Medals recently awarded in open Competition.



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ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories, and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot-bed Boxes, &c.,** always in stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

By Appointments to His Majesty KING GEORGE. H.M. Queen Alexandra and the late KING EDWARD.

SANKEY'S *famous* GARDEN POTS

THE BEST AND CHEAPEST.

SPECIAL POTS for Chrysanthemums, Roses, Vines, Clematis, Orchids, etc.

ARTISTIC FERN PANS & BULB BOWLS
at slightly more than ordinary pots.
State quantity of each size required and have **carriage paid** quotation (carriage is sometimes as much as 50 % of value of pots), or write for Price List, free.

RICHARD SANKEY & SON, LTD.,
Bulwell Potteries, NOTTINGHAM.

TURF LOAM.
Very Fibrous Yellow Turf Loam.
SPECIALLY SUITABLE FOR VINE BORDERS
Carnations, Roses, Fruits under Glass, etc., etc.
7/6 per yard. Bag, **2/-** Samples Free.
Quotations Carriage Paid to any Station.
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Now is the best time to use Cyanide for the destruction of
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MACHINES, 6/6 each.
Glass Measures, 1/3 ea. Sodium Cyanide, 4/6 per lb.
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SOLD EVERYWHERE in **6**d. and **1/- TINS**; and in **BRANDED** and **SEALED BAGS,** 7 lbs., **2/6**; 14 lbs., **4/6**; 28 lbs., **7/6**; 56 lbs., **12/6**; 112 lbs., **20/-**. Or direct from the Works, Carriage Paid in the United Kingdom for Cash with Order (except **6**d. **TINS**).

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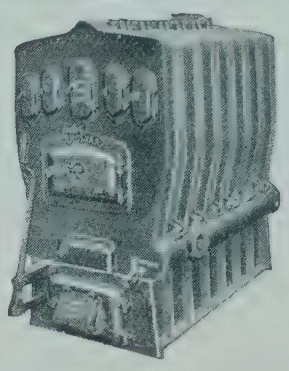

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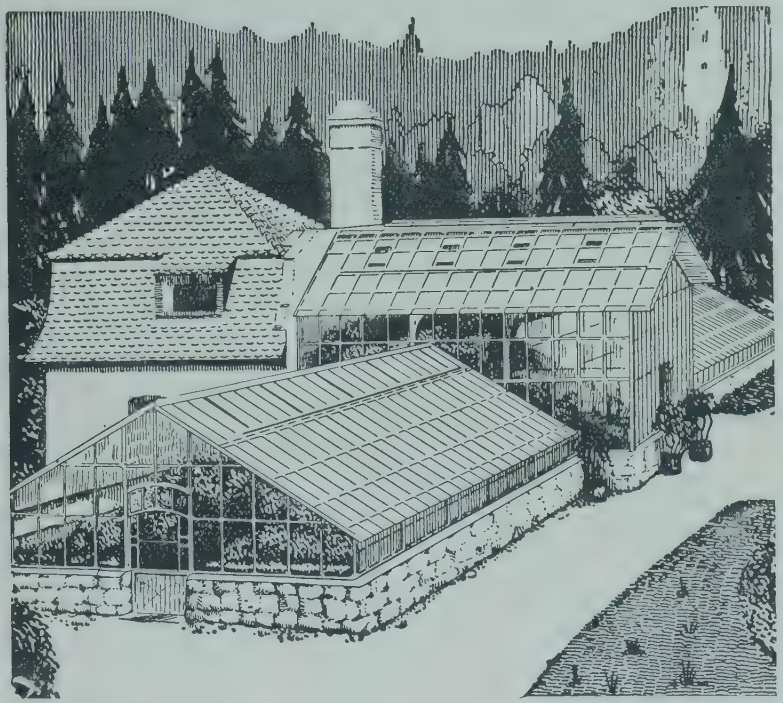

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SAVE HALF THE COST. GARSIDE'S BEDFORDSHIRE SILVER SAND (COARSE OR FINE)

Is admitted by the leading Nurserymen to be **the Best Quality** obtainable in the Trade. Consumers should **Buy Direct** from the Owner of these Celebrated and Extensive Pits, which contain **a** practically inexhaustible supply of Splendid Sand, and thus *save half the ordinary cost.* **Apply Direct to the Proprietor for Samples and Prices** free on Rail or Canal. *All orders executed with the utmost promptness and under personal supervision.* Special Railway Rates in force to all parts. All kinds of **PEAT** supplied at lowest possible prices. Sample Bag sent on application to—

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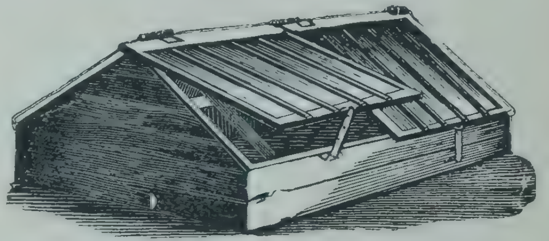
OUR WELL-KNOWN MAKE.



These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by anyone.

Sizes and Prices, Glazed and Painted.

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6 feet long, 3 feet wide	CASH PRICES, CARRIAGE PAID.	2	0	0
6 feet ,, 4 feet ,,		2	5	0
6 feet ,, 5 feet ,,		2	15	0
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Larger Sizes at Proportionate Prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
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After this wet season sweeten your land with

Fine Ground LIMESTONE

the best, safest, and most convenient form in which Lime can be applied to Land and Crops, as proved by practice and theory. Do not buy it unless it is finely ground, ours is as

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We have just commenced cutting from several EXTENSIVE ESTATES.
FAVOURABLE RATES TO ALL STATIONS. Samples sent post free.
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EVERYTHING in BAMBOO from TWIGS to YACHT MASTS. **DYED GREEN BAMBOOS**—BAMBOO TUBES for threading on to wire for training creepers—BAMBOO BROOMS, &c., &c. **RAFFIA** STICKS, STAKES and LABELS. **ARCHANGEL MATS**, and other horticultural sundries. *Wholesale and Retail. Price Lists post free.*

A. E. DAVIES & CO.,
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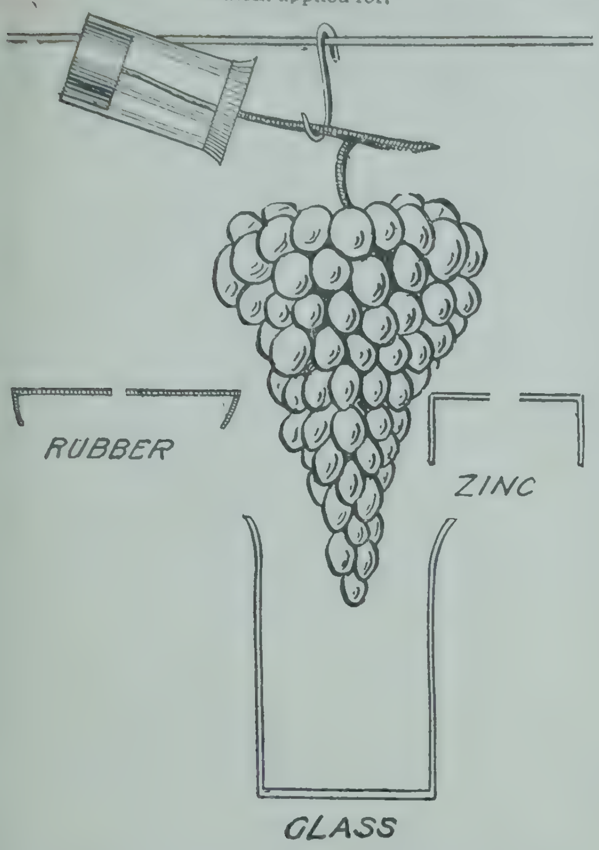
In consequence of the increase in the circulation, and also of the earlier despatch of the morning trains from London, the hour of going to press has been again advanced, and in future Advertisements received after 5 p.m. on WEDNESDAY will be held over till the following week. On no consideration whatever will any exception be made to this rule.

Taylor's Grape Preserver

Patent applied for.



Suspended on a wire in any odd corner of a frost-proof room, well-ripened grapes will keep perfectly fresh for months without replenishing the water. Price **10/6** per doz. Special price for large quantities. Sample, with particulars and experts' opinions, post free, **1/2**.

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The Gardeners' Chronicle

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Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than

WEDNESDAY, 5 p.m.

		£	s.	d.
Ordinary Positions	per page	10	10	0
Facing matter and Back page ...	,, ,,	12	12	0

Half and quarter pages, column and half column spaces, pro rata.

	£	s.	d.
4 line space, about 20 words, single column ...		3	0
Per inch, single column		7	0
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Series Discounts.

For three insertions, 5%; thirteen, 10%; twenty-six, 15%; fifty-two, 20%

Front page (no display allowed) **1/-** per line space.

SITUATIONS WANTED

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These Advertisements must be prepaid, **AND APPLY ONLY TO GARDENERS, &c. OUT OF EMPLOYMENT.**

Advertisers may have replies to their advertisements addressed to the "Gardeners' Chronicle" Office. A Box Office fee of 6d. is charged for each advertisement, and replies are forwarded post free at the end of each day.

The boxes for answers to advertisements are provided for the use of advertisers only, and no matter will be forwarded which is not, in the opinion of the Publisher, a bona-fide or specific answer to an advertisement. The boxes are not to be used for the distribution of printed or written announcements, or for the benefit of competing businesses. All advertisements and replies are accepted subject to the above conditions.

SUBSCRIPTIONS:—

The United Kingdom	**15/-** per annum.
Abroad	**17/6** ,,

Cheques and P.O.'s to be made payable to "Gardeners' Chronicle, Ltd."

41, WELLINGTON STREET,
COVENT GARDEN, LONDON, W.C.
Telegrams "Gardchron, Rand, London."
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CALENDAR OF GARDEN OPERATIONS

New and enlarged Edition just issued.

Indispensable to Cottage Gardeners, Allotment Holders and Amateur Gardeners.

Price 6d.; post free, 8d.

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"It is a concise and practical manual, from which possessors of small gardens in country or town may obtain much useful advice and guidance."—*Nature.*

"A vast improvement on the numerous editions which have been issued, and can be highly commended for those who lecture on horticultural subjects."
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"This book has had an enormous sale—a fact which is not surprising considering the splendid value given for the low price charged—sixpence. The new edition is well illustrated and contains new chapters on 'French Gardening,' and on the cultivation of trees in towns."
—*The Nurseryman and Seedsman.*

"There is no better sixpennyworth of guide to amateur gardening on a small scale."—*The Westminster Gazette.*

"The information given covers every department of gardening operations, so the Guide should prove of great assistance to all who are interested in any branch of the subject. The advice is conveyed in a concise, practical, and simple manner, and the value of the text is greatly enhanced by the number of excellent illustrations and diagrams which accompany it. Every amateur can be assured of finding something to interest and instruct in a perusal of the pages of this work, and the 'Calendar' should not fail to find a prominent place on his bookshelf."
—*The Observer.*

"A most valuable work for the amateur gardener."
—*The Lady.*

"Cottage gardeners, allotment holders, and amateur gardeners will find it a very useful handbook to consult."
—*The Gentlewoman.*

"Offers to all who possess even the smallest piece of ground, complete guidance as to what to plant and how to plant for every season of the year."
—*Universe and Catholic Weekly.*

"Is an excellent compendium for the use of cottage gardeners, allotment holders, and amateur gardeners."
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"One of the most important and invaluable books for the amateur to possess in particular is a good calendar, and in the work under review, this want is supplied in a most comprehensive manner."—*Purley Gazette.*

"It is full of interesting and general information as to the growing of fruit, flowers, and vegetables, and how to protect them from destructive garden pests."
—*The Western Daily Press.*

"The information with which the 170 pages are crammed has been brought thoroughly up to date, and chapters added on the cultivation of trees and shrubs in towns and on 'intensive culture,' as vegetable forcing is now termed."
—*Norwich Chronicle.*

"Copiously illustrated and free from technicalities, it should command a ready sale and unstinted appreciation."
—*Manchester Weekly Times.*

"The amateur gardener and the small holder will find it a most useful little book."
—*The Yorkshire Weekly Post.*

"A handbook of practical information prepared by experts associated with the Gardeners' Chronicle."
—*The Scotsman.*

"Cottage gardeners, allotment holders and amateur gardeners will find the book of service."
—*The Dundee Advertiser.*

"Gives instructions in regard to operations connected with vegetables, fruit and flowers for the different months of the year; and there follow a number of valuable articles on special subjects."—*Aberdeen Journal.*

"As a guide and instructor to amateurs, this calendar is invaluable, and few volumes give as good value for sixpence."—*Irish Gardening.*

"It is excellent value for the money."
—*Cork Constitution.*

THE PUBLISHER,
"Gardeners' Chronicle" Offices, 41, Wellington St.
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Four Lines 3s. (Head-line counted as Two), 6d. for each succeeding line.

PRIVATE.

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W. GOODMAN wishes to Thank applicants for IMPROVER'S vacancy, which is now filled

NORTHUMBERLAND EDUCATIONAL COMMITTEE.—Instructor in Gardening required; salary £120, rising by increments to £150, with allowances for travelling. Schedule of duties and form of application may be obtained by sending stamped addressed envelope to the undersigned.

C. WILLIAMS,
Secretary.
The Moothall,
Newcastle-on-Tyne.

WANTED, GARDENER (Head Working); young married man as Head of three, with thorough practical experience, Inside and Out; must be energetic and trustworthy; house free.—Apply, giving full particulars, to G. A. RIDLEY, Hagley Nurseries, near Stourbridge.

WANTED.—Will any Gardener recommend young married man for Outside work, Kitchen Garden and Pleasure Grounds? Good cottage with garden.—Full particulars and wages required to A. EPPS, The Gardens, Marsh Court, Stockbridge, Hants.

WANTED, GARDENERS for Ontario (Canada) Fruit and Vegetable Farms in March; £4 to £6 monthly with board guaranteed; pay own fare.—COUNCILLOR RUMSEY, Shrewsbury.

WANTED, GARDENER (Single-handed) with good references and experience.—Apply by letter, H. BLUMBERG, 230, Finchley Road, Hampstead, N.W.

WANTED, GARDENER (Second), about 26; married; Inside and Out; good at Herbaceous Borders and Fruit Trees; 18s. a week and house.—Apply, L., Adbury House, Newbury.

WANTED, GARDENER (Second of four); Inside and Out; experienced; unmarried; wages 18s., with Bothy.—Full particulars to Miss STEDALL, Langley, near Slough

WANTED, GARDENER (Second of three); well up in Herbaceous Borders, Roses, and small Rockery.—Holly Hill, Stoke Poges, Slough.

WANTED immediately, strong, active Young Man, about 26, as SECOND of four; must have good knowledge of Hardy Fruit, Roses, and general Outside work and assist Inside when required; duty alternate weeks; wages 19s. per week and lodgings.—W. BARNES, St. Leonard's Lodge Gardens, Clewer, Windsor.

WANTED, JOURNEYMAN (First, Inside); must thoroughly understand Vines and Strawberries; eight inside; age not under 23 years; wages 19s. per week, with Bothy.—State height and full particulars to S. W. TUCKER, Longford Castle Gardens, Salisbury.

WANTED, a smart, energetic JOURNEYMAN; not under 23 years of age; must be a good Plantsman, and have a knowledge and taste for Decorating; wages 18s. per week, Bothy, milk, and vegetables.—G. H. CLARK, Wexham Park, Slough.

WANTED, smart, active JOURNEYMAN, experienced in Fruit, Carnations, and Plants generally; salary 18s., Bothy, &c.—State particulars to DICKSON & ROBINSON, The King's Seedsmen, Manchester.

WANTED, JOURNEYMAN (Inside and Out); good knowledge of Wall Fruit essential; Bothy.—Apply, with full particulars, to JOHN T. TUBB, Bear Wood Gardens, Wokingham, Berks.

WANTED, strong, active YOUNG MAN for Herbaceous Borders, Kitchen Garden, and Lawn Mowing; wages 17s. weekly and Bothy; state age; take duty third week.—Apply, PARKER, Stauntonharold, Ashby-de-la-Zouch.

WANTED, YOUNG MAN, single, age about 24, for Kitchen Garden and Pleasure Grounds; take Duty.—State wages and experience (no Bothy), A. SMITH, Sudbury House Gardens, Harrow-on-the-Hill.

WANTED, YOUNG MAN, about 24, for Kitchen Garden and Pleasure Ground; duty, 16s., Bothy.—FUNNELL, Lanwades Hall, Newmarket.

WANTED, for the Orchid Houses, a smart Young Man; must have good experience; wages 21s. and Bothy.—Apply, with copies of references, to JAS. SMITH, The Gardens, Arddarroch, Garelochhead, N.B.

WANTED.—Can any Gardener recommend Young Man as THIRD HAND for Outside? Must be strong and willing; age from 19; wages 13s. and room.—C. CHANDLER, Norton, Yarmouth, Isle of Wight.

WANTED, intelligent YOUTH for Inside and Out; wages 10s. weekly, Bothy, &c.—W. WINGFIELD, Doddington Gardens, Nantwich.

WANTED, strong YOUTH, about 18 chiefly Outside; wages 12s. per week, with Bothy, &c.—A. SMITH, Easton Neston Gardens, Towcester.

TRADE.

Middlesbrough Education Committee.

LINTHORPE CERTIFIED INDUSTRIAL SCHOOL.

WANTED, a single Young Man as GARDENER for this Institution; experience in Market Gardening a recommendation. The person appointed will be required to take his turn on supervision duty with the other officers. Salary, £48 per annum, with board, lodging, and washing.—Applications, stating age, present occupation and experience, together with copies of recent testimonials, to be forwarded to Mr. A. ROBERTSON, Superintendent, Industrial School, Middlesbrough, as early as possible.—J. S. CALVERT, Secretary, Education Offices, Middlesbrough. November 7th, 1912.

WANTED, experienced GROWER to take charge Ferns, Cucumbers, Bulbs, Bedding Stuff; 400 feet glass; Midlands.—K. N., Box 6, 41, Wellington Street, Covent Garden, W.C.

WANTED, working, practical MAN; thoroughly experienced in Fruit Growing for Market, to lay out and carry on Orchard; one with knowledge of Glass preferred; first-class references indispensable.—Apply, stating wages required and experience, to LOVETT, Highfield, Halberton, Tiverton, Devon.

WANTED, a good GARDENER (Second) for the Houses; Fruit, Palm, Fern, Bedding, and other Plants, also Roses and Herbaceous Plants; wages 23s.—Apply, A. LUFF & SONS, Nurserymen, New Malden.

WANTED, FOREMEN (Working) for Landscape Department, with some knowledge of Rock Building.—DICKSONS, Nurseries, Chester.

WANTED, FOREMAN (Working) in Landscape Gardening Department; experienced in Ground work, laying Lawns and Planting.—Full particulars, with wages asked, to KING'S ACRE NURSERIES, LTD., Hereford.

WANTED, first-class GROWER for forcing Roses, Carnations, Tomatos, &c.; good chance for honest, hardworking man; abstainer preferred.—S. H., Box 27, 41, Wellington Street, Covent Garden, W.C.

WANTED, a reliable MAN, with good knowledge of Ornamental Trees and Shrubs, Climbers, &c., to assist in lifting and packing orders under Foreman; permanent situation to a smart man.—Apply, stating wages, age, height, with copies of references, to GAUNTLETT'S, LTD., Japanese Nurseries, Chiddingfold, Surrey.

SEED GROWING.—Wholesale house requires representative in Essex; must be a practical man with good knowledge of Stocks, and well acquainted with all classes of growers.—Apply, giving full particulars of experience and state wages required, to S. C., Box 17, 41, Wellington Street, Covent Garden, W.C.

WANTED, YOUNG MAN for Outdoor Rose Department, with experience in Budding, lifting and execution of orders.—State full particulars of experience and wages required, to
CLIBRANS, Altrincham.

WANTED, smart YOUNG MAN; quick potter; experienced in general Nursery work; state wages and references.—R. J. SMALE, Fulwell Nursery, Twickenham.

WANTED an energetic YOUNG MAN to extend Seed Trade; well up in Garden and Farm Seeds; must be progressive; state age, wages required, references, and what experience in postal trade.—Full particulars to "SEASIDE," South Devon, Box 18, 41, Wellington Street, Covent Garden, W.C.

SEED TRADE.—Wanted by Scotch House, smart JUNIOR ASSISTANT, with general knowledge of Retail Trade.—Apply, with copies of testimonials, stating age, experience, and salary expected, to R. E., Box 15, 41, Wellington Street, Covent Garden, W.C.

SEED TRADE.—There is an opening in a large establishment for an ASSISTANT SHOPMAN, with general experience and accustomed to brisk Counter Trade.—Apply, with copies of testimonials, stating age, experience, and salary expected, to T. P., Box 15, 41, Wellington Street, Covent Garden, W.C.

CLERK with Horticultural experience wanted by firm not engaged in Nursery or Seed line, but doing business with Nursery and Seed trades; able to control small clerical staff and deal with correspondence; permanency for reliable man.—State age, qualifications and wages, to "PROGRESS," Box 23, 41, Wellington Street, Covent Garden, W.C.

ENGLISH LIMITED have a vacancy for a SHOPMAN for their Horticultural Depot, Baldwin Street, Bristol; must have a good knowledge of Roses, Fruit Trees, Bulbs, Herbaceous Stuff, &c., and be a good Salesman.—Particulars to ENGLISH LIMITED, Horticultural Providers, Gloucester.

WANTED, SECOND or JUNIOR SHOPMAN; knowledge of Seeds, Bulbs, Plants and Floral work; able to take charge.—Send references and wages required to B. LADHAMS, The Shirley Nurseries, Southampton.

WANTED, for Florist's Business, JUNIOR CLERK; quick at figures; had experience; thoroughly reliable.—Apply own handwriting, stating age, references, and wage, to Z., Box 22, 41, Wellington Street, Covent Garden, W.C.

TO FLORISTS.—Wanted a first-class GENERAL HAND (male); must be a good maker up; permanency.—Apply, CLEMENT LEROY 153, High Street, Notting Hill Gate.

WANTED (Yorkshire) Young LADY FLORIST; good designer and saleswoman; smart appearance; tall; not over 25.—State experience, references, wage required, to R. E., Box 21, 41, Wellington Street, Covent Garden, W.C.

SITUATIONS WANTED.

Twenty-six words for 1/6, & 6d. for each succeeding Eight words or less.

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Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal authorities and returned to the Sender

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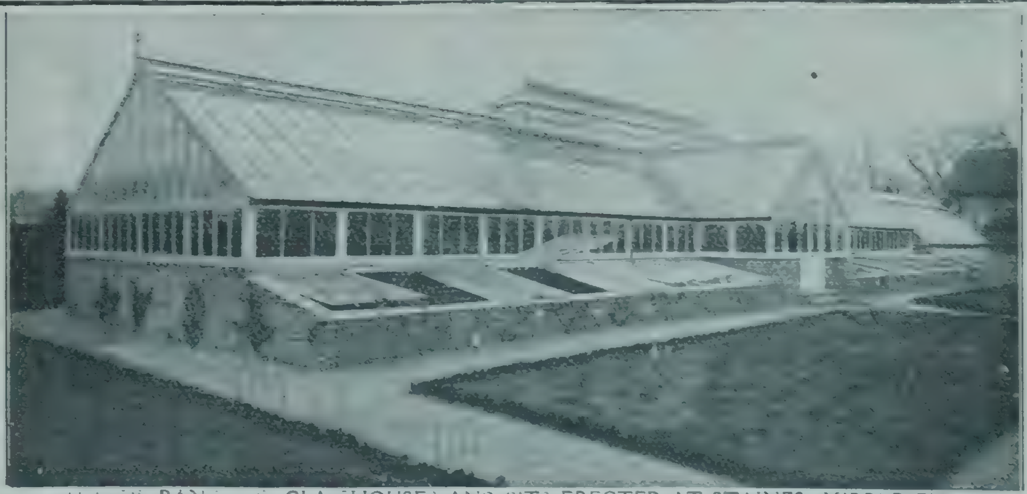

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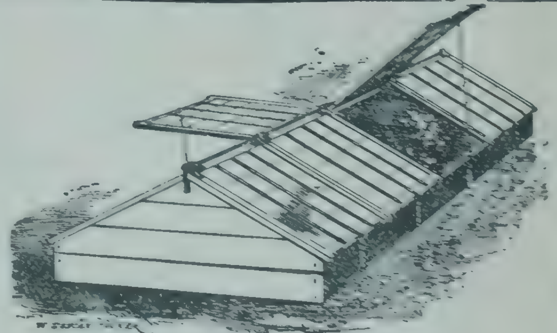

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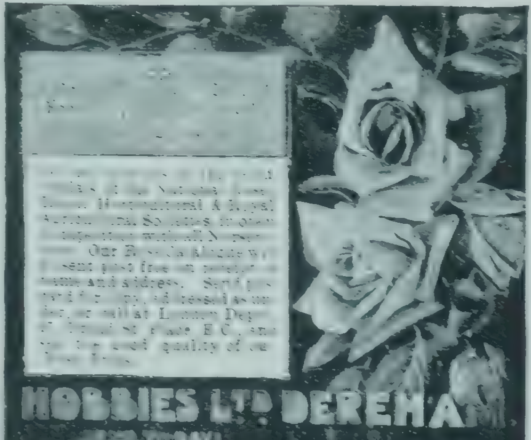

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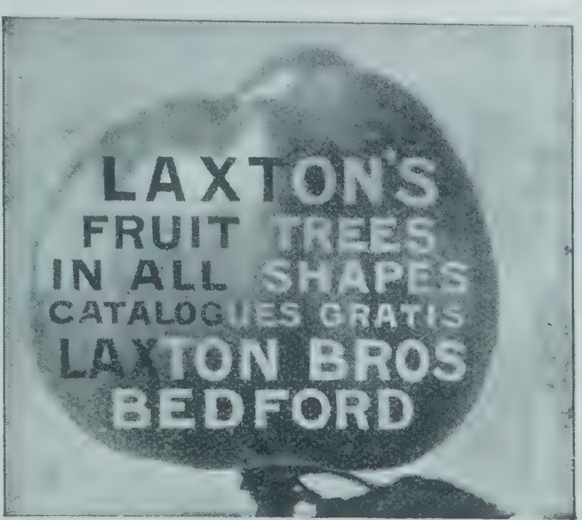

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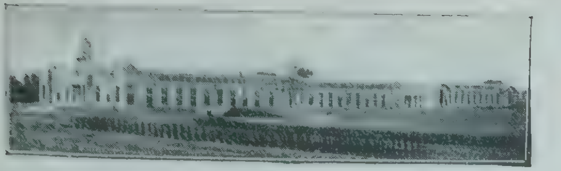

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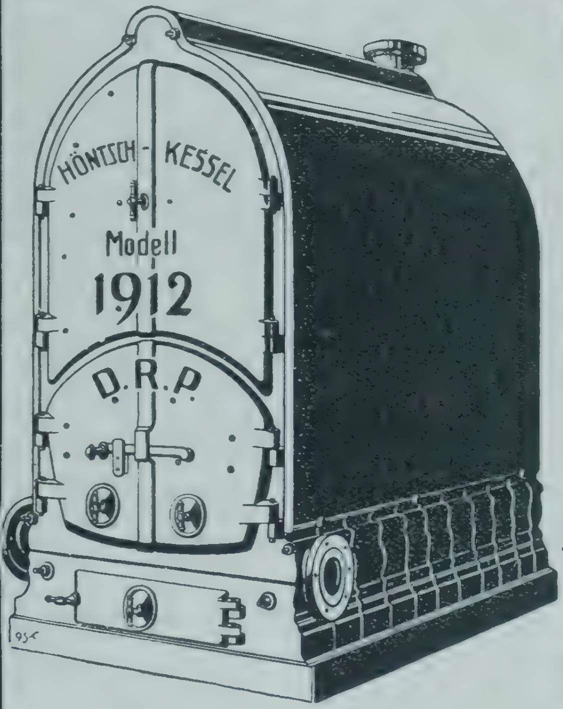

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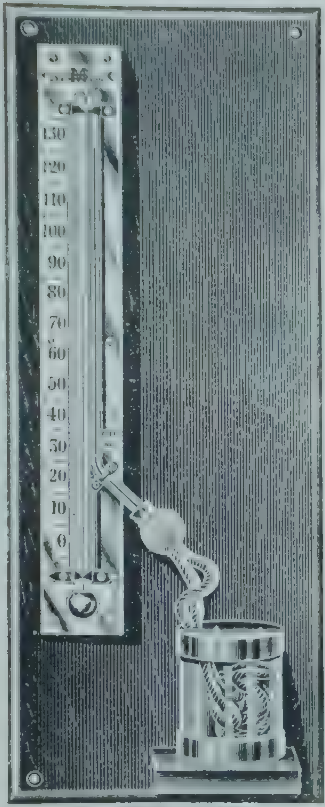

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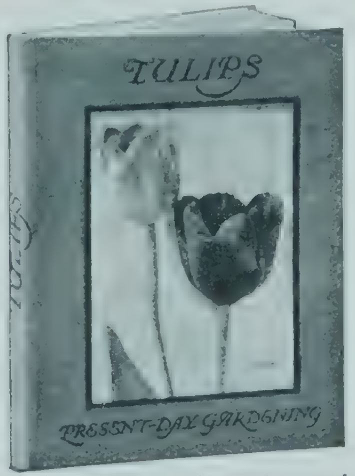

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PRIVATE.

Administrative County of London.

THE LONDON COUNTY COUNCIL invites applications for the position of INSTRUCTOR in Gardening at the Ivydale Road Evening School for Male and Female Students, Nunhead, on Wednesday evenings from 7.45 to 9.45; the salary will be 5s. an evening, and persons not engaged in day schools are eligible for appointment; applications must be on the official forms to be obtained, with particulars of the appointment, by sending a stamped addressed foolscap envelope to Mr. A. B. Head, London County Council Divisional Offices, Peckham Road, S.E., to whom they must be returned by 11 a.m. on Saturday, 23rd November, 1912; every communication must be marked "Evening School—Inspector" on the envelope; canvassing, either directly or indirectly, will be held to be a disqualification for appointment.

LAURENCE GOMME,
Clerk of the London County Council.
Education Offices,
Victoria Embankment, W.C.
12th November, 1912.

Dorchester Town Council.

WANTED, GARDENER (Head Working) with experience in management of Pleasure Grounds, Tennis, Bowls, and Croquet Lawns, Walks and Avenues of Trees; one who has had similar public experience preferred; wages £1 1s. per week, with house rent free; canvassing directly or indirectly will disqualify; applications, which must be on forms to be obtained from the undersigned, to be sent in, with copies of three recent testimonials, by the 29th November, 1912, marked "Head Gardener," and addressed to

A. G. SYMONDS.
Town Clerk,
Dorchester.

County Asylum, Rainhill, near Liverpool.

ASSISTANT GARDENER.—Wanted, a Young Man as Assistant Gardener, who has been accustomed to Glass and all branches of Gardening; wages to commence at 25s. per week and no emoluments (subject to 3 per cent. deduction for pension).—Apply, stating age, height, and full particulars to the MEDICAL SUPERINTENDENT.

Lancashire County Asylum, Winwick, Warrington.

WANTED, JOURNEYMAN-GARDENER ATTENDANT; must be well up in plants; age not to exceed 35 years; salary commencing at £30 per annum, with uniform, board (no beer), lodging, and washing.—Apply to the MEDICAL SUPERINTENDENT at once, giving age, experience, and references. The appointment is subject to the provisions of the Asylum Officers' Superannuation Act, 1909.

WANTED, GARDENER (Head Working) for suburb of Liverpool.—Write, stating age, wages, with or without cottage, references last place, how long there, married, family, Box V320, care of Lee & Nightingale, Advertising Offices, Liverpool.

WANTED, GARDENERS for Ontario (Canada) Fruit and Vegetable Farms in March; £4 to £6 monthly with board guaranteed; pay own fare.—COUNCILLOR RUMSEY, Shrewsbury.

WANTED, thoroughly competent GARDENER; Flower, Pleasure; married, without family; work under head.—State age, experience, full particulars, enclose copies references, STEWARD, Alderbourne Manor, Gerrard's Cross, Bucks.

WANTED, GARDENER (Second, Inside); thorough knowledge of Fruit and Plant Culture; good character; wages £1 per week and Bothy.—Full particulars to J. BOTTRELL, Sudbury Hall, Derby.

WANTED, GARDENER (Second of five, for Inside and Out); wages 18s. a week with Bothy.—Apply, first instance, to W. STURT, Stansted Gardens, Emsworth, Sussex.

WANTED, GARDENER (Second of three, Inside and Out); knowledge of Greenhouse Flowers, Carnations, &c., especially required; no Fruit except Melons; excellent personal references essential; wages £1 with cottage for married man.—Apply by letter to Mrs. HEATHCOTE, Belton Hall, Market Drayton, Shropshire.

WANTED, FOREMAN for Ireland; capable of taking entire charge Fruit and Plant Houses, and supervision of staff in Kitchen Garden where produce is sold; one who has been Foreman or Second in private or trade; fare paid; wages £1, Bothy, coal, milk, vegetables.—HEAD GARDENER, Box 1, 41, Wellington Street, Covent Garden, W.C.

WANTED, FOREMAN (Inside); first-class Plant and Fruit Grower; 23s., Bothy, &c.; preference may be given to cricketer.—Write full particulars, H. R. WHITELAW, Hever Castle Gardens, Hever, Kent.

WANTED, JOURNEYMAN for the Fruit Houses; Peaches, Vines, &c.; 16s. per week, Bothy; state age, height, and experience.—A. J. HAWKES, Hall Place Gardens, Leigh, Tonbridge, Kent.

WANTED, JOURNEYMAN (Outside); must be experienced Herbaceous Plants and general Outside work; 20s. and Bothy.—References to DAVID W. THOMSON, 113, George Street, Edinburgh.

WANTED, JOURNEYMAN for Vegetables and Hardy Fruit; must have had good experience; age 22-25.—Apply, with copies of testimonials to Miss G. COPE, Manor House Gardens, Northfield, Brimingham.

WANTED, strong, active YOUNG JOURNEYMAN for Inside; wages 15s. per week; duty 2s. 6d. extra; Bothy, &c.; also strong MAN look after horse; must be experienced with horse lawn mower and well recommended; wages 16s. per week; Bothy &c.—L. MORRIS, The Gardens, Burwarton Hall, Bridgnorth.

WANTED, JOURNEYMAN (First); must thoroughly understand Carnation and plants generally; not under 23 years of age; 18s., Bothy, &c.—State particulars, G. P. BOUND, Grimston Park Gardens, Tadcaster

WANTED, JOURNEYMAN (First).—Can any Gardener recommend good, strong, energetic MAN; age 23; 18s.; Bothy, &c.—A FITT, Apethorpe, Wansford, Northants.

WANTED, JOURNEYMAN (Inside); experienced in Vines, Peaches, and plants; 16s. per week; Bothy; extra for duty.—Apply, with copies of testimonials, to HEAD GARDENER, Rhinefield, near Brockenhurst, Hants.

WANTED, JOURNEYMAN (Under) at once for houses; wages 15s.; extra for duty, every third week.—G. KENT, Norbury Gardens, Dorking.

WANTED, good MAN for Houses; thoroughly experienced in Fruit and Plants, House and Table Decorations; £1 per week and Bothy; 2s. extra for duty; also YOUNG MAN for Herbaceous Borders and Outside gardening generally; able to take turn on duty; 16s. per week with Bothy and perquisites.—Apply, H. THROWER, The Gardens, Horwood House, Winstone, Bucks.

WANTED, strong, active YOUNG Man; age about 20; chiefly for Pleasure Grounds; wages 16s. and Bothy.—Write, T. KING, The Gardens, Gadsden, Hayes, Kent.

WANTED, a YOUNG MAN for Kitchen Garden and Pleasure Grounds; duty once a month; wages 18s. per week.—Particulars to J. BLACKWOOD, Sefton Park, Slough, Bucks.

WANTED, a smart MAN for the Houses; good Grape Thinner; wages 18s., Bothy, &c.; abstainer preferred.—Apply to
H. C. GARDNER, Ruxley, Claygate, Surrey.

WANTED, strong Young Man to work as LABOURER on Gentleman's estate; wages 16s. per week with Bothy; abstainer preferred.—Apply, with particulars, to J. BUSBY, The Gardens, St. Donat's Castle, Llantwit Major, Glam.

TRADE.

WANTED, strong GARDENERS for Planting young Fruit Trees.—Apply, B. SCOTT, The Durdans, North Road, Southall.

WANTED, thoroughly practical ROSE FOREMAN; view to open branch in Roses at established Nurseries; excellent opportunity for experienced man; grand soil and situation; experienced exhibitor essential.—Reply, stating wages and qualification, to MANAGER, Locksheath Nurseries, near Southampton.

WANTED, FOREMEN (Working) for Landscape Department; previous experience essential; must be capable of taking charge; able to control labour and to work from plans.—Full particulars of experience and wages required, to CLIBRANS, Altrincham.

WANTED, MAN (Second) for Forest Tree Department, with experience in Trade or Estate Nursery in sowing, planting, lifting, control of labour, and general work of department.—State full particulars of experience and wages required to
CLIBRANS, Altrincham.

WANTED, young single MAN with Nursery experience, for Soft woods, Carnations, and Propagating.—State age, wages required, with references and full particulars of experience, BERKSHIRE, Box 8, 41, Wellington Street, Covent Garden, W.C.

WANTED, YOUNG MAN for Outdoor Rose Department, with experience in Budding, Lifting and execution of orders.—State full particulars of experience and wages required, to
CLIBRANS, Altrincham.

WANTED, smart YOUNG MAN with good general London Nursery experience; quick potter; used to fires; age about 23; state wages and reference.—D. E., Box 26, 41, Wellington Street, Covent Garden, W.C.

WANTED, a Young Man as IMPROVER in Herbaceous Department; must be able to write labels distinctly, and have had experience with Perennials.—Apply, with full particulars, to
GAUNTLETT'S, LTD., Nurseries, Chiddingfold.

SEED TRADE.—Wanted smart JUNIOR ASSISTANT for Glasgow house; must have knowledge of Farm and Garden seeds.—P. G., Box 10, 41, Wellington Street, Covent Garden, W.C.

WANTED, a YOUNG MAN for the Florist and Seed Trade; must be a good Maker-up and have experience in the Seed and Nursery business.—Apply, with copies of references, stating age and salary expected, HENRY PITT, Nurseryman, Abergavenny.

WANTED, capable SHOPMAN (Head); abstainer preferred; must be well recommended; no objection to offer a share in business.—THOMPSON & MORGAN, Ipswich.

SEEDS, PLANTS, BULBS, &c.—Wanted, experienced man as SHOPMAN (Second); permanent and progressive situation.—Full particulars to THE WARGRAVE PLANT FARM, LTD., 10, The Arcade, Liverpool Street, E.C.

OPPORTUNITY for YOUTH to learn retail business; four acres Hardy Plants and Glass; small wages to commence.—Write, DIXON'S, Putney Nurseries.

WANTED, smart ASSISTANT (about 20) for Shop and Warehouse; experienced in the execution of Seed, Bulb, and Plant orders.—Full particulars to ALPHA, Box 27, 41, Wellington Street, Covent Garden, W.C.

WANTED, ASSISTANT for Counter Work in Seed Warehouse; London district.—Apply, stating age, experience, and salary required, to J. C. J., Box 2, 41, Wellington Street, Covent Garden, W.C.

WANTED.—Experienced BOOKKEEPER and CASHIER wanted by Scotch firm.—Apply, with experience and wages expected, to T. E., Box 11, 41, Wellington Street, Covent Garden, W.C.

WANTED, a JUNIOR CLERK for correspondence, invoicing, &c., with a knowledge of shorthand.—Apply, stating age and full particulars of experience, to "HORTUS," Box 9, 41, Wellington Street, Covent Garden, W.C.

WANTED, FLORIST.—Lady as SECOND; permanent; good Saleswoman; quick, clever mounter; take charge occasionally; state experience, wages expected; live in.—CLIMPSON, Florist, Luton.

SITUATIONS WANTED.

Twenty-six words for 1/6, & 6d. for each succeeding Eight words or less.

Gardeners desiring their Advertisements repeated *must give full particulars, otherwise no notice will be taken of their communications. Name and address alone are insufficient.*

Gardeners writing to Advertisers of Vacant Situations are recommended to send them copies *of testimonials only, retaining the originals. On no account should they enter into communication with unknown correspondents who require a fee beforehand.*

Advertisers are cautioned against having Letters addressed to Initials at Post-offices, as all Letters so addressed are opened by the Postal authorities and returned to the Sender

PRIVATE.

Gardeners, Farm Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application.

CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c Correspondence invited.

GENTLEMAN wishes to recommend his GARDENER (Head), who has been five years in his employment; a thoroughly practical man, with good all-round experience; first-class Plant and Fruit grower; specially good at Table and House Decoration; age 34; married, one child; leaving through alterations being made in the estate management; a situation where four or five men are kept preferred; an interview can be arranged for in London with his employer.—Write, B. H., Box 24, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Head) seeks Re-engagement with Lady or Gentleman requiring the services of a first-class man, having had a wide experience in the cultivation of choice Fruit, Flowers, and Vegetables, upkeep of Pleasure Grounds, and general routine; capable and reliable manager; highly recommended.—H. KING, care of King's Acre Nurseries, Hereford.

CAPTAIN COUNT GUROWSKI highly recommends his GARDENER (Head): thoroughly capable; experienced Glass, Outside, and laying out gardens; highest references, character, and ability.—KEMP, Woolhampton Park, Reading.

GARDENER (Head); life experience in good establishments; American Carnations, Orchids, Fruit, and raising imported seeds; over 20 years Head in present situation; age 46 years.—C. MURTON, Werrington Park Gardens, Launceston, Cornwall.

GARDENER (Head) and ORCHID GROWER; life experience in first-class trade and private establishments; thoroughly qualified in all branches; well recommended; age 32; married when suited.—WOOD, 3, Victor Cottages, Lewes Road, Lindfield, Sussex.

GARDENER (Head) in good establishment; 23 years' practical experience in good gardens, including Alton Towers, Ingestre Hall, Croome Court, Tatton Park, Carnanton; seven years last situation; age 40; married, no family.—Apply, J. BOOKER, Oxford Arms, Market Place, Thame, Oxon.

GARDENER (Head); first-class thorough experience; keenly interested and desirous to excel; seeks Re-engagement; excellent references as to character and ability; age 32; married.—F. MARTIN, Summercourt Gardens, Wrotham, Kent.

CAPTAIN GORDON highly recommends his GARDENER (Head or first-class Single-handed); life experience in good establishments; well up in all branches; excellent references; age 31; married, no family.—"GARDENER," "Southend," Wickwar, Gloucester. (No circulars.)

GARDENER (Head or Single-handed); four years' personal character and testimonials; life experience in all branches; married, one daughter, age 12.—DEANEY, Ardmore, Oldwinton Road, Andover, Hants.

GARDENER (Head Working); 25 years' experience Inside and Out; age 39; married, no family; disengaged; good references.—DOMAN, 31, Gospel Oak Grove, Haverstock Hill, N.W. (No circulars.)

GARDENER (Head Working, where several are kept); 17 years' good practical experience in all branches; five years Head last place; highest references as to capabilities; age 34; married. A. SPRINGHAM, Henbury, Bristol.

GARDENER (Head Working).—Mr. BANKS, Landguard Manor, highly recommends W. Hughes; life experience Inside and Out; five years here; excellent references; age 33.—W. HUGHES, The Gardens, Landguard Manor, Shanklin, Isle of Wight.

GARDENER (Head Working, where several are kept); 4½ years Foreman; life experience, both Inside and Out; good references; age 27.—J. HARRISON, Englefield Gardens, Reading, Berks.

GARDENER (Head Working); age 34; life experience all branches, gained in large establishments; total abstainer; last five years Head; Gentleman highly recommends; disengaged.—A. EVENDEN, care of Mr. Court, Bow Hill Farm, Yalding, Kent.

GARDENER (Head Working).—Gentleman can highly recommend good practical experienced and trustworthy all-round Gardener in every way; also understands Land and Stock; Wife good cook, dairy and poultrywoman; age 45; married, no family; abstainers; highest references.—
GARDENER, Chipley Park, Wellington, Somerset.

GARDENER (Head Working).—Gentleman highly recommends; life experience all branches, Inside and Out; capable and trustworthy; excellent references; married.—SIMS, Brook Street, Watlington, Oxon.

GARDENER (Head Working) desires Re-engagement; nine years as Head; over 4½ years present situation; highly recommended; age 41; married, one child.—CHARLES PRATT, The Orchard, Meopham, Gravesend, Kent.

J. DYFRI JONES, Bournville Village Trust, Bournville, wishes to recommend his General Foreman, W. Williams, to any Lady or Gentleman requiring a GARDENER (Head Working); 15 years' experience in good establishments; excellent references; age 30.

LADY thoroughly recommends GARDENER (Head Working) as a competent, energetic man; practical experience in all branches; age 34; married.—Apply, LEWIS, Midford Castle Lodge, near Bath.

JAS. POUND, Mongewell Park Gardens, Wallingford, wishes to recommend Percy Rolfe to any Lady or Gentleman requiring a GARDENER (Head Working) well versed in the various branches of the profession; can be well recommended as an intelligent, energetic and capable man; five years present place as Foreman; age 30.

GARDENER (Head Working, where three or four are kept); thoroughly experienced Inside and Out; age 32; married; abstainer; excellent references.—W. MANN, St. Hilary Gardens, Cowbridge.

GARDENER (Head Working).—Mr. GILBERT can with confidence recommend E. Munt as above; life experience gained in first-class places, including Chatsworth and Wood Green Park; 3½ years here as Second.—MUNT, Champneys, Tring, Herts.

GARDENER (Head Working) seeks Re-engagement where several are kept; thoroughly experienced in all branches; excellent references; age 35; married.—BRADFORD, Kilverstone Hall Gardens, Thetford, Norfolk.

GARDENER (Head Working).—HUGH GRAHAM, Esq., will be pleased to recommend his late Gardener (Head) to anyone requiring a thorough practical man; life experience in all branches; age 35; married.—FLANDERS, 31, Stanton Harcourt, Eynsham, Oxon.

GARDENER; practical man seeks Situation; life experience; thorough knowledge in general Inside and Out; disengaged; good reference; single.—E. BROWN, Station Cottage, Partridge Green.

GENTLEMAN, 45, single; expert Gardener; practical training all branches Horticulture, Fruit, Vegetables, Flowers, &c.; most successful; used to management; energetic, tactful; well connected; seeks Post; country house or estate; salary secondary consideration.—F.R.H.S., Box 7, 41, Wellington Street, Covent Garden, W.C.

GARDENER (Inside and Out), thoroughly experienced, seeks Situation; good references.—Apply, W. F. W., 32, Lime Street, Camden Road, N.W.

GARDENER.—Young Man (20); Kitchen and all-round; useful experience; strong, willing, reliable; excellent character; low wages; any distance.—H. B., 27, St. Dunstan's Hill, City.

GARDENER (Single-handed or with help); 6½ years' excellent character; age 35; married, three children; disengaged.—W. HUMPHREYS, Nutley Grove, Reigate, Surrey.

GARDENER (Single-handed or Head of two); age 37; married; life-long abstainer; well recommended; experience thorough in all branches.—The Arches, Clevedon, Somerset.

GARDENER (Single-handed or with assistance); life experience Inside and Out; age 26; single; nine years' good reference.—A. FELLOWS, Kent Hatch, Crockham Hill, Edenbridge, Kent.

GARDENER (Single-handed) seeks Situation; age 34; 15 years' experience in Nursery work and private situation.—W. H. D., 220, Arlington Road, Camden Town, N.W.

GARDENER (Single-handed or where two are kept); eight years' experience in Flowers, Vegetables, and Pleasure Grounds; 2½ years last place; good testimonials; age 22; abstainer.—GEORGE DUFFELL, No. 3, Western Cottages, Betchworth, Surrey.

GARDENER (Second or Third or Single-handed not objected to); age 32; single; 10 years last place.—Address, WYLES, Bekesbourne Hill, near Canterbury, Kent.

GARDENER (Second); good experience Inside and Out; 20 months' and four years' good references; well recommended; age 24; disengaged.—R. TAYLOR, "Mayfield," Shakespeare Road, Worthing, Sussex.

GARDENER (Second) or JOURNEYMAN (First); 10 years' experience Fruit and Plants; good references; age 24; disengaged; London or Lincoln district preferred.—W. HIBBINS, Shelthorpe Lodge, Loughboro'.

FOREMAN or SECOND (Inside).—Mr. HALL wishes to recommend A. Freeman; five years present place; good experience in Plants and Fruit; age 24.—A. FREEMAN, The Gardens, Harewood, Leeds.

FOREMAN or good SECOND; married; age 28; 13 years' first-class experience in good establishments, Inside and Out, and Decorating.—BURNS, 56, North Road, Highgate, N.

FOREMAN or GARDENER (Second); 14 years' practical experience, Inside and Out; House and Table Decorations; well recommended; disengaged; age 28.—BUCKNALL, Allenwood, Cheltenham.

FOREMAN or GARDENER (Second); life experience in Fruit, Plant Houses, Carnations, Forcing and Decorating, &c.; six years Foreman, age 29.—A. HARRIS, Church Street, Wroxton, Banbury.

MR. ADAMS highly recommends his FOREMAN; thorough practical experience in good establishments; two years as Foreman (Inside); previously Hever Castle and Hooke House; highest testimonials; age 26.—J. HOSTEAD, Hemsted Park Gardens, Cranbrook, Kent.

FOREMAN (Inside) or GARDENER (Second); experienced Fruit, Plants, Carnations, House and Table Decoration; age 28.—W., care of Moules, 4, River Cottages, Chase Side, Enfield, Middlesex.

JOURNEYMEN; ages 22-20 (Inside); eight and six years' experience respectively; excellent testimonials; Midlands or South preferred.—S. H., Box 20, 41, Wellington Street, Covent Garden, W.C.

JOURNEYMAN (First, Inside) seeks Situation as above; seven years' experience; age 25; can be well recommended.—Apply, W. BONNETT, Brogyntyn Gardens, Oswestry, Salop.

JOURNEYMAN (First, Inside); age 24; in good establishment; good experience and well recommended.—Apply, T. BROADHURST, New Street, Strathfieldsaye, Mortimer, Berks.

JOURNEYMAN (good Second) seeks Situation, Fruit and Plant Houses; age 21.—Apply, S. BURTON, Station Road, Barnack, Stamford.

JOURNEYMAN (Inside or Inside and Out) seeks Situation in good establishment; good general experience; age 23.—J. HANDLEY, Tanshanger Gardens, Hertford.

JOURNEYMAN; age 20; chiefly Outside.—Gardener wishes to recommend John Strong to a Situation offering chances of promotion; five years in Sir George Kemp's garden; one in present situation.—Apply, W. FORD, Gardener to the Speaker, Hutton John, Penrith.

A. FITT, Apethorpe, Wansford, Northants, will be pleased to recommend JOURNEYMAN (First) to any Gardener requiring good smart man; age 25; height 5 feet 9 inches.

I CAN thoroughly recommend YOUNG MAN, who has been with me 3½ years as GARDENER (Outside), who wishes to gain experience Inside; active; with good knowledge of Vegetables and Flowers (Outside); keen to learn; age 18; highest testimonials from A. CRUWYS, Eggesford Estate Office, Wembworthy, N. Devon.

YOUNG MAN seeks Situation for Kitchen Garden and Pleasure Grounds; age 28; single; references can be given; Bothy preferred.—F. BEAUCHAMP, Landford, Salisbury.

YOUNG MAN (20) desires Situation as ASSISTANT GROWER (Inside); four years' experience; good references; South Wales preferred.—Apply, O. BRUNDRETT, 7, Orchard Road, Farnboro', Kent.

YOUNG MAN (25); Pleasure Grounds or Kitchen Garden; life experience; 2½ years' character; disengaged; Bothy preferred.—G. DOVE, Bury Hill Laundry, Dorking, Surrey.

IMPROVER; age 17; (Inside); 2½ years in last situation; can be well recommended: Bothy preferred.—H. JOHNSON, The Gardens, Courtlands, Lympstone, Devon.

SITUATIONS required for two Lads as IMPROVERS (Inside and Out); age 16-17; have had training in these gardens; can be confidently recommended.—State wages offered, with Bothy, to E. WAKEHAM, School of Handicrafts, Chertsey, Surrey.

GENTLEMAN can highly recommend COWMAN and useful man; good rough Carpenter, &c.; 15 years' excellent character; disengaged.—F. C. S., Englefield Lodge, Englefield Green.

FOREMAN CARPENTER or Estate and House Situation required as above by experienced man; thoroughly used to all branches of building trades and estate work generally; age 29; single; good references will be sent on application.—W. PALIN, Pinvin Farm, Pershore, Worcestershire.

ELECTRICIAN seeks Situation; experience with steam, gas, and oil engines; running repairs; age 27; single.—Reply, V. COOPER, High Elms, Laleham, near Staines.

TRADE.

UP-TO-DATE MANAGER requires Engagement in the New Year; age 35; highest references; state salary and particulars, or a progressive appointment would be considered.—H. E., Box 5, 41, Wellington Street, Covent Garden, W.C.

ADVERTISER with Private and Trade experience, seeks Situation as MANAGER of small Nursery; Tomatos, Cucumbers, Chrysanthemums, Bedding Stuff, &c.—SHRIMPTON, 135, Long Lane, East Finchley, N.

ADVERTISER desires Post with good firm; 10 years' references as manager; practical experience from leading nurseries; good address; businesslike; excellent references; abstainer.—D., Box 21, 41, Wellington Street, Covent Garden, W.C.

LANDSCAPE GARDENER requires permanent engagement; sound, practical experience with leading firms; able to meet and advise customers, draw plans, give estimates; rock work a speciality; when not engaged in above would be willing to help with anything pressing at the moment; energetic and used to pushing business.—Full particulars, M. B., Box 4, 41, Wellington Street, Covent Garden, W.C.

FOREMAN; life experience in Nursery work; Palms, Ferns, Liliums, Chrysanthemums, Bedding Stuff, Bulb and Valley Forcing; Cucumbers and Tomatos; age 31.—C. P., Bostal Nursery, Brampton Road, Bexley Heath, Kent.

CUCUMBERS.—FOREMAN or GROWER; age 32; married; thoroughly experienced Cucumber and Tomato Grower; able to take control; excellent references; abstainer; disengaged.—WM. RIX, Brundall, Norwich.

SITUATION required; good experience in Fern Growing and general Nursery; age 31; state wages.—C. C., 3, Rowland Grove, Upper Sydenham.

GARDENER'S SON (30) seeks Situation; 12 years' experience growing and selling Cucumbers, Tomatos, Chrysanthemums, Ferns, Bulbs, Carnations, Bedding and Pot Stuff, &c.—A. F., St. Germans, Norfolk.

YOUNG MAN requires Situation in Nursery; six years' experience with first-class firm in Herbaceous and Alpine Plants; also good Budder.—W. SOWDEN, Sealand, near Chester.

IMPROVER, Nursery (Inside or Inside and Out); some experience; life abstainer; good character; about 12s. weekly.—IMPROVER, 12, Tavistock Road, Harlesden, London, N.W.

FLORIST and GARDENER (German), age 25, seeks Situation to improve his English; small salary; good references.—G. K., 29, Colville Square Mansions, Bayswater.

TRAVELLER.—Seeds, Nursery and Sundries; Wholesale or Retail; Great Britain experience; seeks Re-engagement.—Apply, GEORGE BROOK, Primrose Hill, Market Street, Altrincham.

ADVERTISER; 15 years' experience; Seed, Bulb and Nursery; Situation as Assistant or Nursery Salesman; good class counter trade; good references; abstainer.—A. H. R., Box 12, 41, Wellington Street, Covent Garden, W.C.

SHOPMAN or BRANCH MANAGER; 16 years' experience in Seeds, Bulbs, Sundries, Herbaceous, and Alpine plants; good window dresser; excellent references; married.—A. W. CLARKE, 229, Bramford Road, Ipswich.

SEEDSMAN (27); life experience in Flower and Vegetable Seeds; Foreign and Colonial orders; trials, &c.; disengaged; abstainer.—T. STEADMAN, 45, Gore Road, Raynes Park, S.W.

YOUNG MAN, age 23, as SHOPMAN; thorough knowledge all branches horticultural trade; eight years' practical experience; splendid references.—J. W. ROLFE, 21, Shaftesbury Road, Brighton.

ASSISTANT SHOPMAN seeks Situation (first-class); nine years' experience with leading firms; accustomed to sole charge; Seeds, Bulbs, and general routine; disengaged when suited; highest references.—T. C., 60, Victoria Street, Maidstone.

SMALL WAGES.—Experienced NURSERYMAN desires light work; well educated; could do cataloguing and clerical work; South or Home Counties preferred.—B., 84, Embleton Road, Lewisham, S.E.

MARRIED COUPLE; to Manage Florist, Seed, high-class Fruit and Nursery Shop or Shop and Nursery combined.—BURDEN, Wedhampton, Devizes.

FLORIST wants Situation; accustomed to high-class trade; first-class Saleswoman and Designer; excellent references; capable of taking charge.—B. A., Box 3, 41, Wellington Street, Covent Garden, W.C.

YOUNG LADY FLORIST, eight years' experience in high-class business, requires Situation.—W. F., Box 4, 41, Wellington Street, Covent Garden, W.C.

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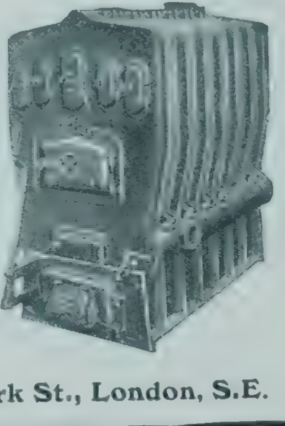

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The **"HORSE-SHOE,"** for the small Greenhouse.

Saddle Boilers, Trentham Boilers, and all classes of Pipes, Fittings, etc., ready for immediate despatch.

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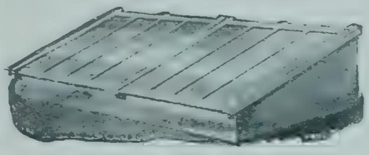

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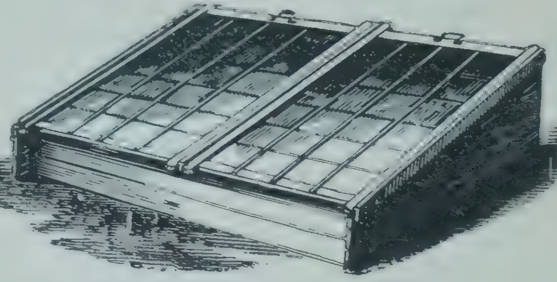

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COLOURED PLATE: Prunus nana rubra.

THE GARDENERS' CHRONICLE

ESTABLISHED 1841

Nº 3752

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Without Reserve. To Clear the Site.

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Non-Competitive Exhibits only. Open 1 to 5 p.m.

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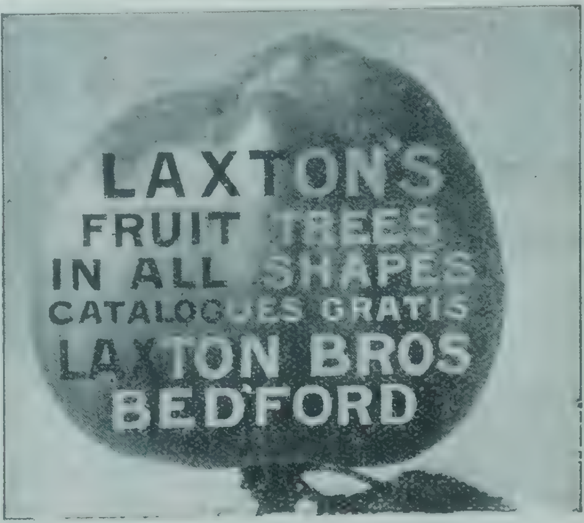

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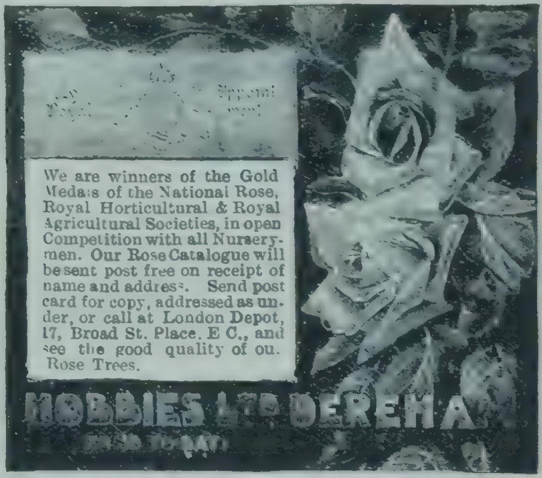

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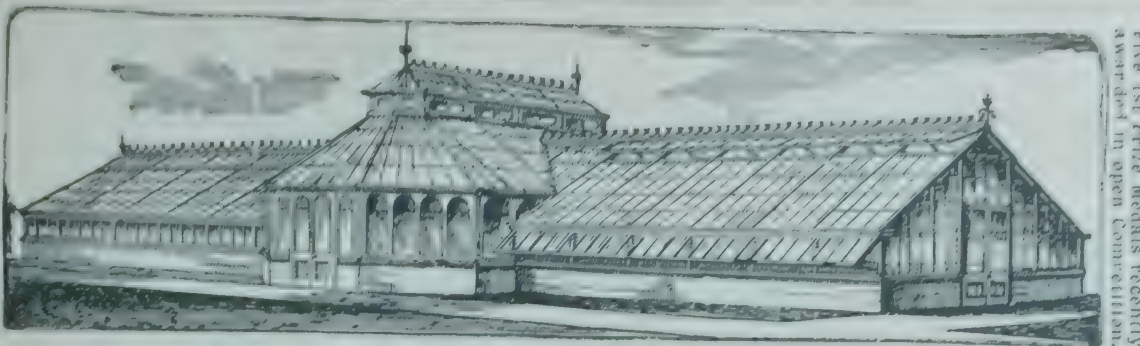

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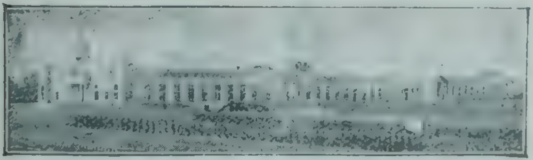

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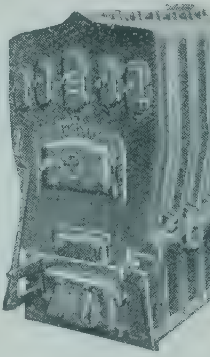

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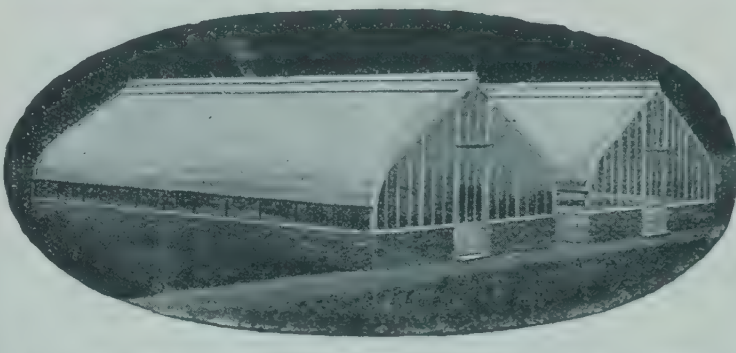

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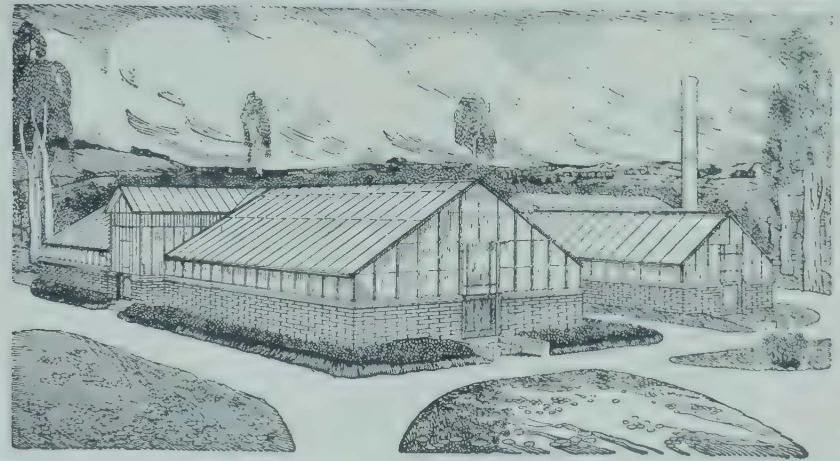

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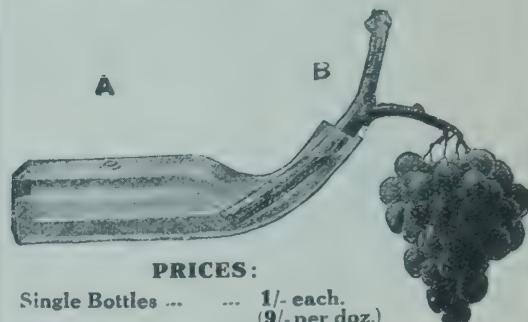

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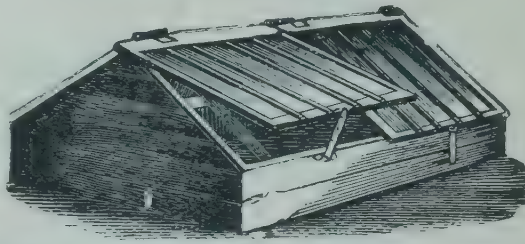

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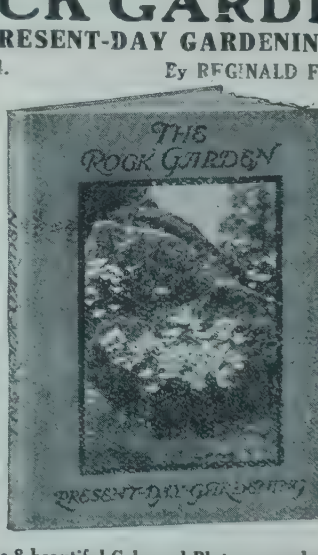

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WANTED, at once, intelligent MAN for Outside, Planting Lawns, &c., assist in nurseries when not out.—RAMSBOTHAM & Co., Bletchley Junction.

WANTED, YOUNG MAN (single) with Nursery experience, for Soft-woods, Carnations, and Propagating; state age, wages required, references, and particulars of experience.—BERKSHIRE, Box 8, 41, Wellington Street, Covent Garden, W.C.

WANTED, smart YOUNG MAN with good general London Nursery experience; quick potter; used to fires; age about 23; state wages and reference.—D. E., Box 26, 41, Wellington Street, Covent Garden, W.C.

WANTED, YOUNG MAN for Market Nursery; Peaches, Strawberries, Chrysanthemums, Tomatos, &c.; wages 18s. per week.—T. DUCK, Abbey Wood, Kent.

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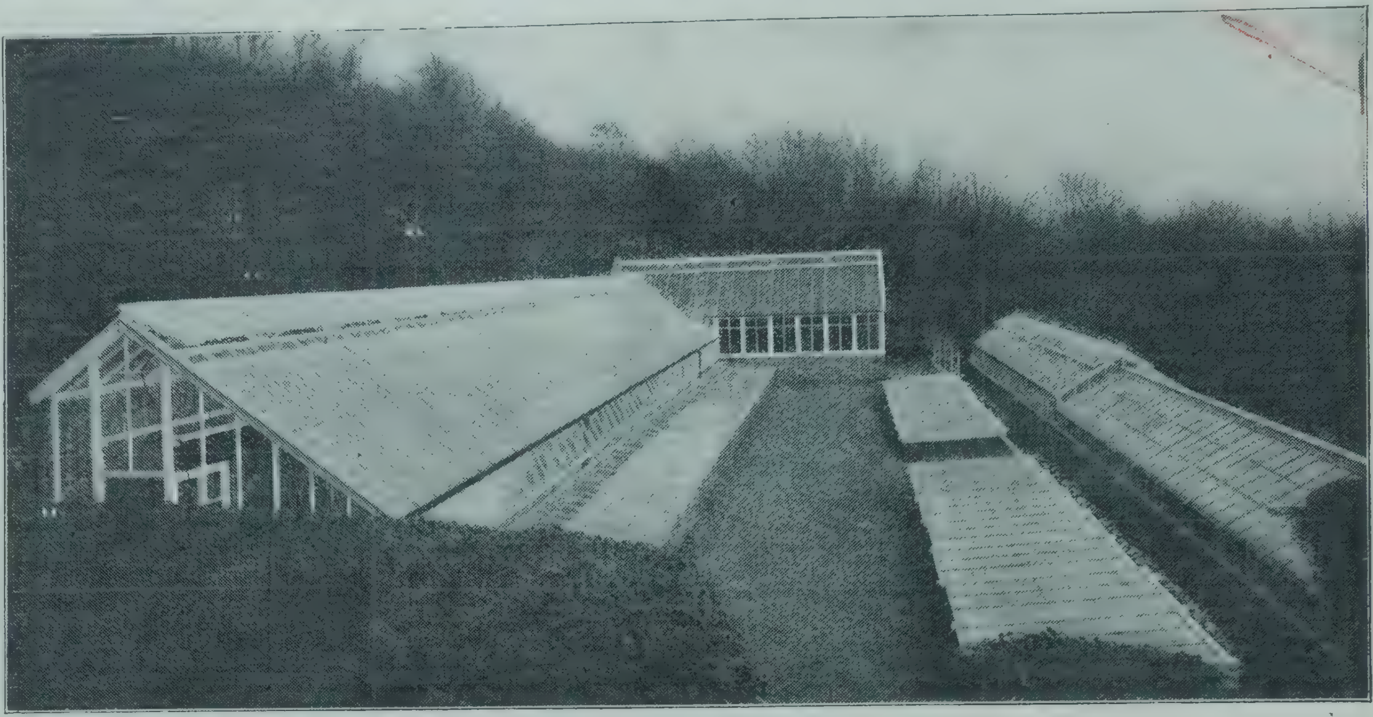

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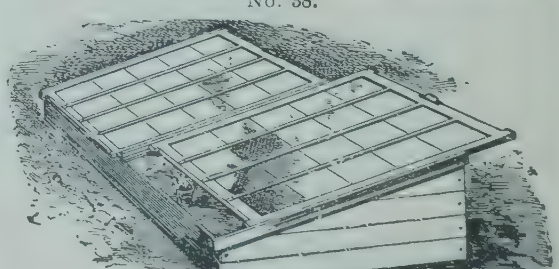

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MONDAY NEXT, December 2nd, at 12 o'Clock.—Dutch Bulbs, comprising thousands of Hyacinths, Tulips, Narcissus, Iris, Snowdrops, and others.

At 1.30 o'Clock.—200 lots of Standard, Dwarf, and Climbing Roses.

TUESDAY NEXT, December 3rd, at 12 o'Clock.—Dutch Bulbs in all varieties, also other Hardy Roots and Tubers.

WEDNESDAY NEXT, December 4th, at 12 o'Clock.—Dutch Bulbs in variety, choice Herbaceous and Border Plants, Perennials, &c.

At 1.30 o'Clock.—Roses, comprising Standards, Dwarfs, and Climbers, also Flowering Shrubs.

At 5 o'Clock.—Ornamental Palms and Plants, Azaleas, Rhododendrons, Aspidistras, Camellias, &c., from Belgium.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view mornings of Sale and Catalogues had.

Wednesday next, December 4th, at 2.30 o'Clock.

An enormous consignment of

4,599 CASES JAPANESE LILIUMS,

comprising:

950	LILIUM	LONGIFLORUM.	
296,020	,,	,,	black stem variety.
534,440	,,	,,	GIGANTEUM.
24,775	,,	,,	MULTIFLORUM.
6,220	,,	,,	YANAGHIA.
6,400	,,	SPECIOSUM	RUBRUM.
3,200	,,	,,	KRÆTZERI.
480	,,	AURATUM RUBRO VITTATUM.	
1,150	,,	BROWNII.	
1,100	,,	HANSONII.	
1,090	,,	CORIDON, ELEGANS SEMI-PLENA HENRYI and BATEMANNIÆ, and	
750	LYCORIS.		

The above will be preceded at 11 o'Clock by

40,000 Spiræas in variety, thousands of Narcissus of sorts, Dielytras, Helleborus, Hardy Lilies in variety, quantities of Dutch Bulbs, Callas, Hydrangeas, Gladiolus various kinds, 10,000 Lily-of-the-Valley Berlin crowns, also clumps, and numerous other Bulbs and Roots.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

West Malling, Kent.

Unreserved Sale of the whole of the Stove and Greenhouse Plants, comprising Palms, Dracænas, Crotons, Primulas, Cyclamen, Agapanthus, Arum Lilies; 200 Cool, Intermediate and Hothouse Orchids; also Begonias, Gloxinias, Liliums, Azaleas and other Flowering Plants in pots; 250 Strawberry Royal Sovereign, Geraniums, Pelargoniums, and other plants.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at Clare House, West Malling, on WEDNESDAY NEXT, DECEMBER 4th, at 1 o'Clock, by order of Beresford F. Melville, Esq., who is leaving the neighbourhood. Catalogues may be had on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Re Johnson, Tyler & Co.

PARK ROYAL, W., for sale as a going concern, by order of the Receiver, under a Debenture.

MESSRS. PROTHEROE & MORRIS will OFFER by AUCTION, at the Mart, Tokenhouse Yard, E.C., on FRIDAY NEXT, DECEMBER 6th, at 2 o'Clock (unless disposed of privately), the Mushroom Spawn Manufactory, Fruit Farm and Market Garden, adjoining Twyford Abbey, Park Royal. Area about 14 acres, with 21 greenhouses and extensive ranges of outbuildings, frames, &c. The fruit and market-garden crops, as planted, together with the unexhausted manures, pot stock, cloches, implements, utensils, and sundries, will be included in the sale. The land is held on lease for 21 years (subject to a resumption clause) at a rental of £100 p.a.

Particulars of F. Fitz Payne, Esq., Solicitor, 27, Chancery Lane, W.C.; of Messrs. Minton, Robertson & Co., Chartered Accountants, 13, Basinghall Street, E.C.; and of the Auctioneers, 67 and 68, Cheapside, E.C.

Friday next, December 6th, at 12.45 o'Clock.

500 lots of ESTABLISHED ORCHIDS, comprising Cool, Intermediate and Hothouse varieties, from various sources, Orchids in flower and bud.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of Sale and Catalogues had.

SPECIAL SALES OF ROSES.

FRIDAY NEXT, December 6th, at 12.30 o'Clock.
WEDNESDAY, ,, 11th, ,, 12.30 ,,
WEDNESDAY, ,, 18th, ,, 12.30 ,,

Large consignments from English, French, and Dutch Growers, comprising Standard, Dwarf and Climbing T's, H.T.'s and H.P.'s, in lots to suit all buyers.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68 Cheapside, E.C. On view mornings of Sale. Catalogues on application.

The Nurseries, South Woodford.

Expiration of lease.

Final portion of the extensive Stock of these well-known Nurseries.

MESSRS. PROTHEROE & MORRIS beg to intimate to those engaged in planting that they will be holding a final SALE at the above Nurseries, by order of Mr. John Fraser, on MONDAY, JANUARY 27th, 1913, and four following days. Fuller particulars will appear later.

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ROSE TREES, PERENNIALS, SHRUBS.

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BUSINESSES FOR SALE, &c.

James Garraway & Co., Bristol.

EXCEPTIONAL opportunity for Seedsmen and Florists.—The Executors are now prepared to sell the Goodwill of the Seed Business and Nursery Trade, with the Lease of the old-established Nursery at Bristol; capital shop, offices, 4 greenhouses, etc.; rent, £70 per annum; only small stock at valuation; unusual opening for further development; personally inspected.—Apply, Messrs. PROTHEROE & MORRIS, 67, Cheapside. E.C.

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NOTICES.

Royal Gardeners' Orphan Fund.

NOTICE IS HEREBY GIVEN that an ELECTION of CANDIDATES to receive the benefits of this Fund will take place at "Simpson's" 100, Strand, London, W.C., on Friday, February 7th, 1913. Nomination forms can be obtained from the Secretary, and must be delivered to him not later than Tuesday, December 17th next, on which date the list will be closed.

By Order,
B. WYNNE, Secretary.
19, Bedford Chambers, Covent Garden, London, W.C.

PUBLISHERS' NOTICES.

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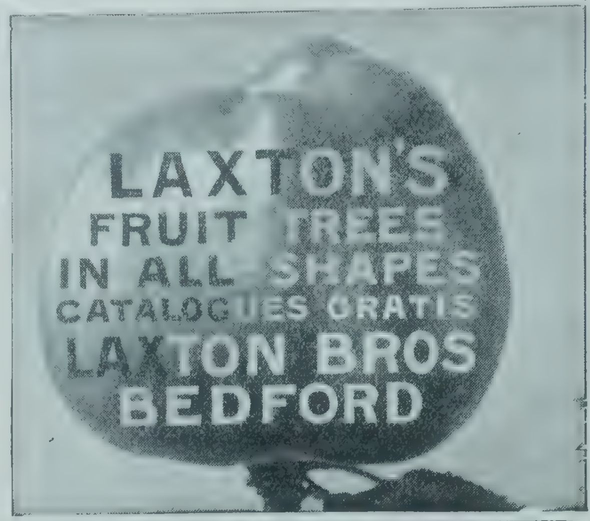

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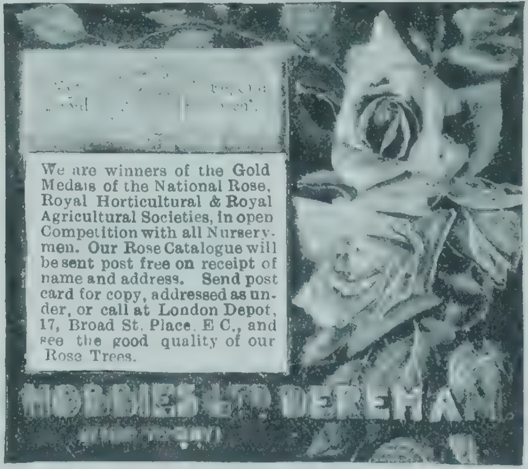

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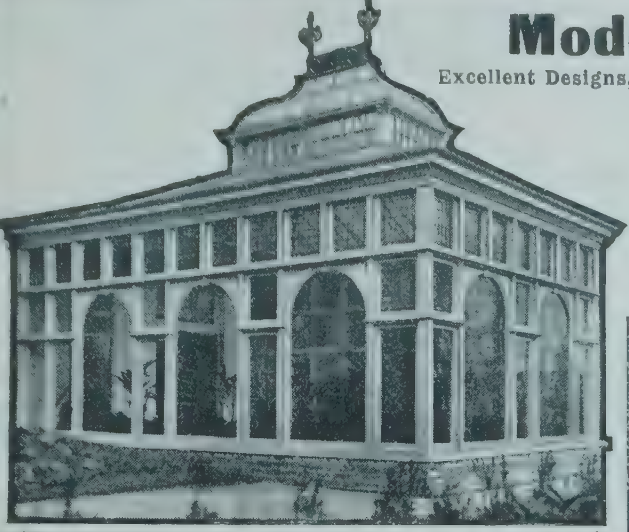

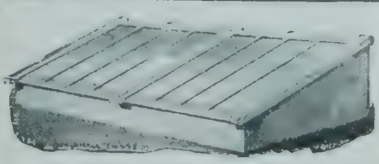

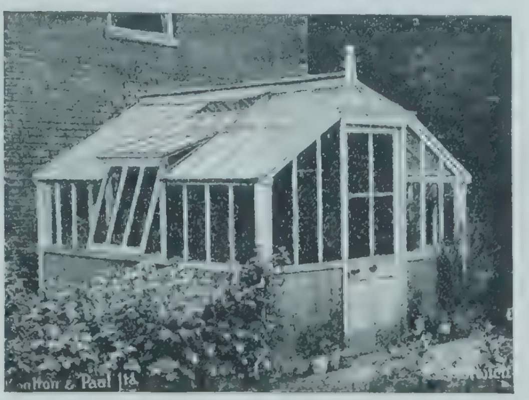

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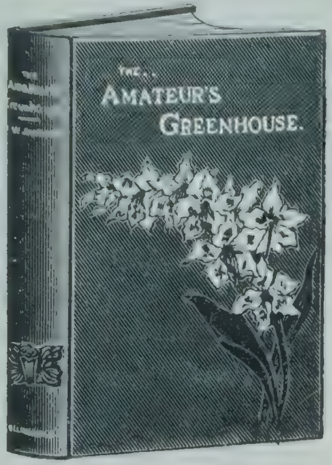

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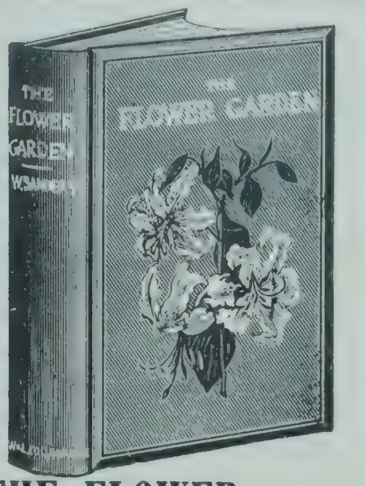

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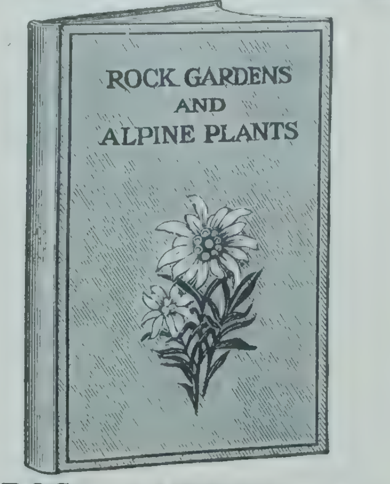
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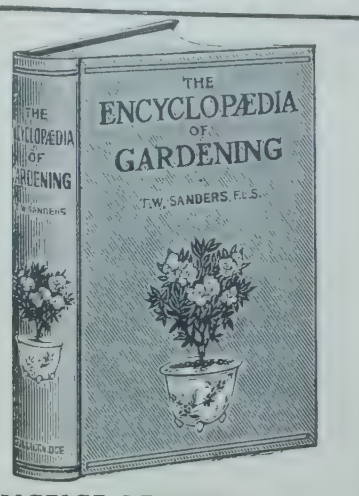

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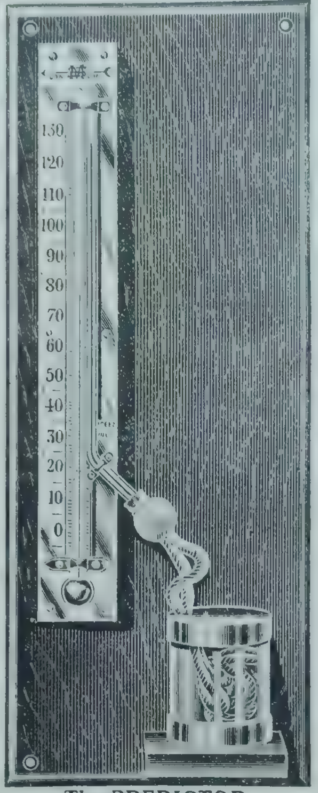

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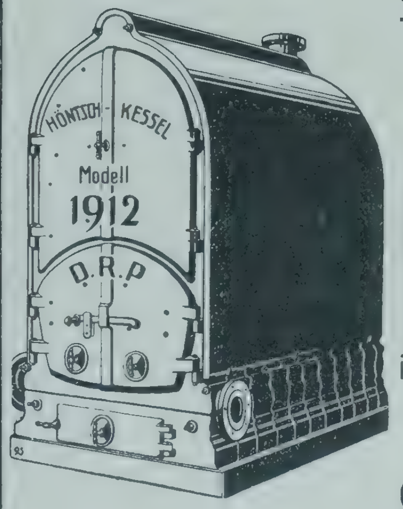

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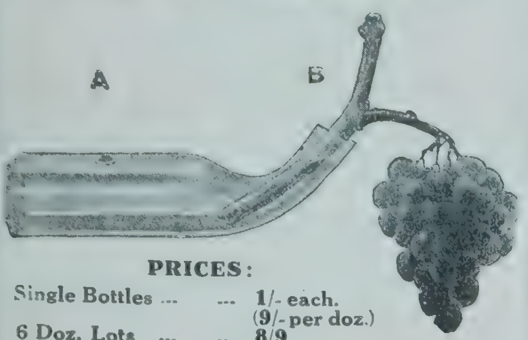

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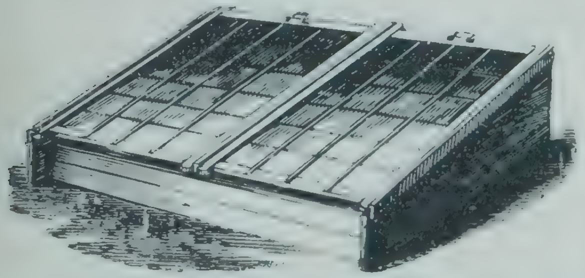

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41, Wellington Street, Covent Garden, W.C.

The Gardeners' Chronicle

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Advertisements intended for insertion in the next issue MUST reach THE PUBLISHER not later than

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		£	s.	d.
Ordinary Positions	per page	10	10	0
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THE UNITED KINGDOM	15/- per annum.
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PRIVATE.

WANTED, a Man with experience as LEADING HAND for Pleasure Grounds; wages 18s. per week, with good cottage.—State age, height, and full particulars to BASTIN, Buscot Gardens, Faringdon, Berks.

GARDENERS for ONTARIO (Canada); Fruit and Vegetable Farms in March; £4 to £6 monthly, with board guaranteed; pay own fare.—Envelope, Councillor RUMSEY, Shrewsbury.

WANTED, GARDENER; North Country man; married; age 30-35; good all-round Inside and Outside Fruit; under-gardener kept; preference given if wife undertook small laundry; lodge; state age, wage, give experience, with copies of recent references.—JOHN H. INGLEBY, Tadcaster.

WANTED, capable GARDENER; young, energetic; wife as laundress; 25s. a week for both and cottage.—V. M., Box 8, 41, Wellington Street, Covent Garden, W.C.

WANTED, strong, active, married man for Pleasure Grounds; able to use Scythe; with a knowledge of Bedding Out and Hardy Plants; age from 30 to 34 years; wages 28s. per week; all overtime and duty paid extra; Saturday afternoons off. —Apply, stating height, country, if of good health, and experience, to HORTUS, Box 3, 41, Wellington Street, Covent Garden, W.C.

WANTED, GARDENER (SECOND) for the Houses; one that has had experience in Carnation, Vineries, Melon and general Stove and Greenhouse Plants; age about 24; wages £1 a week; no Bothy.—Apply, W. FARR, The Gardens, Over Compton, Sherborne, Dorset.

WANTED, FOREMAN (INSIDE); must be good with Grapes, Carnations, Early and Late Forcing; four in Bothy; wages £1 per week; must be good Decorator; Churchman.—Apply, E. HAYWOOD, Bryn-y-pys Gardens, Ellesmere, Salop.

WANTED, FOREMAN for Houses; age not under 27; must be well up in Fruit and Plant Growing, Carnations a speciality, house and Table Decoration; one who has held Foreman's place preferred; 22s. per week, with Bothy, &c.; three in Bothy; duty every third week.—Apply with particulars to Mr. E. WILSON, Lilford Hall Gardens, Oundle.

WANTED, FOREMAN (INSIDE); well up in Fruits and general indoor Plants, House Decoration; wages £1 per week, Bothy and vegetables; abstainer preferred.—Apply, with copies of testimonials, to A. E. SUTTON, Castle Howard Gardens, Welburn, Yorks.

WANTED, FOREMAN (INSIDE) for Sussex; Scotsman preferred; good Plant and Fruit Grower, Carnations, Chrysanthemums, &c.; £1, Bothy, &c.; state age, references, and full particulars.—X. Y. Z., Box 11, 41, Wellington Street, Covent Garden, W.C.

WANTED, JOURNEYMAN for Vegetables and Hardy Fruit; well up in nailing and pruning; Bothy; must have good experience; age about 23 or 24.—Apply, J. VOSS, Kedleston Hall, Derby.

WANTED, experenced JOURNEYMAN (INSIDE, under Foreman); Bothy; state age and wages.—Apply, YOUNG, Blaisdon Gardens, Longhope, Gloucester.

WANTED, JOURNEYMAN for Fruit Houses; wages 18s. per week, Bothy.—Apply, W. MEASE, Downside Gardens, Leatherhead.

MESSRS. JAMES VEITCH & SONS, Ltd., require for a Private Establishment in the South two active JOURNEYMEN; aged about 22; able to take duty; wages 15s. per week and good Bothy.—Apply, with full particulars of experience, &c., to C., Royal Exotic Nursery, Chelsea.

WANTED.—Can any Gardener recommend a thorough energetic Young Man as THIRD on the Pleasure Grounds to take duty?—HEAD GARDENER, Charters, Ascot.

WANTED, two strong YOUNG MEN for Golf Course; used to ground work.—Apply, with full particulars, enclosing copies of testimonials, to MANAGING DIRECTOR, Stoke Poges Club, Slough, Bucks.

WANTED, a YOUNG MAN to take Charge of Winter Gardens, do House and Table Decorating, and to take the Lead in the Pleasure Grounds; total abstainer; Bothy, milk and vegetables; 18s. per week.—H. W. DUDMAN, The Gardens, Norman Court, Salisbury.

WANTED, YOUNG MAN, age about 23, for Pleasure Grounds; wages 18s. per week and rooms.—Particulars to G. LLOYD, Stoke Rochford, Grantham.

WANTED, strong, respectable MAN, not under 22, for Conservatory and Plant Houses, help in pruning wall and pyramid trees; 16s. per week with Bothy and vegetables.—Apply, "FULLEGAR," Eastbury Manor, Compton, Guildford.

WANTED, IMPROVER (INSIDE chiefly); able to take duty; wages 10s. per week; Bothy, milk, vegetables.—F. YOUNG, The Gardens, Blaisdon Hall, Longhope S.O., Glos.

WANTED, a good GARDEN LABOURER; married.—Apply, W. SEALE, The Gardens, Noseley Hall, Leicester.

TRADE.

NURSERY MANAGER.—MESSRS. WALTER T. WARE, LTD., invite applications for the post of MANAGER for their Wisbech branch, where Bulb culture and Bulb forcing is a special feature; only smart men between the ages of 28 and 40, whose previous experience and integrity warrants the closest investigation, need apply. Particulars of duties, salary, &c., upon application.—WALTER T. WARE, LTD., Inglescombe Nurseries, Bath.

WANTED, MANAGER; good Salesman; knowledge of Seed, Bulb and Nursery Trade, Floral Work and Book-keeping.—State age, experience and wages required to H. CORDER, The Nurseries, Bridgwater.

WANTED, FOREMAN, an experienced Grower of Plants and Cut Flowers, for Covent Garden.—Apply, with full particulars, stating age, references, to L. G., Box 5, 41, Wellington Street, Covent Garden, W.C.

WANTED, GROWER for Sweet Peas and capable of taking charge of five greenhouses (mixed); Roses, Vines, Carnations, &c.; state wages.—ERNEST KING, Coggeshall.

WANTED, GROWER; active, experienced; Market Culture, Grapes, Chrysanthemums, Tomatos; state age, height, wages, copy references.—Mr. BULLEN, Hangleton Nurseries, Goring, near Worthing.

WANTED, reliable, experienced ORCHID GROWER, to take charge and responsibility choice trade collection; good position, with house free; live on premises.—State experience and full particulars to EDWARD V. LOW, Vale Bridge, Haywards Heath.

WANTED, PROPAGATOR, having experience with choice and rare shrubs, for Nursery in North of Ireland.—Apply, with full particulars and stating wages expected, to ULSTER, Box 14, 41, Wellington Street, Covent Garden, W.C.

WANTED, CHRYSANTHEMUM GROWER; state experience and wages required.—J. ROBSON, Bowdon Nurseries, Altrincham.

WANTED, experienced indoor Heath Propagator; good opening for competent young man.—State age, experience, and wages required to B., Box 13, 41, Wellington Street, Covent Garden, W.C.

WANTED, a thoroughly trustworthy and reliable MAN to assist owner in a small Nursery near London; must be a good grower of Bedding Stuff, Tomatos, &c., quick, obliging, and able to serve customers; good character indispensable.—Apply, stating age and wages required, to P. E. PUTTOCK, Blackheath Nursery, The Mews, Delacourt Road, Blackheath, S.E.

WANTED, energetic single MAN, who thoroughly understands laying lawns, pruning garden and orchard trees, and general jobbing work; also two energetic single men for fruit and forest tree work in Nursery; all must have their own bicycle.—State experience and wages required to MERRICK BROS., Eden Nurseries, Stowmarket, Suffolk.

WANTED, for Canada, practical MAN used to Market Gardening; wages £8 per month and board.—Apply, "K.," care of Charles Sharpe & Co., Ltd., Seed Merchants, Sleaford.

WANTED immediately, capable MEN for Landscape Department, with experience in Tree Lifting, &c.; state full particulars of experience and wages required.—DICKSONS, Nurseries, Chester.

WANTED, now or after Christmas, a single Young Man, who well understands the executing of Rose orders and capable of managing men under him; in fact, to act as Foreman (Outside) under the manager; permanency to a suitable man; close at 1 o'clock Saturdays.—Apply, G. F. LETTS, Nurseries, Hadleigh, Suffolk. (Mark envelope Private.)

WANTED, YOUNG MAN; well up in Ferns; quick potter; permanency.—Apply by letter, IVALL & BRIGHTON, Shirley Nurseries, Croydon.

WANTED, a YOUNG MAN in Herbaceous Department; must be able to write labels distinctly and have had experience with Perennials.—Apply, with full particulars, to GAUNTLETT'S LTD., Nurseries, Chiddingfold, Surrey.

WANTED, energetic YOUNG MAN who has had experience in Hardy Plant Department, also used to Watering, Potting, Tying, &c.—Apply to Mr. R. C. PULLING, H. J. Jones's Nurseries, Keston, Kent.

WANTED, smart Young Man as ASSISTANT in Forest Tree Department; state full particulars of experience and wages required.—DICKSONS, Nurseries, Chester.

WANTED, thoroughly capable YOUNG MAN for Market Nursery.—State experience, wage and references to A. J. SWANSON, Barton-on-Humber, near Hull.

WANTED, for Greenhouse Department, YOUTH with two or three years' experience.—Full particulars to J. MATTHEWS & SONS, LTD., Milton, Stoke-on-Trent.

WANTED, a strong LAD (17 or 18) that can pot and water and make himself generally useful on small Nursery.—State wages to THOMAS HORSMAN, Clock House Nursery, Beckenham.

SEED TRADE.—Wanted, an energetic smart and capable YOUNG MAN as Assistant Shopman; state fully experience, age and salary expected.—F. C. EDWARDS & SON, 2 and 3, Upperhead Row, Leeds.

WANTED at once, smart ASSISTANT, with good all-round knowledge of Seed and Nursery Business; used to good-class Counter Trade; also JUNIOR, with three or four years' experience; state age, wages required and references, &c.—D. H., Box 10, 41, Wellington Street, Covent Garden, W.C.

WANTED for Ireland, smart ASSISTANT; experienced in Seeds, Bulbs, and Nursery Stuff; must be steady and reliable, and accustomed to brisk trade; comfortable situation.—Apply, stating age, experience, and wages expected, to J., Box 11, 41, Wellington Street, Covent Garden, W.C.

WANTED, a YOUNG MAN for the Florist and Seed Trade; must be a good Maker-up and have experience in the Seed and Nursery business.—Apply, with copies of references, stating age and salary expected, HENRY PITT, Nurseryman, Abergavenny.

WANTED, a smart COUNTER HAND (Junior), with a knowledge of Seeds, Bulbs, Sundries, &c.; state age, experience, and wages required.—McHATTIE & CO., Seedsmen, Chester.

WANTED, JUNIOR ASSISTANT, one who has been accustomed to a good class Counter trade, and has a knowledge of Nursery Stock; state experience and salary required to GEO. COOLING & SONS, Seed Merchants and Nurserymen, Bath.

SEED TRADE.—Wanted, IMPROVER for one of the principal towns in Lancashire; state age, experience, wage, &c.—C. F., Box 12, 41, Wellington Street, Covent Garden, W.C.

TRAVELLER-ASSISTANT (seed trade) for south-eastern counties, attending markets, &c.; state experience, wages required.—E. W. KING & CO., Coggeshall, Essex.

TRAVELLER.—A well-known wholesale Seed firm are open for first-class Traveller; one with connection; correspondence treated confidentially.—NORTHERN, Box 2, 41, Wellington Street, Covent Garden, W.C.

WANTED, CLERK for wholesale Seed trade; good writer; state experience, wages required.—E. W. KING & CO., Coggeshall, Essex.

WANTED, CLERK; knowledge of keeping vegetable seed stock ledger essential.—Apply, TOOGOOD & SONS, The King's Seedsmen, Southampton.

WANTED, JUNIOR CLERK, with some knowledge of Hardy Stocks, for orders, invoicing, &c.; knowledge of shorthand preferred.—Apply, stating age, experience and wages required, and also say how soon could be at liberty.—W. FROMOW & SONS, Windlesham Nurseries, Surrey.

WANTED, JUNIOR CLERK; accustomed to the Nursery trade; state particulars as to experience, age, references, and wages required.—S. W., Box 4, 41, Wellington Street, Covent Garden, W.C.

WANTED, capable Lady Florist as ASSISTANT; good maker-up and preference given to one with knowledge of Seeds and Sundries.—C. H. HOLMES, Woodbine Nursery, Burnley.

WANTED, Young Lady as Florist's Improver, about first week in December.—State experience and wages expected, with references, to S. BIDE & SONS, LTD., 100a, High Street, Guildford.

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DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application.

CLIBRANS, Nurserymen to H.M. the King, Altrincham, can recommend thoroughly practical, well experienced Men, of high character, as GARDENERS (Head or Under), FORESTERS, &c. Correspondence invited.

GARDENER (HEAD) requires Re-engagement; 25 years as Head; held last appointment 13 years, where 17 men were employed; has a thorough knowledge of the requirements of a first-class establishment; very highly recommended as to capabilities and integrity; late employer can be seen by appointment in London for personal interview.—B., care of John Peed & Son, Roupell Park Nurseries, West Norwood, S.E.

H. O. PEACOCK, Esq., Stanford Hall, Loughborough, highly recommends his late GARDENER (Head), who has been with him nearly three years, to any Lady or Gentleman requiring the services of a thorough practical man; life experience in all branches gained in good establishments; age 42; no family; 11 years previously as Head.—W. HARRISON, 31, Ifield Road, South Kensington, S.W.

THE EARL of CRANBROOK wishes to recommend HENRY ADAMS as GARDENER (HEAD); a thorough practical man, with good all-round experience; six years with the late Earl of Cranbrook; leaving through the estates being sold.—HENRY ADAMS, Hemsted Park Gardens, Cranbrook.

GARDENER (HEAD); first-class thorough experience; keenly interested and desirous to excel; seeks Re-engagement; excellent references as to character and ability; age 32; married.—F. MARTIN, Summercourt Gardens, Wrotham, Kent.

GENTLEMAN strongly recommends his GARDENER (Head), who has been four years with him; age 34; married, two children; experienced in Flowers, Vegetables, Glass, &c.; very hard-working, trustworthy, and capable; sober; free after Christmas.—G., Efford Down, Bude.

MR. WILLIAM TOUCHE, Burchet House, Dorking, highly recommends his GARDENER (Head) as good all-round and thoroughly reliable man; age 30; eight years in present post.

GARDENER (HEAD) in good establishment; 23 years' practical experience in good gardens, including Alton Towers, Ingestre Hall, Croome Court, Tatton Park, Carnanton; seven years last situation; age 40; married, no family.—Apply, J. BOOKER, Oxford Arms, Market Place, Thame. Oxon.

C. K. NORMAN, Esq., highly recommends his GARDENER (Head) as HEAD or FOREMAN in good establishment; eight years' excellent reference; disengaged.—Write, B. H. BROOKS, Court Gardens, Brantham, Manningtree, Essex.

GARDENER (HEAD or SINGLE-HANDED); four years' personal character and testimonials; life experience in all branches; married, one daughter, age 12.—DEANEY, Ardmore, Oldwinton Road, Andover, Hants

GARDENER (Head or good Second) desires Engagement; good references; energetic and trustworthy; age 28; married, no family.—W. MASSEY, 10, Darley Street, Gorton, Manchester.

GARDENER (Head or Single-handed); experienced in Flower, Kitchen Garden, Plant Houses, Herbaceous Borders; temporary work accepted; married, no family; two years' character.—E. LUKER, 22, Brenda Road, Upper Tooting.

GARDENER (Head Working) seeks Re-engagement; gentleman highly recommends; life experience all branches, Inside and Out; capable and trustworthy; excellent references; married.—SIMS, Brook Street, Watlington, Oxon.

GARDENER (Head Working).—Mr. GILBERT can with confidence recommend E. Munt as above; life experience gained in first-class places, including Chatsworth and Wood Green Park; 3½ years here as Second; age 27.—MUNT, Champneys, Tring, Herts.

GARDENER (Head Working).—Gentleman can highly recommend good, practical, experienced, competent, trustworthy, all-round Gardener in every way; also understands Land and Stock; wife good cook, dairy and poultry; age 45; married, no family; abstainer; highest references.—GARDENER, Chipley Park, Wellington, Somerset.

GARDENER (Head Working, where several are kept); thoroughly experienced in all branches, Inside and Out; last three years Head; leaving through reducing staff; single; age 30; excellent character.—R. SCRIVEN, Alford, Castle Cary, Somerset.

GARDENER (Head Working); age 34; life experience all branches; last five years Head; total abstainer; gentleman recommends.—EVENDEN, care of Mr. Court, Bowhill Farm, Yalding, Kent.

GARDENER (Head Working) desires Re-engagement where several are kept; thorough practical knowledge all branches, including Orchids; seven years' exemplary character and highest recommendation from last employer; married, no family.—KENT, 60, Hadlow Road, Tonbridge.

GARDENER (Head Working or where help is given) seeks Situation; life experience Inside and Out; well recommended; about two years last situation; age 30.—CLEAVE, 3, St. Loye's Terrace, Wonford, Exeter.

GARDENER (Head Working, where several are kept); 4½ years Foreman; life experience, both Inside and Out; good references; age 27.—J. HARRISON, Englefield Gardens, Reading, Berks.

GARDENER (Head Working); life experience Inside and Out; married, no family; 24 years Head; capable and trustworthy; good references; gentleman recommends.—LEES, 4, Stoke Terrace, Guildford.

GARDENER (Head Working or Single-handed); married; Vines, Flowers, Cucumbers, Melons, Kitchen Garden, Pleasure Ground; life experience; good references.—GARDENER, Meriden Hall Lodge, Meriden, Coventry.

GARDENER (Head Working); thoroughly experienced in all branches; 2½ years Foreman here; previously 2 years and 10 months at Hatfield; excellent references; age 28; married when suited.—G. VALENTINE, The Gardens, Gorhambury, St. Albans.

GARDENER (Head Working or Single-handed); 14 years' good character; experience in all branches; age 40; married.—GARDENER, 91, Sandycombe Road, Richmond, Surrey.

GARDENER (Head Working).—J. B. NICHOLLS, Esq., Holmwood Park, recommends B. Kingsley; 15 years' reference; life experience Inside and Out; Fruit, Flowers, and Vegetables; management of good garden; age 39.—KINGSLEY, 15, Redstone Road, Redhill.

GARDENER (Head Working).—VISCOUNT DOWNE highly recommends H. Greening, where four or more are kept; over two years Foreman at Dingley; age 29; 14 years' experience; married when suited.—Apply, GREENING, Dingley Hall, Market Harboro.

GARDENER (Head Working).—Mr. COLLETT, Kirtlington Park Gardens, highly recommends H. Stedman as above; 19 years' practical experience in all branches; age 35; married, two children; life abstainer; excellent references.—H. STEDMAN, The Cottage, Beechlands, Horeham Road, Sussex.

GARDENER (Head Working) seeks Situation; thoroughly experienced in all branches; Fruit, Plants, &c.; three years' excellent character; age 32; married.—W. MANN, St. Hilary Gardens, Cowbridge.

GARDENER (Head Working); 25 years' experience Inside and Out; age 39; married, no family; disengaged; good references.—DOMAN, 31, Gospel Oak Grove, Haverstock Hill, N.W. (No circulars.)

JAS. POUND, Mongewell Park Gardens, Wallingford, Oxon, wishes to recommend Percy Rolfe to any Lady or Gentleman requiring a GARDENER (Head Working): well versed in the various branches of the profession; can be well recommended as an intelligent, energetic and capable man; five years present place as Foreman; age 30.

GARDENER (Head Working, where several are kept); 17 years' good practical experience in all branches; five years Head last place; highest references as to capabilities; age 34; married.—A. SPRINGHAM, Henbury, Bristol.

GARDENER (Head Working); life experience in all branches; highly recommended; 4½ years present situation; excellent references; age 33; married.—WILLIAMS, North Lodge, Penller-gaer, Swansea.

J. HAYNES can highly recommend G. Longster to any Gardener requiring a first-class Pleasure Ground Foreman; excellent references; age 28; strong and active; leaving through reducing staff.—J. HAYNES, The Gardens, Thorns Beach, Beaulieu, Hants.

GROOM - GARDENER or GARDENER (Single-handed or Under).—Young Man (experienced) wants Situation; good character; any part; low wages.—G. M., 27, St. Dunstan's Hill, City.

GARDENER (Single-handed or with help); 32; good all-round experience; 2½ years present situation; excellent character and reference.—R. BEAGLEY, Hewshott Gardens, Liphook, Hants.

GARDENER (good Single-handed or Head where two are kept); thoroughly experienced in Kitchen and Flower Garden, also Lawns; 12 years' experience; 5½ present situation; age 26; can be highly recommended; married when suited.—
F. BARRETT, Ellisfield Manor Gardens, Basingstoke.

GARDENER (Single-handed); 11 years' good all-round experience, Inside and Out; age 25; single.—Apply, P. BENFIELD, Nuttall, Nottingham. (No Circulars.)

GARDENER (Second of six) seeks Situation; well up Inside and Out; 10 years' experience; good references; well recommended; age 25.—A. F., Box 7, 41, Wellington Street, Covent Garden, W.C.

CAPT. WHELER, 21st Lancers, wishes to recommend H. Edwards, Wesby Cottage, Derringston, Barham, Kent, as GARDENER (Second of three or one man under); excellent character and knowledge of Plants; had charge of gardens outside Cairo; Kent or Canterbury district preferred; wages 21s. per week; single.

FOREMAN or GARDENER (Second); life experience in Fruit, Plant Houses, Carnation Forcing, and Decorating, &c.; six years Foreman; age 29.—W. A. HARRIS, Church Street, Wroxton, Banbury.

FOREMAN (Inside); 15 years experience in Fruit, Plants and Decorating, &c.; excellent references from first-class establishments; age 28.—GRAY, 22, Caversham Road, Reading.

MR. GARDNER, Trent Park, New Barnet, will be pleased to recommend W. Boorman as FOREMAN (Inside); 10 years' experience in Fruit and Plant Houses; age 25.

JOURNEYMAN (First) or good SECOND (Inside); Fruit and Plant Houses; seven years' good experience; age 22.—Apply,
S. BURTON, Station Road, Barnack, Stamford.

JOURNEYMAN (Second, Inside); age 19.—A. CHEFFINS can well recommend C. Johnson as above; four years' experience.—Whittlebury Lodge Gardens, near Towcester, Northants.

MR. GIBSON, Ford Manor Gardens, Lingfield, Surrey, can strongly recommend B. Booker, age 20, as JOURNEYMAN for Pleasure Grounds or Kitchen Garden; Bothy preferred.—Apply as above.

YOUNG MAN (20), teetotaller, seeks Situation in Greenhouse or Garden; willing and obliging; splendid reference; four years' experience; assist with horse if required.—F. C., Box 1, 41, Wellington Street, Covent Garden, W.C.

YOUNG MAN seeks Situation in Pleasure Grounds and Kitchen Garden; age 20; good reference.—S. E. STANDING, Bramble Reed, Matfield, Paddock Wood, Kent.

YOUNG MAN (20) seeks Situation Inside and Out or Outside; leaving when suited; five years' experience; good references.—J. W., Box 9, 41, Wellington Street, Covent Garden, W.C.

AS IMPROVER, age 18; has been 12 months Inside, and previous two years Inside and Pleasure Grounds; good characters; Bothy preferred.—C. F., Normanswood, Farnham, Surrey.

IMPROVER. — Gardener's son seeks Situation as above under Foreman; anxious to learn.—Particulars, M. BRENNAN, The Gardens, Acton Park, Wrexham.

STRONG YOUTH requires Situation in good Garden, IMPROVER (Inside, or Inside and Out); Bothy preferred; can be well recommended.—PRICE, Jean Cottage, Headington Hill, Oxford.

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TRADE.

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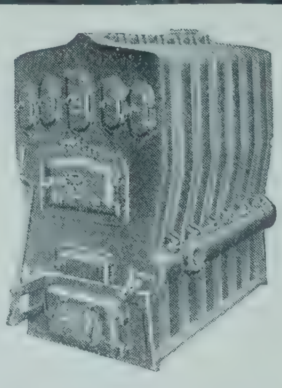

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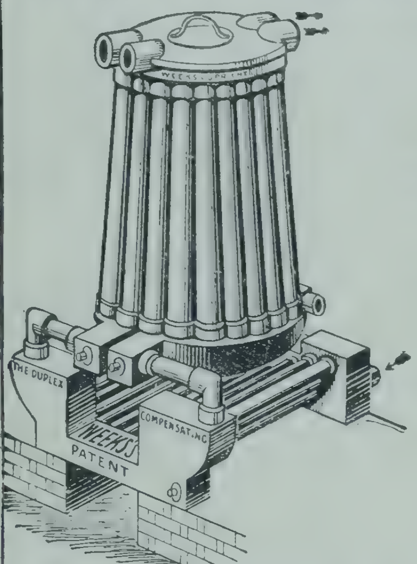

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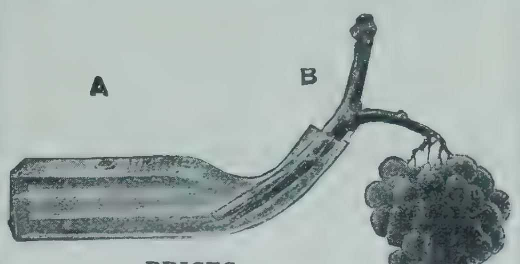

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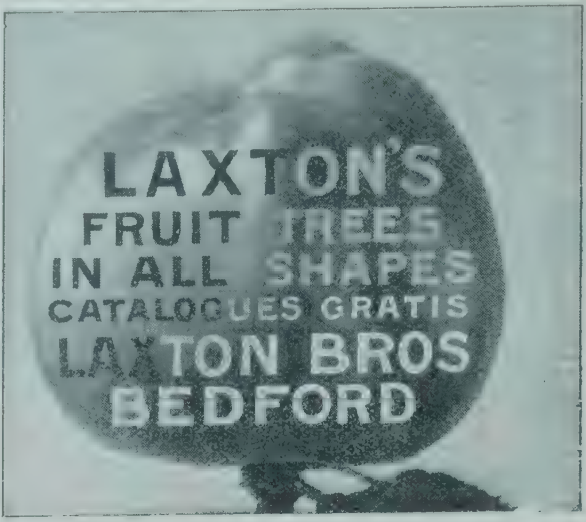

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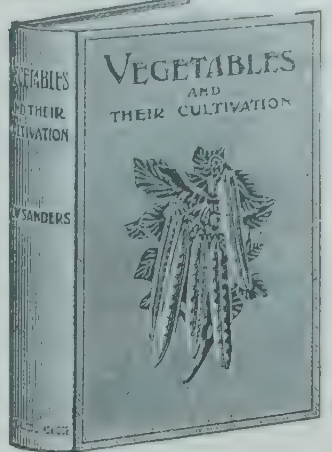
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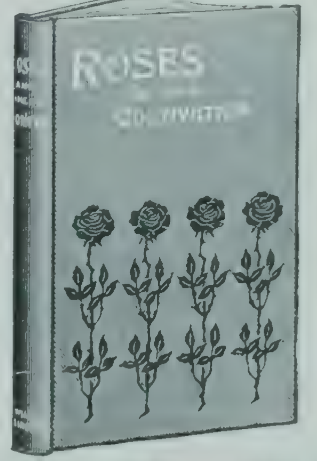

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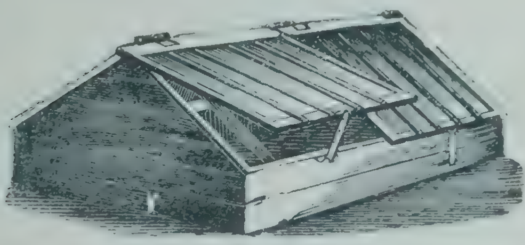

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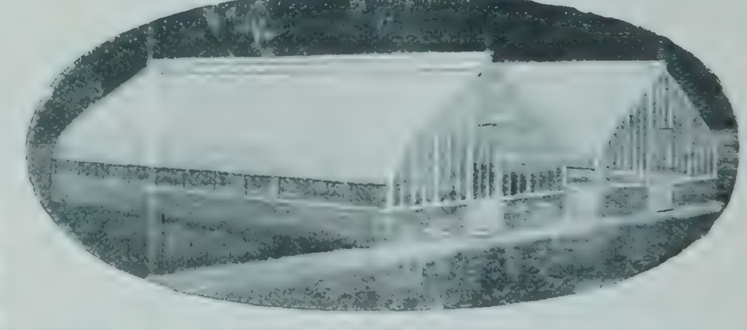

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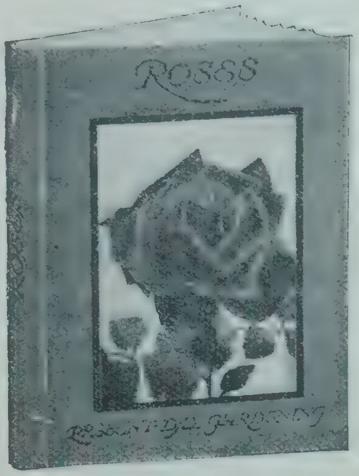

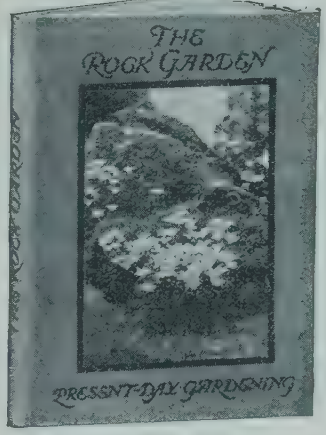

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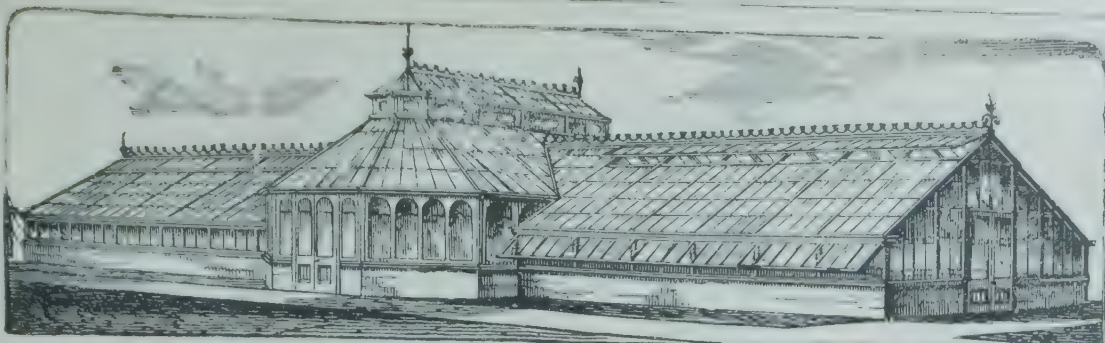

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H. O. PEACOCK, Esq., Stanford Hall, Loughborough, highly recommends his late GARDENER (Head), who has been with him nearly three years, to any Lady or Gentleman requiring the services of a thorough practical man; life experience in all branches gained in good establishments; age 42; no family; 11 years previously as Head.—W. HARRISON, 31, Ifield Road, South Kensington, S.W.

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J. W. FLEMING, Esq., wishes to recommend his GARDENER (Head), who has been six years in his employment; a thoroughly practical man, with good all-round experience; first-class plant and fruit grower; especially good with Carnations, House and Table Decorations; age 30; married, no family; leaving through place being let—Apply, H. C. DREDGE, The Gardens, Chilworth Manor, Romsey, Hants.

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GARDENER (HEAD WORKING, where several are kept); thoroughly experienced in all branches, Inside and Out; last three years Head; leaving through reducing staff; single; age 30; excellent character.—R. SCRIVEN, Alford, Castle Cary, Somerset.

GARDENER (HEAD WORKING).—J. B. NICHOLLS, Esq., Holmwood Park, recommends B. KINGSLEY; 15 years' reference; life experience Inside and Out; Fruit, Flowers, and Vegetables; management of good garden; age 39.—KINGSLEY, 15, Redstone Road, Redhill.

GARDENER (HEAD WORKING).—Mr. COLLETT, Kirtlington Park Gardens, highly recommends H. STEDMAN as above; 19 years' practical experience in all branches; age 35; married, two children; life abstainer; excellent references.—H. STEDMAN, The Cottage, Beechlands, Horeham Road, Sussex.

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GARDENER (HEAD WORKING) seeks Re-engagement with any Lady or Gentleman requiring a first-class Gardener; life experience in all branches pertaining to Horticulture and Landscape work; nine years as Head; excellent references; age 41; no family.—R. PRATT, Draycot Cerne, Chippenham, Wilts.

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GARDENER (HEAD WORKING); life experience, Inside and Out; married, no family; 24 years Head; capable and trustworthy; good references; gentleman recommends.—LEES, 4, Stoke Terrace, Guildford.

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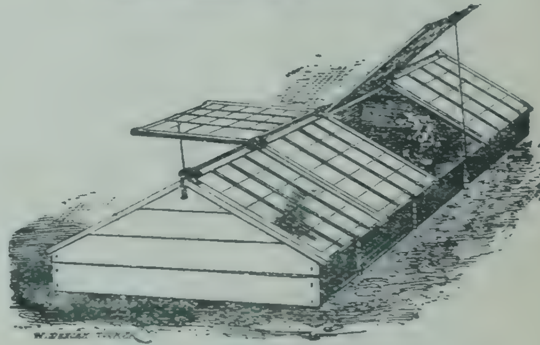

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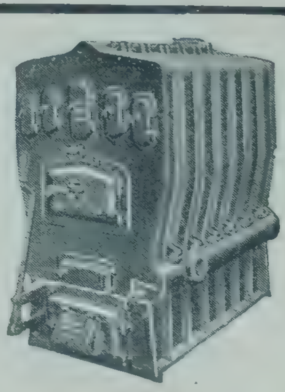

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THE SEED SUPPLY.

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THE GARDENERS' CHRONICLE

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CHRISTMAS HOLIDAYS. Advertisements for the issue of "Gardeners' Chronicle," Dec. 28, must be posted so that they will reach the Publishing Office not later than Monday morning, December 23.

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At 5 o'Clock.—Palms and Plants, Azaleas, Rhododendrons, Aspidistras, Camellias, &c., from Belgium.

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7,020 ,, ,, RUBRUM
1,150 ,, ,, ,, SHIHOHA
500 ,, AURATUM RUBRO VITTATUM
LILIUMS BROWNII, ELEGANS, HANSONII, HENRYI, CORIDION, and BATEMANNEI.
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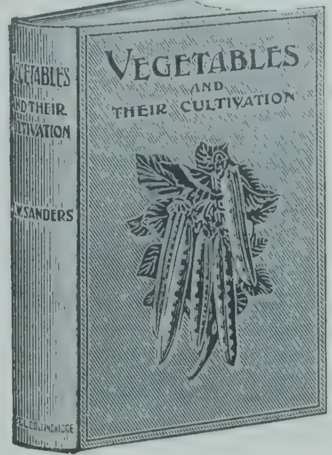
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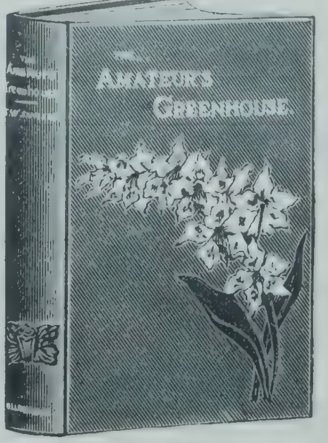

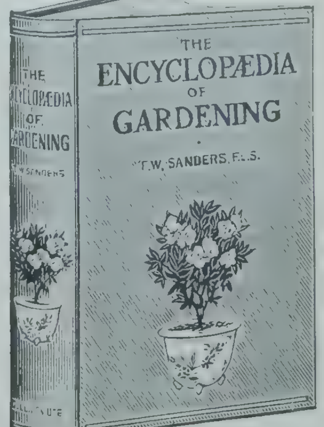

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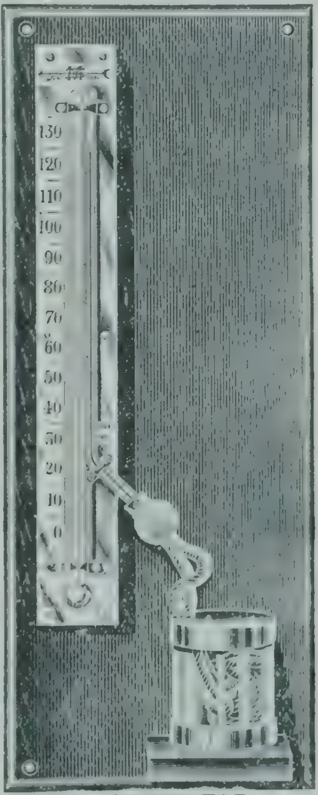

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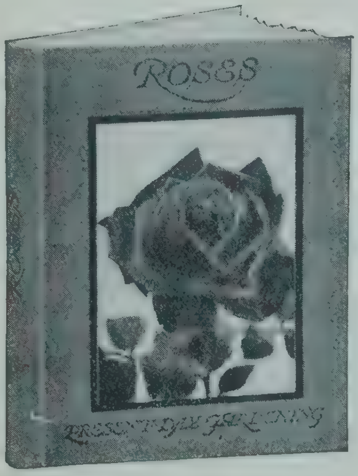

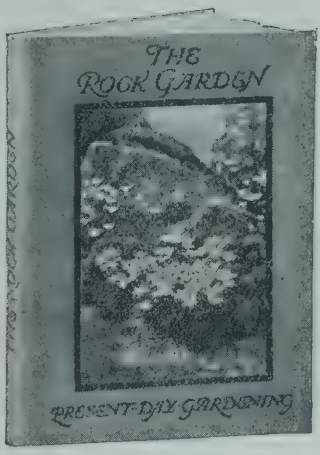

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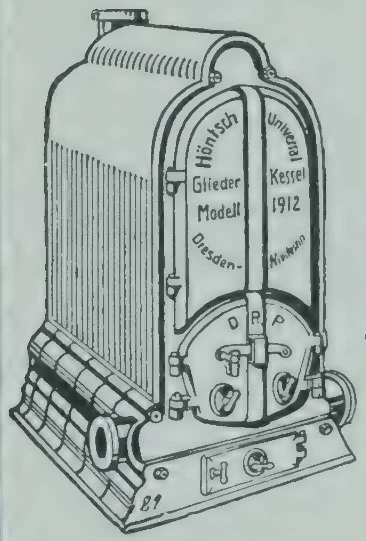

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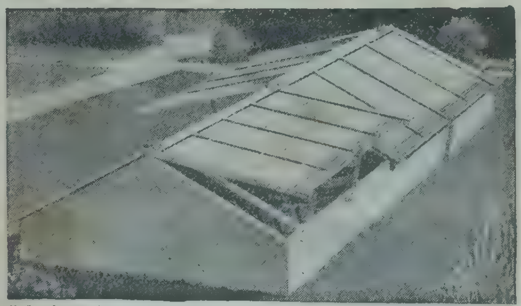

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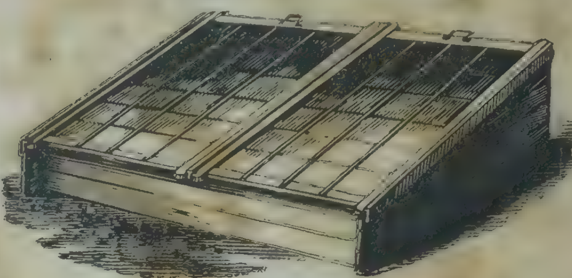

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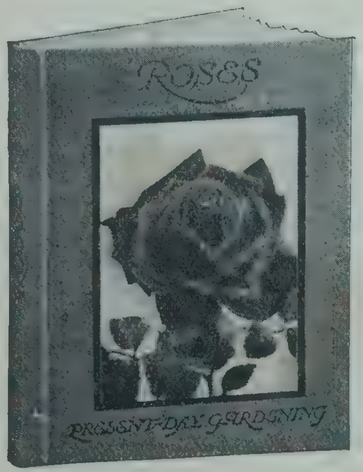

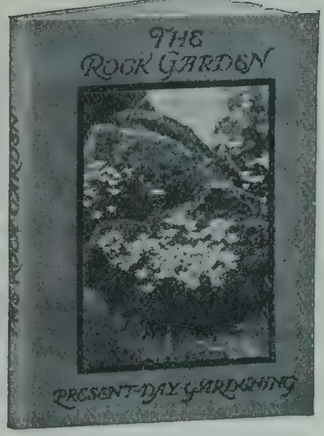

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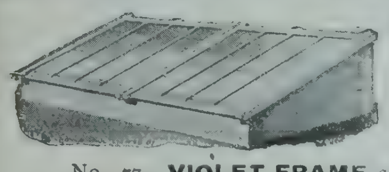

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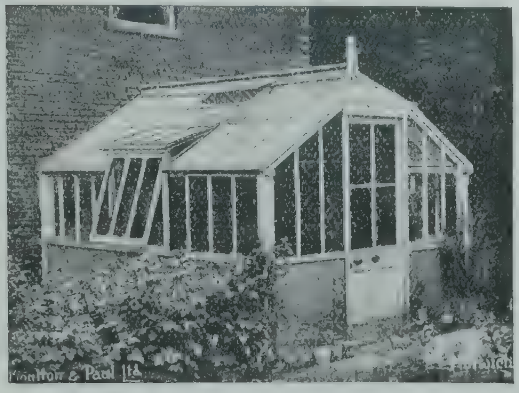

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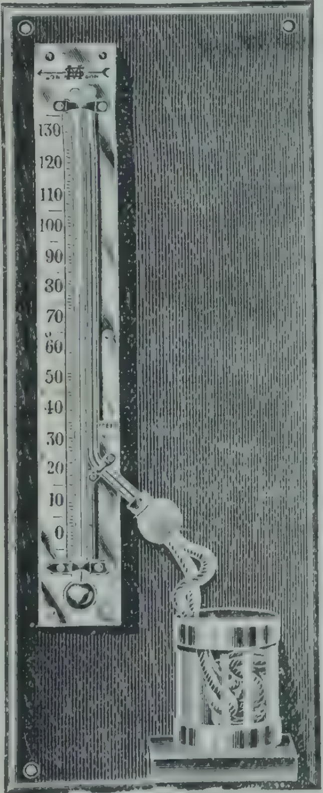

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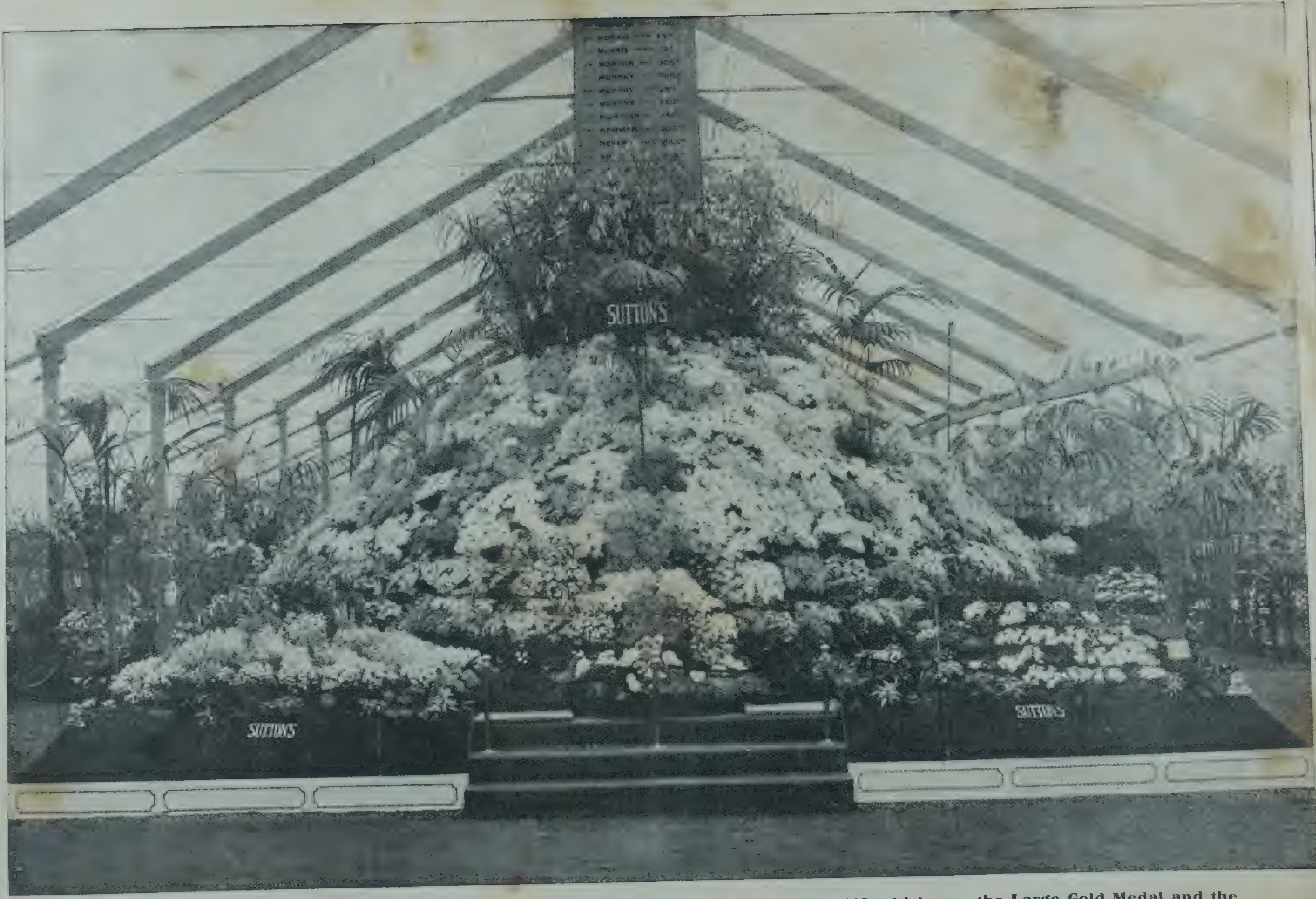

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Extract from the "London Daily Standard," May 23rd, 1912.

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ARKETS.

VENT GARDEN, December 23.

ıt accept any responsibility for the subjoined s. They are furnished to us regularly every nesday, by the kindness of several of the principal smen, who are responsible for the quotations. It st be remembered that these quotations do not repre- ıt the prices on any particular day, but only the eral averages for the week preceding the date of our rt. The prices depend upon the quality of the ›les, the way in which they are packed, the supply market, and the demand, and they may fluctuate, ly from day to day, but occasionally several times lay.—Eds.]

owers, &c.: Average Wholesale Prices.

	s.d. s.d.
..ns (Richardias)	3 6- 5 0
..zalea, per doz bunches	[illegible] 5 0
Bouvardia, per dz. bunches	6 0- 7 0
— white and coloured	6 0 -8 0
Camellias, white, per dozen	2 0- 2 6
Carnations, per dozen blooms, best American varieties	2 0- 2 6
— smaller, per doz. bunches	15 0-18 0
— Carola (crimson), extra large	4 0- 5 0
— Malmaison, p. doz. blooms:	
— — pink	12 0-15 0
Chrysanthemums, per dozen:	
— white	2 0- 4 0
— pink	2 0- 4 0
— yellow	1 6- 3 0
— bronze	2 0- 4 0
— white, per doz. bunches	12 0-18 0
— coloured	10 0-18 0
Daffodils, per doz. blooms	1 0- 1 3
Eucharis, per dozen	2 6- 3 0
Freesia, white, per doz. bunches	2 6- 3 0
Gardenias, per box of 15 and 18 blooms	4 0- 6 0
Gerbera Hybrid, p. doz.	2 6 —
Honesty, p. bunch	1 0- 1 6
Hyacinth Roman, per dz. bnchs.	15 0-18 0
Lapagerias, white, per dozen	2 6 —
Lilium auratum, per bunch	4 0- 5 0
— longiflorum, per doz., long	2 6- 3 0
— — short	2 0- 2 6

	s.d. s.d.
Lilium lancifolium	
— alba, long	2 0- 2 6
— short	2 0 —
— speciosum rubrum, per dz.:	
— long	2 0- 2 6
— short	1 0- 1 3
Lily of the Valley, pr. dz. bnchs.:	
— extra special	12 0-18 0
Lily of the Valley. p. doz. bnchs:	
— special	12 0-15 0
— ordinary	8 0- 9 0
Mignonette, per doz. bunches	3 0- 4 0
Orchids, Cattleya, per doz.	15 0 —
— Cypripedium	2 0- 3 0
— Odontoglossum crispum	4 0- 5 0
Pelargoniums, per dozen bunches	4 0- 5 0
— Double Scarlet	9 0-10 0
Poinsettias, per dozen blooms	9 0-10 0
Roses, 12 blooms:	
— Mrs. Ward	2 6 —
— Bridesmaid,	3 0- 4 0
— C. Mermet	4 0 —
— Liberty	5 0- 8 0
— Madame A. Chatenay	5 0- 8 0
— Niphetos	2 0- 2 6
— Richmond	5 0- 6 0
— Sunburst	5 0- 7 0
— Sunrise	2 6 —
— Kaiserine	4 0- 6 0
Spiræa (Astilbe) japonica, per dz. bunches	6 0- 8 0
Tuberose, p. doz. blooms, long	0 8- 0 9
— — short	0 5- 0 6
Tulips, red, p. doz. bunches	9 0-12 0
— white	10 0-13 0
Violets, Princess of Wales, per dozen bunches	4 0- 6 0

French Flowers: Average Wholesale Prices.

	s.d. s.d.
Anemone, double pink, per doz.	3 0- 4 0
Lilac, white, per bunch	3 6- 4 0
— mauve	4 0- 6 0
Marguerite, yellow, per doz. bnchs	2 6- 3 0
Mimosa, pr. bunch	0 9- 1 0
Narcissus, Paper White, pr. pad, 48 bunches	12 0-14 0
— Soleil d'Or, p. dz.	2 6- 3 6

	s.d. s.d.
Narcissus, yellow, per doz. bunches	8 0- 9 0
Ranunculus, dble scarlet, per dz. bunches	8 0-12 0
Roses, Safrano, pkts. of 24 blms.	3 0- 3 0
Violets, per pad of 48 and 60 bchs.	6 0- 7 0
— Parma, large bunches, each	4 6- 5 0

Cut Foliage, &c.: Average Wholesale Prices.

	s.d. s.d.
Adiantum Fern (Maidenhair), best, per doz. bunches	6 0- 7 0
Agrostis (Fairy Grass), per dz. bunches	2 0- 4 0
Asparagus plumosus, long trails, pr. ½ doz.	1 6- 2 0
— medium, doz. bunches	12 0-18 0
— Sprengeri	10 0-12 0
Berberis, natural, per doz. bnchs	3 0- 4 0

	s.d. s.d.
Carnation foliage, doz. bunches	3 0 —
Croton foliage, various, dz. bchs.	12 0-15 0
Cycas leaves, artificial, per doz.	3 0-12 0
Eulalia japonica, per bunch	1 0- 1 6
Moss, gross bnchs.	6 0 —
Myrtle, dz. bchs. (English), small-leaved	6 0 —
— French	1 0 —
Smilax, per bunch of 6 trails	1 0- 1 3

Plants in Pots, &c.: Average Wholesale Prices.

	s.d. s.d.
Azalea, white and coloured, per dozen pots	30 0-36 0
Aralia Sieboldii, dz.	6 0- 7 0
Araucaria excelsa, per dozen	18 0-21 0
Asparagus plumosus nanus, per dozen	10 0-12 0
— Sprengeri	8 0- 9 0
Aspidistra, p. dz., green	21 0-30 0
— variegated	30 0-60 0
Begonia Gloire de Lorraine, 48's, per dozen	9 0-12 0
Chrysanthemums, 48's	10 0-15 0

	s.d. s.d.
Cocos Weddeliana, per dozen:	
— 60's	6 0-12 0
— larger, each	2 6-10 6
Croton, per dozen	18 0-30 0
Cyclamens, 48's	10 0-12 0
Cyperus alternifolius, p. dz.	5 0- 6 0
— laxus, per doz.	4 0- 5 0
Dracæna, green, per dozen	10 0-12 0
Erica hyemalis	12 0-15 0
— nivalis	12 0-18 0
— — 60's	6 0- 8 0
— — 72's	3 0- 4 0
— gracilis, 48's	12 0-15 0
— — in thumbs	3 6- 4 0
— — 60's	6 0- 8 0

Plants in Pots, &c.: Average Wholesale Prices (Contd.).

	s.d. s.d.
Ferns, in thumbs, per 100	8 0-12 0
— in small and large 60's	12 0-20 0
— in 48's, per doz.	6 0 —
Ferns, choicer sorts, per doz.	8 0-12 0
— in 32's, per dozen	10 0-18 0
Ficus elastica, per dozen	9 0-12 0
Geonoma gracilis, 60's, per dozen	6 0- 8 0
— larger, each	2 6- 7 6
Hyacinths, white, in pots, per dozen	12 0-15 0
— Roman, p. box	2 0- 2 6
Kentia Belmoreana, per dozen	5 0-42 0
— Fosteriana, 60's, per dozen	4 0- 6 0
— — larger, per dozen	18 0-63 0
Latania borbonica, per dozen	12 0-30 0
Lilium lancifolium rubrum in pts., per dozen	18 0-21 0

	s.d. s.d.
Lilium lancifolium alba. in pts., dz.	18 0-21 0
Lilium longiflorum, per dozen	18 0-30 0
Lily of the Valley	18 0-21 0
Marguerites, in 48's, per doz., white	8 0-10 0
Pandanus Veitchii, per dozen	36 0-48 0
Pelargonium (Geranium), double scarlet, 48's	4 0- 5 0
— other varieties	5 0- 6 0
Phœnix rupicola, each	2 6-21 0
Pointsettias, per dozen pots, 48's	10 0-12 0
— 60's	6 0 —
Scarlet Tulips or Bulbs, per box of 24's	2 6- 3 0
Solanum, 48's, per dozen	8 0-12 0
Spiræa japonica, per dozen pots	6 0- 8 0
— pink	10 0-12 0
Tulips, white, per box 24's	2 6- 3 0
— Pink, per box	2 6- 3 0

Fruit: Average Wholesale Prices.

	s.d. s.d.
Apples:	
— Dessert, English, ½ bushel	2 0- 4 0
— Cox's Orange, ½ bushel	6 0-10 0
— Cooking, per bushel	2 0- 4 0
— Wenatchee, p. case	7 6- 8 6
— American, brls.	27 0-30 0
— Californian Newtowns, case	7 0- 8 0
— Nova Scotian, per barrel	13 0-15 6
— Oregon, Newtown Pipp., cs.	8 0-10 0
Bananas, bunch:	
— Doubles	10 0-12 0
— No. 1	7 0- 8 0
— Extra	8 6-10 0
— Giant	12 0-14 0
— Loose, p. doz.	0 6- 1 0
— Red coloured	4 6- 5 6
— Jamaica, per ton	£10-£12
— Jamaica Ordinary, per box (9 doz.)	4 0- 5 6
Dates, per dozen	2 9- 3 0
Egyptian, p. cwt.	25 0 —
Figs (Italian), bxs.	0 6- 1 0
Cranberries, per case	9 0-14 0
Grape Fruit, case:	
— 96's	8 0-18 0
— 80's	
— 64's	
— 54's	
— per dozen	4 0- 6 0
Grapes (English), per lb.:	
— Canon Hall	3 0- 8 0
— Muscat of Alexandria	3 0- 8 0
— Black Alicante	0 6- 1 6
— Almeria, barrel	12 0-18 0
— Gros Colman	0 8- 2 6
— Lisbon, case	7 0- 8 6
Lemons, per case:	
— Malaga	16 0 —

	s.d. s.d.
Lemons, Messina, per case	8 6-24 0
Melons, Spanish, per case	14 0 —
Medlars, per crate	4 0 —
Nuts, Almonds, per bag	52 6 —
— Brazils, cwt.	54 0-62 0
— Spanish, per sack	40 0 42 0
— Barcelona, per bag	35 6-36 6
— Cocoanuts, 100	18 0-23 0
— English Cobs per lb.	0 3- 0 4
— Chestnuts, bg.	14 0-26 0
— Walnuts	
— French, per cwt.	30 0 —
— Naples, p. cwt.	64 0 —
Lychees, 1lb. box	1 6 —
Oranges:	
— Jaffa, per case	6 6- 7 6
— Jamaica, case	4 0- 8 0
— Mandarines, p. box	0 8- 5 6
— Florida Tangerines, p. case	14 0-16 0
— Denia, per case	11 0-22 0
— Californian. Seedless, case	11 0-13 0
Pears:	
— French, per box	3 0 —
— — per crate	6 0- 8 0
— Californian	
— Doyenné du Comice, p. case	12 0-14 6
— French Doyenné du Comice per crate	5 6- 6 6
— Dutch Catillac, ½ bushel	3 6 —
— American, per barrel	7 0- 8 0
Pineapples, St. Michael	3 0- 5 0
Rhubarb, dozen bundles	1 2- 1 6

Vegetables: Average Wholesale Prices.

	s.d. s.d.
Asparagus, Paris green	4 3- 4 6
Sprue, per bundle	0 8 —
Artichokes (Globe), per dozen	2 6- 3 0
— French	2 0- 2 6
— ground, ½ bus.	1 0 —
— Batavia, p. dz.	0 6 —
— — French, doz.	1 0 —
Beans:	
— French, p. pkt.	0 4- 0 5
— Guernsey, lb.	1 9 —
— Madeira, per handle	3 0- 3 6
Beetroot, p. bushel	1 6 —
Cabbages, p. tally	2 6 —
— boxes	1 0- 2 0
— Red, per dozen	1 0 —
Carrots (English), pr. doz. bun.	1 6- 2 6
— dirty, per bag	2 6 —
— washed, bag	3 0 —
Cauliflowers per	
— tally	7 0-10 0
— boxes	2 3- 4 6
— Cornish, crate	3 0- 4 0
— Italian, crate	2 9 —
Celery, per dozen "fans"	12 0-15 0
— dirty	9 0 —
Celeriac, per doz.	1 0- 1 6
— French, per dozen	2 6 —
Cucumbers, p. flat	7 0- 9 0
Endive, per dozen	0 6 —
— French p. doz.	1 0 —
Greens, per bushel	1 0 —
— bags	1 6 —
Herbs (sweet), packets., per gross	10 0 —

	s.d. s.d.
Horseradish, 12 bundles	12 0 —
Leeks, per doz.	1 6- 2 0
Lettuce (English), Cabbage, per bushel	1 6- 2 0
Lettuce, French, per crate	3 0 —
Mint, per dozen bunches	3 0 —
Mushrooms, cultivated, per lb.	0 10- 1 0
Mustard and Cress per doz. punnets	0 4- 0 6
Onions (English) per bag	3 6 —
— per bushel	2 0 —
— Picklers, per bag	4 0 —
— (Spring), per doz. bunches	2 0 —
— (Spanish). case	4 6- 5 6
— Dutch, bags	2 6 —
— Guernsey, p. lb	2 0 —
Peas, French, pad of 10 lb.	5 0 —
Parsley, per doz. bunches	2 0 —
Parsnips, per bag	2 0 —
— per bushel	1 0 —
Radishes (English) per dozen	0 10- 1 0
Sage, per dozen	2 0 —
Savoys, per. tally	4 0 —
— per box	2 0 —
Seakale, punnets	1 0- 1 6
Spinach, ½ bushel	2 6- 3 0
Sprouts, ½ bushel	1 0- 1 3
— bags	1 6- 2
Scotch Kale, busl.	1 0 —

Vegetables: Average Wholesale Prices (Contd.)

	s.d. s.d.
Tomatos, Canary, per bundle	10 0-14 0
Thyme, dz. bnchs.	2 0 —
Turnips (English), per dz. bunches	1 3- 2 6
— per bag	2 0- 2 6

	s.d. s.d
Turnips, unwashed, bag	2 0 —
Turnip tops, bushel	1 0- 1
— per bag	2 6 —
Watercress, p. dz. bunches	0 4- 0

E. H. R., Covent Garden, December 23, 1912.

Potatos.

	per cwt. s.d. s.d.
Bedfords	4 0- 4 6
Kents	4 0- 5 0
Blacklands	3 6- 3 9
Lincolns	3 6- 5 0
King Edward	4 0- 4 9

	per ba s.d. s.
Dutch	2 9- 3
Belgian	3 0- 3
German	3 9- 4
Dunbars	6 0- 6
Scotch (grey soil)	4 0- 4

Edward J. Newborn, Covent Garden and St. Pancras, December 23, 1912.

CATALOGUES RECEIVED.

Dickson & Robinson, Manchester.—Seeds.

C. Engelmann, Saffron Walden, Essex.—Carnations.

John McKerchar, 35, Giesbach Road, Upper Holloway, London, N.—Liliums, Bulbs and Roots, Palms, Ferns, and Flowering Plants.

John Peed & Son, West Norwood, London—Seeds.

R. H. Bath, Ltd., Wisbech—Seeds.

Barr & Sons. 11, King St., Covent Garden, London—Sale of Surplus Stock.

Clarence Elliott, Stevenage, Herts.—Rare Hardy Plants

FOREIGN.

Dammann & Co., San Giovanni a Teduccio, Italy—Novelties in Fruits and Plants.

F. C. Heinemann, Erfurt, Germany—Plant Novelties.

Soupert et Notting, Luxembourg (Grand Duchy)—Nev Roses.

Friedr. Roemer, Quedlinburg—New Plants.

M. Herb, Via Trivio, 24-36, Naples, Italy—Seeds.

J. M. Thorburn & Co., 33, Barclay Street, New York, U.S.A.—American Seeds.

DEBATING SOCIETIES.

RUDDINGTON AND DISTRICT GARDENERS'.—At the meeting of this society, held on the 17th inst., Dr Goodwin, Principal of the Kingston Agricultural College, delivered a lecture on "Soil Bacteria." He pointed ou that the soil is filled with living organisms, of which bacteria rank first in point of numbers. These bacteria may classified, from the gardener's point of view, into fo groups: (1) Those which assist the gardener by bringin the nitrogen in natural manures into the condition in whi alone it is available as plant food (these friendly bacteria are favoured by all the ordinary garden operations of digging hoeing, raking, &c.); (2) Those which act on nitrogenou plant foods and change them into a condition unsuitable fo plant food (these are the bacterial foes of the gardener and they develop best under the conditions brought abou by bad tillage); (3) Bacteria which live free in the soil an convert the free nitrogen of the air into a form useful t plants as food; and (4) Those which bring about the sam change but live in union with the roots of leguminous crop These last two groups are important to the gardener, sin they manufacture, at small cost, a most valuable manure

"R.H.S." Diary for 1913.

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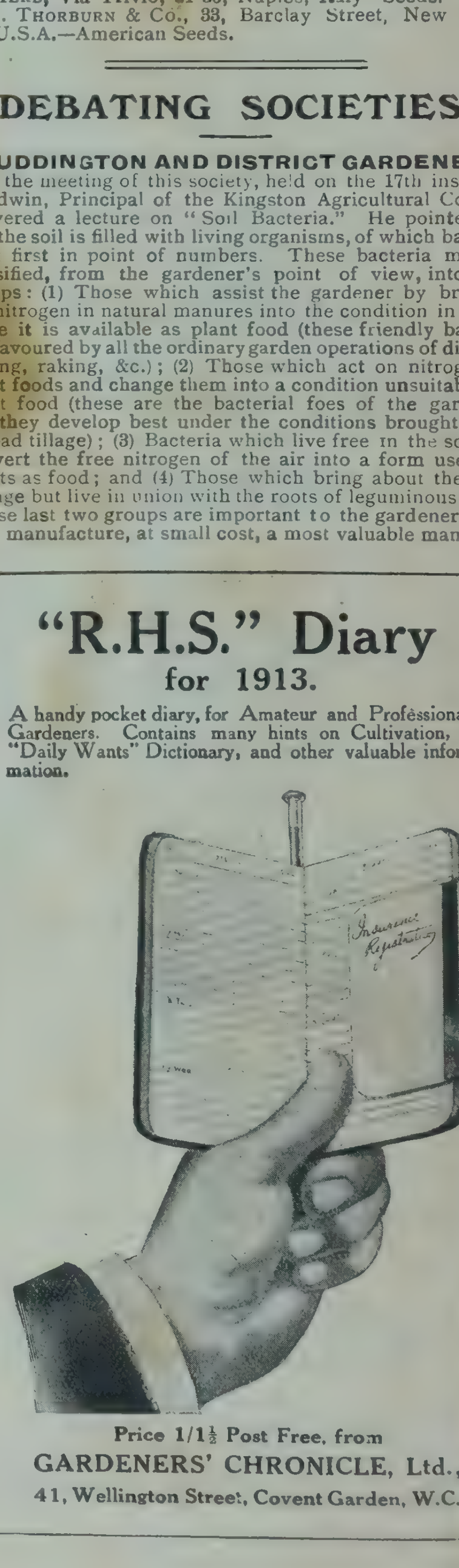

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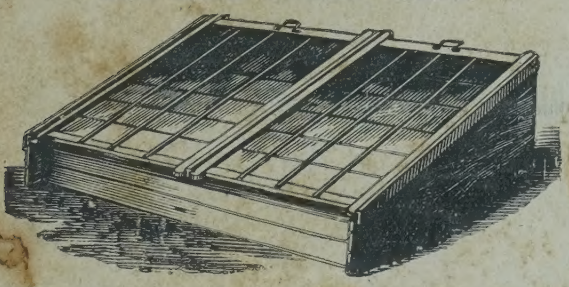

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